

INDIAN INSTITUTE OF TECHNOLOGY KANPUR  
INSTITUTE WORKS DEPARTMENT  
CENTRAL OFFICE



**DOCUMENT RELATED TO ELIGIBILITY CRITERIA AND  
PRE-QUALIFICATION**

**Name of work: Supply, installation, testing & commissioning of Water Cooled Central AC plant of capacity 3200 TR (4nos. centrifugal Chillers each of capacity 800 TR) in IIT Kanpur.**

**Estimated cost: Rs. 18,22,64,573/-**

Acting Superintending Engineer  
& Head IWD  
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## **Pre-Qualification (Technical) Document**

**For**

**Name of work: Supply, installation, testing & commissioning of Water Cooled Central AC plant of capacity 3200 TR (4nos. centrifugal Chillers each of capacity 800 TR) in IIT Kanpur.**

**This document consists of pages 1 to 45 pages.**

Acting Superintending Engineer

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INDIAN INSTITUTE OF TECHNOLOGY KANPUR  
INSTITUTE WORKS DEPARTMENT  
CENTRAL OFFICE  
Notice Inviting e-Tenders

The Acting Superintending Engineer, IWD, IIT Kanpur, on behalf of Board of Governors of IIT Kanpur, invites online item rate tenders in two-envelope (two bid) system from the eligible air conditioning contractors.

Sl. No.	Name of work	Estimated cost	Earnest money	Period
1.	Supply, installation, testing & commissioning of Water Cooled Central AC plant of capacity 3200 TR (4nos. centrifugal Chillers each of capacity 800 TR) in IIT Kanpur.	Rs. 18,22,64,573/-	Rs. 28,22,646/-	06 months

Last date & time of submission of bid **on 24.03.2020 upto 03.30 PM**. All details are available on website, <https://eprocure.gov.in/cppp/latestactivetenders>, [www.tenderhome.com](http://www.tenderhome.com) & [www.iitk.ac.in/iwd/tenderhall.htm](http://www.iitk.ac.in/iwd/tenderhall.htm). The bids can only be submitted online at <https://eprocure.gov.in/eprocure/app>.

**No. IWD/CO/2020/ 470      Dated: 27.02.2020      Acting Superintending Engineer**

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**INDIAN INSTITUTE OF TECHNOLOGY,  
KANPUR INSTITUTE WORKS DEPARTMENT  
Notice Inviting e-Tender**

The Acting Superintending Engineer, IWD, IIT Kanpur, on behalf of Board of Governors of IIT Kanpur, invites online item rate tenders in two-envelope system from the eligible air conditioning contractor.

S.N	NIT No.	Name of work and location	Estimated cost put to tender	Earnest Money	Period of Completion	Last date & time :technical & financial bid for online submission of bid	Last date for submitting hardcopy of EMD, proof of Cost of Tender documents, processing fee and other documents	Time & date of opening of technical bid
1	55/AC/2020/470 DT 27.02.2020	Supply, installation, testing & commissioning of Water Cooled Central AC plant of capacity 3200 TR (4nos. centrifugal Chillers each of capacity 800 TR) in IIT Kanpur.	Rs. 182264573/-	Rs. 2822646/-	6 Months	Up to 3:30 PM on 24.03.2020	After last date and time of submission of tender document upto 3:30 PM on 27.03.2020	Opening at 4:00 PM on 27.03.2020

Note: The contractor submitting the tender should read the schedule of quantities, additional conditions, additional specifications, particular specifications, CPWD- 6, and other terms and conditions given in the NIT, pre-qualification document and drawings. The bidder should also read the General Conditions of Contract for CPWD Works 2014 with correction slips and General Conditions of Contract for CPWD Works 2019, upto the date specified in schedule-F, which is available as Government of India Publications.

**Initial Eligibility & Technical Criteria:** Contractors who fulfill the following requirements shall be eligible for pre-qualification. Joint ventures are not accepted. **The bidders satisfying the initial eligibility & Technical criteria shall only be considered for pre-qualification. The financial bid of only pre-qualified bidder shall be opened.**

a) Should have satisfactorily completed the works as mentioned below during the last seven years ending previous day of last date of submission of bids.

\* 3 (three) similar completed works costing not less than **Rs. 729.06 Lacs** or 2 (two) similar completed works, not less than **Rs 1093.59 Lacs** or 1 (one) similar completed work of aggregate cost not less than **Rs 1458.12 Lacs.**

**And**

One completed work of similar nature (either part of (a) or a separate one) costing not less than Rs. 729.06 Lacs with some Central Government Department / State Government Department / Central Autonomous Body / Central Public Sector Undertakings).

**Note: 1. The similar nature works means experience of Supply, installation, testing & commissioning of at least 1200 TR Capacity water cooled central AC plant with at least 1 no. chiller of minimum capacity 400 TR along with chilled water pumps, condenser pumps, cooling towers, chiller plant manager and associated controls in same project of water cooled central AC plant.**

1. The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to the previous day of last date of submission of bids.

b) Should have average annual financial turnover of **Rs. 1822.64** Lacs construction works during the last three years ending 31-03-2019.

c) Should not have incurred any loss in more than two years during the last five years ending 31-03-2019.

d) Should have solvency of Rs. 729.06 Lacs.

e) Should have valid Electrical license of Class A

f) Should have valid registration of EPF, ESIC and GST.

g) Technical datasheet: The bidder's proposed equipment's technical

parameter/specification shall be matching with the required parameter/specification by IIT Kanpur as per the Technical Datasheet for all major items as specified at Annexure-1 to 7 under Appendix-I

**h) The tenderer shall have to furnish an affidavit on non judicial stamp paper of Rs. 10.00 as under:**

**"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 light, then I/We shall be debarred for tendering in IIT Kanpur contracts in future forever. Also, if such a violation comes to light before date start of work, the Superintending Engineer shall be free to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee."**

Note: The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to the previous day of last date of submission of tenders.

2. The eligible tenderer air-conditioning contractors will quote rates for various items. It will be obligatory on the part of the tenderer to sign the tender document for all the components (The schedule of quantities, conditions and special conditions etc.). After acceptance of the tender by competent authority, the SE, IWD shall issue letter of award on behalf of the Board of Governors.
3. Entire work under the scope of composite tender including major and all minor components shall be executed under one agreement.
4. The tenderer has to associate agency(s) for minor component(s) confirming to eligibility criteria as defined in the tender document and has to submit detail of such agency(s) to Engineer-in-Charge of minor component(s) within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-Charge of minor component(s)
5. The tenderer has to enter into agreement with the contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to EE in-charge of minor component as well as to EE in-charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.

6. The bid document consisting of the schedule of quantity, terms and condition, i/c 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 in the office the Engineer-in-Charge between hours of **11:00 AM and 4:00 PM from date of publicity of tender to date of submission of tender every day** except on Saturday, Sunday and public holidays or can be seen and downloaded from website [www.iitk.ac.in/iwd/tenderhall.htm](http://www.iitk.ac.in/iwd/tenderhall.htm), <https://eprocure.gov.in/eprocure/app.>, and [www.eprocure.gov.in/cppp/latestactivetenders](http://www.eprocure.gov.in/cppp/latestactivetenders), free of cost.
7. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
8. The intending bidder must have valid class-III digital signature to submit the bid.
9. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
10. Contractor can upload the documents in the form of JPG format and PDF format.
11. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures. appears in pink/white 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 tenderer, rate of such item shall be treated as "0" (ZERO).**

12. The Institute reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.
13. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
14. **a)** Earnest Money in the form of Demand Draft or Pay order or Banker's Cheque or Deposit at Call Receipt or Fixed Deposit Receipt (drawn in favour of the Director, IIT Kanpur shall be scanned and uploaded to the e-Tendering website by the bidder within the period of bid submission.

**A part of earnest money (EM)** is acceptable in the form of bank guarantee also. In such case, **minimum** 50% of earnest money or Rs. 20 lacs, whichever is less, **shall** have to be deposited in shape prescribed above, and balance **may be deposited** in shape of Bank Guarantee of any scheduled bank **having validity for four months or more from the last date of receipt of bids** which also is to be scanned and uploaded by the intending bidders. The original



EMD should be deposited in hardcopy in the office of Executive Engineer along with the mentioned documents.

15. Copy of documents as specified in the tender document shall be scanned and uploaded to the e-Tendering website within the period of bid submission. However, copy (original/self-certified as specified in para 21) of all the scanned and uploaded documents as specified in bid document shall have to be submitted by the all bidders, physically in the office of tender opening authority.
16. The bid submitted shall become invalid if:
  - (i) The bidder is found ineligible.
  - (ii) **The bidder does not deposit original EMD to the office of Executive Engineer, IWD, IIT Kanpur.**
  - (iii) The bidder does not upload all the documents **(including GST registration)** as stipulated in the bid document **including the scan copy of the EMD.**
  - (iv) **The hardcopy of above documents (clause 1(a) to 1(g)) and the duly signed Pre-Qualification document along with earnest money deposit receipt shall not be submitted in the office of Superintending Engineer, Central Office, IWD within last date and time of submission as specified in the above bid document.**
  - (v) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted **physically by the bidder** in the office of bid opening authority.
  - (vi) If a bidder does not quote any item rate of the tender or any section/sub head in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
17. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra cost consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

18. 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 for rejection.
19. The contractor shall not be permitted to bid for works in the IWD responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any officer in the Institute Works Department. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
20. 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.
21. List of Documents to be scanned and uploaded within the period of bid submission:
  - i. Enlistment Order of the Contractor in appropriate class/category if any
  - ii. Demand Draft/ Pay Order or Banker's Cheque / Deposit at call Receipt / Bank Guarantee of any scheduled Bank against EMD (All drawn in favour of the Director, IIT Kanpur).
  - iii. Photocopy/scan copy of original EMD.
  - iv. Certificate of Incorporation.
  - v. Certificates of Work Experience.
  - vi. Certificate of Financial Turnover from CA.
  - vii. Certified copy of valid Electrical license of Class A
  - viii. Bank Solvency Certificate.
  - ix. Details of completed similar nature of work of Central AC plant.
  - x. List of works in hand
  - xi. Manpower details of the company
  - xii. Affidavit as per provisions of clause 1.2.3 of CPWD-6.
  - xiii. Certificate of Registration of GST.
  - xiv. Copy of EPF & ESI Registration
  - xv. Health, Safety & Environment Policy.
  - xvi. List of Tools & Plants
  - xvii. Technical data sheet for the various items as specified at **Annexure 1 to 7 under Appendix I** shall be matching with the IITK specification.
  - xviii. Any other Document as required.

22. **Certificate of Financial Turnover:** At the time of submission of bid, contractor may upload Affidavit / Certificate form CA mentioning Financial Turnover of last 5 years or for the period as specified in the bid document and further details if required may be asked from the contractor after opening of technical bids. There is no need to upload entire voluminous balance sheet.
23. The pre-qualification bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them at a later date if any change in opening date of financial bid.
24. The **Pre-Bid meeting** shall be held in the office of the Acting Superintending Engineer, IWD IIT Kanpur **on 16.03.2020 (at 12:00 hrs.)** to answer question of intending bidders, if any. The Superintending Engineer, IWD reserves the right not to answer a question raised by a bidder.
25. If any Information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering for future work. The Institute reserves the right to verify the particulars furnished by the applicant independently.

Acting Superintending Engineer

## SECTION- I

### BRIEF DESCRIPTION OF THE WORK

1. Salient details of the work for which bids are invited are as under:

Sl. No	Name of work	Estimated Cost	Period of Completion
1	Supply, installation, testing & commissioning of Water Cooled Central AC plant of capacity 3200 TR (4nos. centrifugal Chillers each of capacity 800 TR) in IIT Kanpur.	Total Estimated Cost in Rs. 18,22,64,573/-	6- Months

2. The work is situated inside IIT Kanpur Campus, Kalyanpur, Kanpur (UP) Pin:- 208016.

3. General features/scope of the work is as under: The scope covers the supply, installation, testing & commissioning of 3200 TR water cooled central ac plants i.e. chillers, primary pumping, secondary variable pumping system, variable tertiary pumping system, automatic pressurization cum degassing system, cooling tower and associated valves and controls etc. , operation of the AC plant for 6 years (after commissioning and handing over of the system) and non comprehensive annual maintenance contract for 4 years (after expiry of 2 years of defect liability).

Above details and status are only indicative but not exhaustive. The intending bidder shall inspect the site and fully acquaint with nature and quantum of work and site condition and assess/satisfy himself before quoting and submission of his bid. He is also advised to inspect the indicative drawings attached with this tender document to acquaint with other details about the building. The lowest bidder have to get the all the drawings approved before start of the work after incorporating the necessary changes as per the site requirement.

4. Work shall be executed according to General Conditions of Contract for CPWD 2019 with upto date correction slips. Works with correction slips issued upto as specified in schedule F.

## **SECTION-II**

### **INFORMATION & INSTRUCTIONS FOR BIDDERS**

#### **1.0 General :**

- 1.1 Letter of transmittal and forms for deciding eligibility are given in Section III.
- 1.2 All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even if no information is to be provided in a column, a "nil" or "no such case" entry should be made in that column. If any particulars/query is not applicable in case of the bidder, it should be stated as "not applicable". The bidders are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the bid being summarily disqualified. Bids made by telegram or telex and those received late will not be entertained.
- 1.3 The bid should be typewritten. The bidder should sign each page of the application.
- 1.4 Overwriting should be avoided. Correction, if any, should be made by neatly crossing out, initialing, dating and rewriting. Pages of the eligibility criteria document are numbered. Additional sheets, if any added by the contractor, should also be numbered by him. They should be submitted as a package with signed letter of transmittal.
- 1.5 References, information and certificates from the respective clients certifying suitability, technical knowledge or capability of the bidder should be signed by an officer not below the rank of the Executive Engineer or equivalent.
- 1.6 The bidder may furnish any additional information which he thinks is necessary to establish his capabilities to successfully complete the envisaged work. He is, however, advised not to furnish superfluous information. No information shall be entertained after submission of eligibility criteria document unless it is called for by the Employer.
- 1.7 Any information furnished by the bidder found to be incorrect either immediately or at a later date, would render him liable to be debarred from tendering / taking up of work in IIT Kanpur.

## 2.0 Definitions:

- 2.1 In this document (as hereinafter define) the following definition words and expressions shall have the meaning hereby assigned to them except where the context otherwise required.
- 2.2 **Employer:** shall Means the Board of Governors, IIT Kanpur, Acting through the SE, IWD, IIT Kanpur. The SE, IWD will have the support of the following.
- 2.2.1 **Architect:** shall means every partner of the architectural firm, appointed by the Institute for the work and in the event of ceasing to be the architects, such other firms or persons as may be appointed by the Institute.
- 2.2.2 **Engineer-In-Charge:** shall mean Executive Engineer (AC) for above air conditioning Works.
- 2.2.3 **Site engineer:** shall mean the Assistant Engineer/ Junior Engineer appointed by the Institute works department.
- 2.3 **Bidder:** Means an individual, proprietary firm, a firm in partnership, limited company private or public or a corporation.
- 2.4 "Year" means "Financial Year" unless stated otherwise.

## 3.0 Method of application:

- 3.1 If the bidder is an individual, the application shall be signed by him above his full type written name and current address.
- 3.2 If the bidder is a proprietary firm, the application shall be signed by the proprietor above his full type written name and the full name of his firm with its current address.
- 3.3 If the bidder is a firm in partnership, the application shall be signed by all the partners of the firm above their full typewritten names and current addresses, or, alternatively, by a partner holding power of attorney for the firm. In the later case a certified copy of the power of attorney should accompany with the application. In both cases a certified copy of the partnership deed and current address of all the partners of the firm should accompany the application.
- 3.4 If the bidder is a limited company or a corporation, the application shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The bidder should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary.

## 4.0 Final decision-making authority.

The Institute reserves the right to accept or reject any bid and to annul the process and reject all bids at any time, without assigning any reason or incurring any liability to the bidders.

## 5.0 Particulars provisional

The particulars of the work given in Section I are provisional. They are liable to change and must be considered only as advance information to assist the bidder.

## 6.0 Site visit

The bidder is advised to visit the site of work, at his own cost, and examine it and its surroundings to assess and familiarize themselves about the local conditions such as the working and other constraints at site, approach road to the site, availability of water and power supply, application of taxes, duties and levies as applicable, labour laws, nature of ground, soil and sub soil conditions, underground water table, accommodation they may require and other details required by them to execute the complete scope of work.

The bidder may obtain all necessary information as to risk, weather conditions contingencies & General Conditions of contract, special condition of contract and other circumstances which may influence or affected their bid price, bidder shall be deemed to have considered site conditions whether he has inspected it or not and to have familiarized himself in all respect before quoting his rates and no claim or extra charges whatsoever in this regard shall be entertained / payable by institute at later date.

## 7.0 Criteria for pre-qualification evaluation ( The bidder's satisfying the Initial Eligibility & Technical Criteria as per clause no. 1(a) to 1(g) shall only be considered for pre-qualification evaluation as below):

7.1 Should have satisfactorily completed works during the last seven years ending the previous day of last date of submission of bids.

- \* 3 (three) similar completed works costing not less than **Rs. 729.06 Lacs** or 2 (two) similar completed works, not less than **Rs 1093.59 Lacs** or 1 (one) similar completed work of aggregate cost not less than **Rs 1458.12 Lacs**.

### **And**

One completed work of similar nature (either part of (a) or a separate one) costing not less than Rs. 729.06 Lacs with some Central Government Department / State Government Department / Central Autonomous Body / Central Public Sector Undertakings).

**Note:** The similar nature works means experience of Supply, installation, testing & commissioning of at least 1200 TR Capacity water cooled central AC plant with at least 1 no. chiller of minimum capacity 400 TR along with chilled water pumps, condenser pumps, cooling towers, chiller plant manager and associated controls in same project of water cooled central AC plant.

For this purpose, cost of work shall mean gross value the completed work including cost of material supplied by the Government/Client but excluding those supplied free of cost. This should be certified by an officer not below the rank of the Executive Engineer or equivalent.

- 7.2 **The tenderer shall have to furnish an affidavit on non judicial stamp paper of Rs. 10.00 as under:**

**“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 light, then I/We shall be debarred for tendering in IIT Kanpur contracts in future forever. Also, if such a violation comes to light before date start of work, the Superintending Engineer shall be free to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee.”**

- 7.3 The bidder should have had average annual financial turn over (gross) of **Rs. 1822.64 lacs** on air-conditioning works during the immediate last three consecutive financial years. This should be duly audited by a Chartered Accountant. Year in which no turnover is shown would also be considered for working out the average.
- 7.4 The bidder should not have incurred any loss in more than two years during the immediate last five consecutive financial years, duly certified by the Chartered Accountant.
- 7.5 The bidding capacity of the contractor should be equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula:

$$\text{Bidding Capacity} = [A \times N \times 2] - B$$

Where, A = Maximum value of construction works executed in any one year during the last five years taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of work for which bids has been invited.

B = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bids have been invited.

- 7.6 The bidder should have valid registration with EPF, ESIC & GST authority.
- 7.7 The bidder should have a solvency of **Rs. 729.06 Lacs** certified by his Bankers.
- 7.8 The bidder should own constructions equipment as per list required for the proper



and timely execution of the work. Else, he should certify that he would be able to manage the equipment by hiring/purchase etc.

- 7.9 The bidder should have sufficient number of technical and administrative employees for the proper execution of the contract. The bidder should submit a list of these employees stating clearly how these would be involved in this work.
- 7.10 The bidder's performance for each work completed in the last seven years and in hand should be certified by an officer not below the rank of Executive Engineer or equivalent.
- 7.11 The bidder should submit technical data sheet for the various items as specified at annexure 1 to 7 under Appendix-I shall be matching with the IITK specification.

### 8.0 Evaluation criteria

- 8.1 The detailed submitted by the bidders will be evaluated in the following manner:
- 8.1.1 The initial criteria prescribed in para 7.1 to 7.11 above in respect of experience of similar class of works completed, bidding capacity, financial turn over and based on technical datasheets etc. will first be scrutinized and the bidder's eligibility for the work be determined.
- 8.1.2 The bidders qualifying the initial criteria as set out in para 7.1 to 7.11 above will be evaluated for following criteria by scoring method on the basis of details furnished by them.

S.N.	Criteria	Referred form	Maximum Marks
a	Financial strength	A & B	20
b	Experience in similar nature of work during last seven years.	C	40
c	Performance on works (Time over run)	D	5
d	Performance on works (Quality)	E	10
e	Personnel and Establishment	F & G	10
f	Plant & Equipment	H	5
g	HSE Compliance	I	10
Total			100

**“To become eligible for short listing the bidder must secure at least fifty percent marks in each and sixty percent marks in aggregate”.**

The Institute, however, reserves the right to restrict the list of such qualified contractors to any number deemed suitable by it.

- 8.2 Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:
- (a) Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
  - (b) Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.

## **9.0 Financial information**

Bidder should furnish the following financial information:

Annual financial statement for the last five years in (Form "A") and solvency certificate in (Form "B")

## **10.0 Experience in works highlighting experience in similar works**

10.1 Bidder should furnish the following:

- (a) List of all works of similar nature successfully completed during the last seven years in (Form "C").
- (b) List of the projects under execution or awarded in (Form "D").

10.2 Particulars of completed works and performance of the bidder duly authenticated/certified by an officer not below the rank of the Executive Engineer or equivalent should be furnished separately for each work completed or in progress in (Form "E").

10.3 Information in (Form "D") should be complete and no work should be left out.

## **11.0 Organization information**

Bidder is required to submit the information in respect of his organization in Forms "F" & "G"

## **12.0 Construction plant and equipment**

Bidder should furnish the list of construction plant and equipment including welding machine, gas cutter, drill machine, hydraulic lifting machine, Pipe Insulation plant & machinery at site or at manufacturing etc. to be used in carrying out the work. (in Form "H"). Details of any other plant & equipment required for the work not included in Form "F" and available with the applicant may also be indicated.

## **14.0 Letter of transmittal**

The bidder should submit the letter of transmittal attached with the document.

## **15.0 Opening of Price bid**

After evaluation of applications, a list of short listed agencies will be prepared. Thereafter the financial bids of only the qualified and technically acceptable bidders shall be opened at the notified time, date and place online. The bids shall remain valid for 90 days from the last date of its submission.

## **16.0 Award criteria**

- 16.1 The Institute reserves the right, without being liable for any damages or obligation to inform the bidder to:
- (a) Amend the scope and value of contract to the bidder.
  - (b) Reject any or all the applications without assigning any reason.
- 16.2 Any effort on the part of the bidder or his agent to exercise influence or to pressurize the employer would result in rejection of his bid. Canvassing of any kind is prohibited.

Acting Superintending Engineer

**SECTION III**  
**INFORMATION REGARDING ELIGIBILITY**  
**LETTER OF TRANSMITTAL**

**From:**

**To**

**The Superintending Engineer  
IWD, IIT,  
Kanpur-208016**

**Sub:** Supply, installation, testing & commissioning of Water Cooled Central AC plant of capacity 3200 TR (4nos. centrifugal Chillers each of capacity 800 TR) in IIT Kanpur.

Sir,

Having examined the details given in Press-Notice and Bid document for the above work, I / we hereby submit the relevant information.

1. I / We hereby certify that all the statement made and information supplied in the enclosed forms A to H and accompanying statement are true and correct.
2. I / We have furnished all information and details necessary for Pre-qualification and have no further pertinent information to supply.
3. I / We submit the requisite certified solvency certificate and authorize the Superintending Engineer, IWD, IIT Kanpur, to approach the bank issuing the solvency certificate to confirm the correctness thereof. I / we also authorize Superintending Engineer, IWD, IIT Kanpur to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I / We submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following works.

Name of work	Value of completed works at current costing level	Certificate from

Number of enclosures:  
Seal of bidder

Date of submission:

Signature(s) of Bidder

**FORM 'A'**

**FINANCIAL INFORMATION**

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

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Gross annual turnover on construction works.					
Profit (+)/Loss (-)					

- II. Financial arrangements for carrying out the proposed work.
- III. Solvency Certificate from Bankers of the Bidder in the prescribed Form "B". .

Signature of Bidder(s)

Signature of Chartered Accountant with Seal

**FORM 'B'**

FORM OF BANKERS' CERTIFICATE FROM A SCHEDULED BANK

This is to certify that to the best of our knowledge and information that M/s.....  
/ Sh.....

..... having marginally noted  
address, a customer of our bank are/is respectable and can be treated as good for any  
engagement upto a limit of Rs. ....(Rupees  
.....)

This certificate is issued without any guarantee or responsibility on the bank or any of  
the officers.

(Signature)

For the Bank.

Note

- (1) Bankers certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.
- (2) In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

### FORM 'C'

DETAILS OF ALL WORKS OF SIMILAR CLASS COMPLETED DURING THE LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF BIDS.

Sl. No.	Name of work/project and location	Owner or sponsoring organization	Cost of work in crores of Rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation/arbitration cases pending/in progress with details*	Name and address/telephone number of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10

\* Indicate gross amount claimed and amount awarded by the Arbitrator.

Signature of Bidder(s)

**FORM 'D'**  
PROJECTS UNDER EXECUTION OR AWARDED

Sl. No.	Name of work/project and location	Owner or sponsoring organization	Cost of work in crores of Rupees	Date of commencement as per contract	Stipulated date of completion	Up to date percentage progress of work	Slow progress if any, and reasons thereof	Name and address/telephone number of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10

Certified that the above list of work is completed and no work has been left out and that the information given is correct to my knowledge and belief.

Signature of Bidder(s)



## FORM 'E'

### PERFORMANCE REPORT OF WORKS REFERRED TO IN FORM "C" & "D"

1. Name of work / Project & Location

2. Agreement No.

3. Estimated Cost

4. Tendered Cost

5. Date of start

6. Date of completion

(i) Stipulated date of completion

(ii) Actual date of completion

7. Amount of compensation levied for delayed completion, if any.

8. Amount of reduced rate items, if any.

9. Performance Report

(i) Quality of work	Very Good/Good/Fair/Poor
(ii) Financial soundness	Very Good/Good/Fair/Poor
(iii) Technical Proficiency	Very Good/Good/Fair/Poor
(iv) Resourcefulness	Very Good/Good/Fair/Poor
(v) General behavior	Very Good/Good/Fair/Poor

Dated:

Executive Engineer

**FORM "F"**

**STRUCTURE & ORGANISATION**

1. Name & Address of the bidder
2. Telephone No./Telex No./Fax No.
3. Legal status of the applicant (attach copies of original document defining the legal status)

(a) An Individual

(b) A proprietary firm

(c) A firm in partnership

(d) A limited company or Corporation

4. Particulars of registration with various Government bodies (attach attested photocopy).

Organization/Place or registration	Registration No.
i. ....	.....
ii. ....	.....
iii. ....	.....

5. Names and Titles of Directors & Officers with designation to be concerned with this book.
6. Designation of individuals authorized to act for the organization.
7. Was the applicant ever required to suspend construction for a period of more than six months continuously after you commenced the construction? If so, give the name of the project and reasons of suspension of work.
8. Has the bidder or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
9. Has the bidder, or any consultant partnership firm, ever been debarred/black listed for

tendering in any organization at any time? If so, give details.

10. Has the bidder or any constituent partner in case of partnership firm, ever been convicted by a court of law? If so, give details.
11. In which field of Air-conditioning work the applicant has specialization and interest ?
12. Any other information considered necessary but not included above.

Signature of the Bidder(s)

**FORM 'G'**

DETAILS OF TECHNICAL & ADMINISTRATIVE PERSONNEL TO BE EMPLOYED

FOR THE WORK

Sl. No.	Designation	Total	Number available for this work	Name	Qualifications	Professional	How these would be involved in this work	Remarks
1	2	3	4	5	6	7	8	9

Signature of Bidder(s)

**FORM 'H'**

DETAILS OF CONSTRUCTION PLANT AND EQUIPMENT LIKELY TO BE USED IN  
CARRYING OUT THE WORK FOR THE WORK.

Sl. No.	Qualification	Unit	Capacity or type	Age	Condition	Presently owned	Leased	To be Purchased	Present location	Remarks
1	Hydra Crane	Nos.								
2	Chain Pulley Block	Nos.								
3	Welding Machine with safety kit	Nos.								
4	Gas cutter machine with safety kit	Nos.								
5	Hydro Testing Equipment	Nos.								
6	Ultrasonic Flowmeter	Nos.								
7	Multimeter/Megger	Nos.								

Signature of Bidder(s)

**FORM 'I'**  
**HSE COMPLIANCE CERTIFICATIONS**

<b>Sr.No.</b>	<b>Name of Certification</b>	<b>Yes/No</b>	<b>Date of Issue</b>	<b>Valid Upto</b>
1	ISO 9001 (Quality)			
2	ISO 14001 (Environment)			
3	OHSAS 18001/ISO 45001 (Health & Safety)			
4	Any Other Certification			

## CRITERIA FOR EVALUATION OF THE PERFORMANCE OF CONTRACTORS FOR PRE-ELIGIBILITY

Sl. No.	Attributes		Evaluation				
<b>(a)</b>	Financial strength (20 Marks)		i) 60% marks for minimum eligibility criteria				
	i) Average annual turnover (16 marks)		ii) 100% marks for twice the minimum eligibility criteria or more				
	ii) Solvency certificate (4 marks)		In between (i) & (ii) – on pro-rata basis				
<b>(b)</b>	Experience in similar class of work (40 marks)		i) 60% marks for minimum eligibility criteria i.e. Executed Value upto 80 % of Est. cost.				
			ii) 70% marks for single work of amount $\geq$ . i.e. Executed Value from 80% of estimate to 100 % of Est.				
			iii) 80% marks for single work of amount $\geq$ . i.e. Executed Value from 100% of estimate to 150 % of Est				
			iv) 100% marks for single work of amount $\geq$ . i.e. Executed Value above 150 % of Est.				
<b>(c)</b>	Performance of work (time over run) (5 marks)						
	Parameter	Calculation for point	Score				Maximum marks
		If TOR=	1.00	2.00	3.00	>3.50	5
	i) Without levy of compensation		5	4	3	2.5	
	ii) With levy of compensation		4	2.5	0	-1	
	iii) Levy of		5	3	2.5	0	

	compensation not decided						
<p>TOR = AT / ST, where AT = Actual Time, ST= Stipulated Time</p> <p>Note: Marks for value in between the stages indicated above is to be determined by straight line variation basis.</p>							
<b>(d)</b>	Performance of works (quality)		(10 marks)				
	i) Very Good		(10)				
	ii) good		(7)				
	iii) Fair		(5)				
	iv) Poor		(0)				
<b>(e)</b>	Personnel and Establishment		(10 marks)				
	i) Graduate Engineer		(3 marks for each upto max 6)				
	ii) Diploma holder Engineer		(2 marks for each upto max.4 marks )				
	iii) Supervisory / Foreman		(1 mark for each upto max. 3				
<b>(f)</b>	Plant & Equipment		(5 marks)				
	i) Hydra Crane		0.5 mark				
	ii) Chain Pulley Block		0.5 mark for each upto max. 1 marks				
	iii) Welding Machine with safety kit		0.5 mark for each upto max. 1 marks				
	iv) Gas cutter machine with safety kit		0.5 mark for each upto max. 1 marks				
	v) Hydro Testing Equipment		0.5 mark for each upto max. 1 marks				
	vi) Ultrasonic Flowmeter		0.5 mark for each upto max. 1 marks				
	vii) Multimeter/Megger		0.5 marks for each upto max. 1 marks				
<b>(g)</b>	HSE Compliance		(10 Marks)				
	I.	ISO 9001 (quality)					3
	II.	ISO 14001 (Environmental Management)					3
	III.	OHSAS18001/ISO 45001 (Health & Safety Management)					4

**Note:** Above marking system for plants and equipments may be modified suitably by NIT approving authority depending upon type of plants and equipments required for the work.



**TECHNICAL DATASHEETS****ANNEXURE- 1****TECHNICAL DATASHEET OF 800 TR CENTRIFUGAL CHILLER PROPOSED BY BIDDER FOR TECHNICAL EVALUATION****(A) SPECIFICATIONS:-**

<b>CHILLER</b>			
<b>S.No.</b>	<b>TECHNICAL PARTICULARS</b>	<b>REQUIRED</b>	<b>AS PER TENDERER</b>
01	a-d)Chiller- Type  e. Make  f. CHILLER PLANT MANAGER	a) Semi-Hermetic/Open b) Single or Multi stage c) Water Cooled d) AHRI /EUROVENT Certified  e) Approved makes Model No.  f. Chiller OEM make	
02	Compressor	Centrifugal ( Variable speed type)	
03	Nominal Tonnage ( full load and at constant condenser inlet temperature 90 Deg F)	Minimum 800 TR	
04	(a) Chiller Unloading Range	100 % to 20% with automatic capacity control (At constant condenser inlet temp. of 90 Deg F, without surging & without hot gas bypass)	
05	Operating Voltage	415V +/- 10%, 3 phase, 50Hz	
06	VFD/VSD i. VFD/VSD Mounting ii. Harmonic filter iii. Power Factor	i. Factory fitted unit mounted ii. Active harmonic filter as per IEEE 519 iii. PWM type using IGBT, PF> = 0.95 at all loads and speed	
07	i)Refrigerant  ii)Refrigerant ODP(Ozone	HFC (R134A) or HFO (Hydrofluoro-olefin) Refrigerant as ASHRAE/NBC 2016 allowed Standard	

	Depletion Potential) iii)Refrigerant GWP(Global Warming Potential) iv)Non Flammable v)Highly Toxic or Toxic under ASHRAE Code Classification	Zero Low GWP Yes Neither	
	Refrigerant charge (Quantity)	In Kg.	
08	Max KW/TR at full load a) at site condition b) at AHRI condition	a) 0.63 b) 0.54	
09	(i) NPLV (calculation with KW/Ton at 100%, 75%, 50% & 25%)	< 0.37	
	(ii) IPLV (calculation with KW/Ton at 100%, 75%, 50% & 25%)	< 0.35	
10	CHILLED WATER CIRCULATION RATE	1920 USGPM	
<b>CONDENSER OF CHILLER</b>			
11	Type	Shell & Tube (M.S. shell and integrally fined copper tubes)	
12	No of Passes	02 ( both inlet & out let shall be from same side)	
13	Flow ( max flow available at present site conditions)	2400 USGPM	
14	In let water temp	90 Deg F	
15	Out let water temp	100 Deg F or below	
<b>EVAPORATOR OF CHILLER</b>			
16	Type	Shell & Tube	
17	No of Passes	02 ( both inlet & out let shall be from same side)	
18	Flow ( max flow available at present site conditions)	1920 GPM	
19	In let water temp	54 Deg F	
20	Out let water temp ( at full load)	44 Deg F or below	

**ANNEXURE- 2**

**TECHNICAL DATASHEET OF CHILLED WATER PUMPING SYSTEM FOR 3200 TR  
CENTRAL AC PLANT PROPOSED BY BIDDER FOR TECHNICAL EVALUATION**

**A. PRIMARY CHILLED WATER PUMPING SYSTEM.**

<b>S.No.</b>	<b>TECHNICAL PARTICULARS</b>	<b>REQUIRED</b>	<b>AS PER TENDERER</b>
01	<b>i. Type</b> <b>ii. Specifications</b>  <b>iii. Make</b> <b>iv. Each Pump Flow</b> <b>v. Head</b> <b>No. of Pumps in 1 set</b>	<b>Centrifugal Pumps</b> <b>Skid Mounted</b> <b>(factory fitted)</b> <b>Vertical Inline</b> <b>Closed/Split Coupled</b> <b>Single Stage,</b> <b>Single Suction</b> <b>Constant Speed</b> <b>Approved makes</b> <b>1920 USGPM</b> <b>12 mtr.</b> <b>5 nos. in parallel</b>	
02	<b>Fabrication</b> <b>a) Body</b> <b>b) Impeller</b> <b>c) Shaft</b> <b>d) Winding</b> <b>e) Coating</b>	<b>Cast Iron</b> <b>Bronze</b> <b>Stainless Steel</b> <b>Copper</b> <b>Cathode Electro</b> <b>Deposition(CED)</b>	
03	<b>i. Motor Specification</b> <b>ii. Efficiency Class</b> <b>iii. Motor type</b>	<b>415V, 3ph, 50hz,4 p</b> <b>IE 03</b> <b>TEFC</b>	
04	<b>Pump Efficiency</b>	<b>Minimum 70%.</b>	

**B. SECONDARY CHILLED WATER PUMPS WITH VARIABLE SPEED PUMPING SYSTEM**

S.No.	TECHNICAL PARTICULARS	REQUIRED	AS PER TENDERER
01	<p><b>i. Type</b> <b>ii. Specifications</b></p> <p><b>iii. Make</b> <b>iv. Each Pump Flow</b> <b>v. Head</b> <b>vi. No. of Pumps in 1 set</b></p>	<p><b>Centrifugal Pumps</b> <b>Skid Mounted</b> <b>(factory fitted)</b> <b>Vertical Inline</b> <b>Closed/Split Coupled</b> <b>Single Stage,</b> <b>Single Suction</b> <b>Variable Speed</b> <b>Approved make</b> <b>1920 USGPM</b> <b>25 mtr.</b> <b>5 nos. in parallel</b></p>	
02	<p><b>Variable Speed Pumping System</b></p> <p><b>i. VFD</b> <b>ii. Model</b> <b>iii. PLC(Pump Logic Controller) with touch screen</b> <b>iv. PLC make</b> <b>v. Parallel Pumping Software</b> <b>vi. PLC PANEL PROTECTION CLASS</b></p>	<p><b>Integrated/mounted on motor IP55</b> <i>Danfoss FC 102 or equivalent from approved make</i> <i>Microprocessor based PLC UL listed for multi pump control compatible with Modbus/BMS</i> <i>Pump OEM</i> <i>Yes ( For controlling 6 pumps)</i> <b>IP55</b></p>	
03	<p><b>Fabrication</b></p> <p><b>a) Body</b> <b>b) Impeller</b> <b>c) Shaft</b> <b>d) Winding</b> <b>e) Coating</b></p>	<p><b>Cast Iron</b> <b>Bronze</b> <b>Stainless Steel</b> <b>Copper</b> <b>Cathode Electro Deposition(CED)</b></p>	
04	<p><b>iv. Motor Specification</b> <b>v. Efficiency Class</b> <b>vi. Motor type</b></p>	<p><b>415V, 3ph, 50hz,4 p</b> <b>IE 03</b> <b>TEFC</b></p>	

05	<b>Pump Efficiency</b>	<b>Minimum 70%.</b>	
----	------------------------	---------------------	--

**C. TERTIARY CHILLED WATER PUMPS WITH VARIABLE SPEED PUMPING SYSTEM**

<b>S.No.</b>	<b>TECHNICAL PARTICULARS</b>	<b>REQUIRED</b>	<b>AS PER TENDERER</b>
01	<b>i. Type</b> <b>ii. Specifications</b>  <b>Make</b>	<b>Centrifugal Pumps</b> <b>Skid Mounted</b> <b>(factory fitted)</b> <b>Vertical Inline</b> <b>Closed/Split Coupled</b> <b>Single Stage,</b> <b>Single Suction</b> <b>Variable Speed</b> <b>Approved makes</b>	
02	<b>i. Flow of each pump,</b> <b>head &amp; no. of pump</b> <b>in each set</b>	<b>a) 720 USGPM,</b> <b>20M &amp; 3 Nos.</b> <b>b) 960USGPM,</b> <b>25M &amp;3 Nos.</b> <b>c) 300 USGPM,</b> <b>20M &amp; 3Nos.</b> <b>d) 300 USGPM,</b> <b>20M &amp; 3Nos</b>	
03	<b>Variable Speed Pumping</b> <b>System for each set</b> <b>i. VFD</b> <b>ii. Model</b> <b>iii. PLC(Pump Logic</b> <b>Controller) with</b> <b>touch screen</b>  <b>iv. PLC make</b> <b>v. Parallel Pumping</b> <b>Software</b> <b>vi. PLC PANEL</b> <b>PROTECTION CLASS</b>	<b>Integrated/mounted</b> <b>on motor IP55</b> <i>Danfoss FC 102 or</i> <i>equivalent from</i> <i>approved make</i> <i>Microprocessor based</i> <b>PLC UL listed for multi</b> <b>pump control compatible</b> <b>with Modbus/BMS</b> <b>Pump OEM</b> <b>Yes ( For controlling 3</b> <b>pumps)</b>  <b>IP55</b>	

03	<b>Fabrication</b> a) Body b) Impeller c) Shaft d) Winding e) Coating	Cast Iron Bronze Stainless Steel Copper Cathode Electro Deposition(CED)	
04	i. Motor Specification ii. Efficiency Class iii. Motor type	415V, 3ph, 50hz,4 p IE 03 TEFC	
05	<b>Pump Efficiency</b>	<b>Minimum 70%.</b>	

**D. CONDENSER WATER PUMPING SYSTEM.**

S.No.	TECHNICAL PARTICULARS	REQUIRED	AS PER TENDERER
01	i. Type ii. Specifications  iii. Make iv. Each Pump Flow v. Head vi. No. of Pumps in 1 set	Centrifugal Pumps Skid Mounted (factory fitted) Vertical Inline Closed/Split Coupled Single Stage, Single Suction Constant Speed Approved makes 2400 USGPM 25 mtr. 5 nos. in parallel	
02	<b>Fabrication</b> a) Body b) Impeller c) Shaft d) Winding e) Coating	Cast Iron Bronze Stainless Steel Copper Cathode Electro Deposition(CED)	
03	iv. Motor Specification v. Efficiency Class vi. Motor type	415V, 3ph, 50hz,4 p IE 03 TEFC	
04	<b>Pump Efficiency</b>	<b>Minimum 70%.</b>	

**ANNEXURE- 3**

**TECHNICAL DATASHEET OF COOLING TOWER FOR 3200 TR CENTRAL AC PLANT PROPOSED BY BIDDER FOR TECHNICAL EVALUATION**

<b>S.No.</b>	<b>TECHNICAL PARTICULARS</b>	<b>REQUIRED</b>	<b>AS PER TENDERER</b>
01	<b>Type</b> <b>Model</b> <b>Make</b> <b>Capacity</b>	<b>Induced Draft cross flow</b> <b>Twin Cell</b> <b>Approved makes</b> <b>900 TR</b> <b>(450TR each cell)</b>	
02	<b>Fabrication</b> <b>a) Body</b> <b>b)Shape/Size</b> <b>c) Fills/Drift Eliminator</b> <b>d) Nozzle sprinkle</b> <b>e) Supporting structure</b> <b>f) Panel Casing Thickness</b> <b>g)Basin Thickness</b> <b>h) Vibration Isolator</b>	<b>FRP</b> <b>Rectangular/Square</b> <b>PVC</b> <b>Standard</b> <b>FRP coated</b> <b>5 mm(min)</b> <b>6mm (Minimum)</b> <b>Microcellular</b> <b>Polyurathene based</b>	
03	<b>Motor Electrical characteristic</b> <b>Motor Protection Class</b>	<b>415V, 3ph, 50hz</b> <b>IE03</b> <b>IP65</b>	
04	<b>Certification</b>	<b>CTI STD 201 certified</b>	
05	<b>Design specification</b> <b>a) Heat rejection capacity</b> <b>b) Max WBT</b> <b>c) Entering Water temp.</b> <b>d) Leaving Water temp.</b> <b>e) Water flow rate per tower</b>	<b>≥6750000 BTUs/hr</b> <b>83 F(28.3 C)</b> <b>100 F (37.7 C)</b> <b>90 F (32.2 C)</b> <b>2400 USGPM</b>	

**ANNEXURE- 4**

**TECHNICAL DATASHEET OF AUTOMATIC PRESSURISATION SYSTEM WITH CLOSED EXPANSION TANK FOR 3200 TR CENTRAL AC PLANT PROPOSED BY BIDDER FOR TECHNICAL EVALUATION**

<b>S.No.</b>	<b>TECHNICAL PARTICULARS</b>	<b>REQUIRED</b>	<b>AS PER TENDERER</b>
01	<b>i. Type</b> <b>ii. Pumping Sys.</b> <b>iii. Inbuilt Degasser</b> <b>iv. Inbuilt Air Separator</b> <b>v. Vessel Diaphragm material</b> <b>vi. Standard</b> <b>Make</b> <b>Model No.</b> <b>Capacity</b>	<b>Automation Pressurization System with pressure less closed expansion tank</b> <b>Twin Pump (1W+1S)</b> <b>Yes</b> <b>Yes</b> <b>Butyl Bladder</b> <b>PED-97/23/EC, IEE, EMC-2014/108/EC directives</b> <b>Approved make</b> <b>Model No.</b> <b>5000 Liters</b>	
02	<b>Power Supply</b>	<b>415 V, 3 phase, 50 Hz or 230/50/V/Hz</b>	
03	<b>Controller</b>	<b>Microprocessor based touch screen with IP 54 protection</b>	
04	<b>Communication/BMS Compatibility</b>	<b>RS 485/BMS compatible</b>	
05	<b>Tank Material</b>	<b>Heavy Duty M S tank with external anti corrosion painting</b>	
06	<b>Bladder Material</b>	<b>Replaceable Butyl Bladder as per DIN EN 13831</b>	
07	<b>Design Pressure</b>	<b>6 bar</b>	



<b>5</b>	<b>Permanent Display of system pressure and tank volume level</b>	<b>Yes</b>	
<b>6</b>	<b>Water make-up connection</b>	<b>As per OEM</b>	
<b>7</b>	<b>Pump/overflow valve connection</b>	<b>As per OEM</b>	
<b>8</b>	<b>Max. System Temperature</b>	<b>120 C</b>	
<b>9</b>	<b>Max. Operating Temperature</b>	<b>70 C</b>	
<b>11</b>	<b>Lock Shield Valve</b>	<b>Yes</b>	

**ANNEXURE- 5**

**TECHNICAL DATASHEET OF DIRT SEPARATOR FOR 3200 TR CENTRAL AC PLANT PROPOSED BY BIDDER FOR TECHNICAL EVALUATION**

<b>S.No.</b>	<b>TECHNICAL PARTICULARS</b>	<b>REQUIRED</b>	<b>AS PER TENDERER</b>
01	<b>i. Type</b> <b>ii. Pipe Size</b> <b>iii. Capacity</b> <b>iv. Equipment Standard</b> <b>v. Material Standard</b> <b>Make</b> <b>Model No.</b>	<b>Microbubble type Dirt Separator</b> <b>600 mm</b> <b>9600 USGPM</b> <b>PED 2014/68/EU</b>  <b>EN/ISO:S235JR</b>  <b>Approved make</b> <b>Model No.</b>	
02	<b>Pressure Drop across Dirt separator</b>	<b>≤0.5 bar</b>	
03	<b>High Capacity Auto air vent</b>	<b>Yes</b>	
04	<b>Magnetic Separation</b>	<b>Yes</b>	
05	<b>Removing Dirt Particle size</b>	<b>Upto 4 micron</b>	
06	<b>Tank Material</b>	<b>Heavy Duty M S tank with external anti corrosion painting</b>	
07	<b>Design Pressure</b>	<b>PN 16</b>	

**ANNEXURE- 6**

**TECHNICAL DATASHEET OF WATER SOFTENING PLANT FOR 3200 TR  
CENTRAL AC PLANT PROPOSED BY BIDDER FOR TECHNICAL EVALUATION**

S.No	TECHNICAL PARTICULARS	REQUIRED	AS PER TENDERER
01	a) Type  b) Make c) Model d) Capacity	<b>Multi-grade sand &amp; gravel filter and high exchange capacity resin based</b> <b>Approved makes</b>  <b>Min. 60 M<sup>3</sup>/hr</b>	
02	<b>Sand and gravel filter</b> a)Capacity b)Max Pressure drop c) Material d)Thickness	<b>Min. 60 M<sup>3</sup>/hr</b> <b>0.5 bar</b> Mild Steel, IS: 2026 Standard <b>Wall:- Min. 8 mm</b> <b>Bed Plate:- Min. 10 mm</b>	
03	<b>Softening plant</b> a)Capacity b)Max Pressure drop c) Material d)Thickness	<b>Min. 60 M<sup>3</sup>/hr</b> <b>0.5 bar</b> Mild Steel, IS: 2026 Standard <b>Wall:- Min. 8 mm</b> <b>Bed Plate:- Min. 10mm</b>	
04	<b>MGF feed pump</b> a) Quantity b) Make C)Power	<b>02 Nos (1W+1SB)</b> <b>Approved make</b> <b>.....HP</b>	

**ANNEXURE- 7**

**TECHNICAL DATASHEET OF BMS SYSTEM FOR 3200 TR CENTRAL AC PLANT  
PROPOSED BY BIDDER FOR TECHNICAL EVALUATION**

**BUILDING MANAGEMENT SYSTEM**

<i>S.No.</i>	<i>TECHNICAL PARTICULARS</i>	<i>REQUIRED</i>	<i>AS PER TENDERER</i>
01	BMS & EMS web-based server software Make	As Specified  JCI/Honeywell/Siemens	
02	DDC controller a) Type)  b)Points  c)Housing	IP Based Standalone 32 Bit Intelligent, BTL Listed & UL certified interoperable DDC  Minimum 18 onboard points and can be expandable upto max of 52 points. IP55 lockable powder coated ms box	

### **ADDITIONAL INFORMATION FOR PROSPECTIVE BIDDER**

1. Labour hutments shall not be allowed to be erected within the premises of the campus except for the security person at work site with proper sanitation arrangement after due approval of the Superintending Engineer. The labour hutments, necessary arrangement shall be made by the agency outside of the campus at his own cost.
2. From time to time, some restrictions may be imposed by the IIT Kanpur Authority in connection with the entry and exit of construction materials and labourers within the construction site, for which no claim will be entertained.
3. The bidder has to provide a qualified safety officer for adhering proper safety requirements during the entire period of contract. The safety officer must be present at site throughout the contract period.
4. In case of any fatal accident at any site the agency may be punished upto extent of termination of contract including black listing for future work in the institute.
5. Any violation with related to labour laws with respect to construction workers shall be viewed very seriously & agency may be punished upto extent of termination of contract including black listing for future work in the institute.
6. The bidder has to open EPF account in local office at Kanpur for the work.
7. The contractor(s) shall quote all inclusive rates against the items in the schedule of quantity these rate shall be for all depth and heights unless otherwise specified in the item and no extra payment shall be made for any of the condition & specification mentioned in the tender document unless specifically specified otherwise.

Acting Superintending Engineer