INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI

E-mail: eutenders@iittp.ac.in

Notice Inviting Tender

e-Tender No: IITT/EU/E&M/TENDER/2023-24/001

Date: 30.09.2023

Online **Percentage Rate** bids are hereby invited in **two cover system** for **Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt).** Bidders can download a complete set of bidding documents from the e-procurement Platform https://eprocure.gov.in/eprocure/app from 30.09.2023 onwards. Bidders need to submit the bids online by uploading all the required documents through https://eprocure.gov.in/eprocure/app.

The last Date/ Time for receipt of bids through e-procurement is 21.10.2023 up to 10:00 Hrs.
Late bids will not be accepted.

For further details regarding Tender Notification & Specifications, please visit the website: https://eprocure.gov.in/eprocure/app and www.iittp.ac.in/tenders

CRITICAL DATE SHEET

Online Publication & Tender Document Download Date & Time	**30.09.2023, 10:00 Hrs**
Clarification Start Date & Time	**30.09.2023, 10:00 Hrs**
Clarification End Date & Time	**19.10.2023, 17:00 Hrs**
Bid Submission Start Date & Time	**30.09.2023, 10:00 Hrs**
Pre-Bid Meeting	**09.10.2023, 10:00 Hrs**
Bid Submission End Date & Time	**21.10.2023, 10:00 Hrs**
Technical Bid Opening Date & Time	**23.10.2023, 10:00 Hrs**
Financial Bid Opening Date & Time	It will be announced after technical evaluation to the successful bidders.

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INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
ENGINEERING UNIT

E-mail: eutenders@iittp.ac.in

TENDER DOCUMENT

Name of Work	**Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt)**
Tender Notification No	**IITT/EU/E&M/TENDER/2023-24/001**
Date	**30.09.2023**
Estimated Cost	**₹ 1,98,09,104/-**
Earnest Money Deposit (EMD)	**₹ 3,96,182/-**
Tender Fee	**₹ 1,500/-**
Last Date & Time of Submission of Bid	**21.10.2023 up to 10:00 Hrs**
Date & Time of Opening of Technical Bid	**23.10.2023 @ 10:00 Hrs**
Date & Time of Opening of Financial Bid	**It will be intimated later to the technically qualified bidders.**
Validity of the Tender	**90 days from the date of opening of the tender**
Duration of Contract	**Twelve months** **(However, it may be extended up to one year based on the performance and without any cost escalation)**
Address of the Engineer-in-Charge	**Office of the Executive Engineer,** **1st Floor, Engineering Unit, IIT Tirupati,** **Venkatagiri - Yerpedu Road, Yerpedu (M),** **Tirupati (Dt), Andhra Pradesh - 517619.**

BRIEF DESCRIPTION OF IIT TIRUPATI

IIT Tirupati is an Institute of National Importance, established in the year 2015, under the Ministry of Education, Govt. of India. The institute is located at Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt), Andhra Pradesh.

IIT Tirupati is availing power supply from M/s APSPDCL through a 33 kV feeder for Academic and Hostel areas and through an 11 kV feeder for Residential areas. IIT Tirupati has six no's of 11 kV substations, one 33 kV substation, and an 11 kV switching station.

IIT Tirupati is availing raw water supply from SSG Canal through M/s RWS&S department. Excess water will be stored in the institute Ponds, and the same will be pumped to WTP through the intake well. IIT Tirupati has WTPs and STPs for domestic and sewage water treatment.

IIT Tirupati has a 216.5 kWp rooftop solar power plant under The RESCO model, and another 780 kWp plant will be established on the roof top of academic buildings, under CAPEX mode.

ABBREVIATIONS

Engineer-in-Charge	The engineer who supervises and in charge of work on behalf of IIT Tirupati
Contractor	The successful bidder and who is awarded with the work
APSPDCL	Andhra Pradesh Southern Power Distribution Corporation Limited
RWS&S	Rural Water Supply & Sanitation
SSG Canal	Satya Sai Ganga Canal
O.E.M.	Original Equipment Manufacture
RESCO	Renewable Energy Service Company
HT	High Tension
LT	Low Tension
VCB	Vacuum Circuit Breaker
ACB	Air Circuit Breaker
CT	Current Transformer
PT	Potential Transformer
ESS	Electrical Substation
WTP	Water Treatment Plant
STP	Sewage Treatment Plant
OHT	Overhead Tank
UG Cable	Underground Cable
BoQ	Bill of Quantities
IR	Insulation Resistance
ESS	Electrical Substation

INSTRUCTIONS FOR ONLINE BID SUBMISSION

Instructions to the bidders to submit the bids online through the Central Public Procurement Portal for e-Procurement at **https://eprocure.gov.in/eprocure/app.**

1. Possession of a valid Digital Signature Certificate (DSC) and enrolment/registration of the contractors/bidders on the e-Procurement/e-tender portal are prerequisites for e-tendering.
2. Bidder should register for the enrolment in the e-Procurement site using the "Online Bidder Enrolment" option available on the home page. Portal enrolment is generally free of charge. During registration, the bidders should provide only valid and true information, including valid E-mail id. All the correspondence shall be made directly with the contractors/bidders through the E-mail id as registered.
3. Bidder needs to login to the site through their user ID/password chosen during enrolment/registration.
4. Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY / TCS / nCode / eMudra or any other Certifying Authority recognized by Controller of Certifying Authorities (CCA) India on e-Token / Smartcard, should be registered.
5. The registered DSC only should be used by the bidder in the transactions and should ensure the safety of the same.
6. Contractor / Bidder may go through the tenders published on the site and download the tender documents/schedules for the tenders.
7. After downloading/getting the tender document/schedules, the Bidder should go through them carefully and then submit the documents as required. Otherwise, the bid will be rejected.
8. Any clarifications may be sought online through the tender site, through the contact details, or during the pre-bid meeting if any. The bidder should consider the corrigendum, if any, published before submitting the bids online.
9. Bidder may log in to the site through the user id/password chosen during enrolment/registration and then by submitting the password of the e-Token / Smartcard to access DSC.
10. Bidder may select the tender in which he/she is interested, by using the search option and then move it to the 'my tenders' folder.
11. From my tender folder, he/she may select the tender to view all the details uploaded there.
12. It shall be deemed that the bidder has read and understood all the terms and conditions before submitting the offer. The bidder should go through the tender schedules carefully and upload the documents as asked; otherwise, the incomplete bid shall stand rejected.
13. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/schedule and ordinarily it shall be in PDF /xls /

rar / jpg / dwf formats. If there is more than one document, all may be clubbed together and provided in the requested format. Bidder's Bid documents may be scanned with 100 dpi with a black and white option. It is advisable that each document to be uploaded through online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced through zip / rar and the same if permitted may be uploaded. The file size being less than 1 MB the transaction uploading time will be very fast.

14. The bidders can update well in advance, the documents such as certificates, annual report details etc., under "My Space option" and these can be selected as per tender requirements and then send along with bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.

15. Authority to sign on the bid:

    (a) If an individual submits the bid, he shall sign it above his full type-written name and current address.

    (b) If a proprietary firm submits the bid, it shall be signed by the proprietor (with seal) above his full typewritten name & the full name of his firm with its current address.

    (c) If a firm in partnership submits the bid, it shall be signed (with seal) by all the partners of the firm above their full typewritten names and current addresses or by a partner holding power of attorney for the firm in which case a certified copy of a power of attorney shall accompany the application. A certified copy of the partnership deed and the current addresses of all the firm partners shall also accompany the bid.

    (d) Suppose a limited company or a corporation submits the bid. In that case, it shall be signed by a duly authorized person holding power of attorney for signing the application. A certified copy of a power of attorney shall accompany the application. A limited company or corporation may be required to provide satisfactory evidence of its existence. The applicant shall also furnish a copy of the Memorandum of Articles of Association duly attested by a public notary.

16. **TENDER FEE, EMD & PERFORMANCE GUARANTEE DEPOSIT:**

    (a) **Tender Fee of ₹ 1,500/- (Rupees fifteen hundred only) should be submitted ECS (Bank transfer / NEFT / RTGS) in favour of the Indian Institute of Technology Tirupati.**

    (b) **EMD of ₹ 3,96,182/-** should be submitted ECS (Bank transfer / NEFT / RTGS) in favour of Indian Institute of Technology Tirupati.

    (c) **Bank A/c Details**:
    Name: Indian Institute of Technology Tirupati
    Bank: State Bank of India
    Account No: 41139549389
    IFSC Code: SBIN0061587

(d) Micro and Small Enterprises (MSEs) firms as defined in the MSE Procurement Policy issued by the Department of Micro, Small and Medium Enterprises (MSME) or the firms registered with the National Small Industries Corporation or Central Purchase Organisation or the concerned Ministry or Department or Start-ups as recognized by Department of Industrial Policy & Promotion (DIPP) for **all these items only**, are exempted from Tender fee and EMD. However, they must enclose valid self-attested registration certificate(s) along with the tender to this effect.

(e) The bidders who seek exemption from the Tender fee and EMD as per clause no. (d) above, if they withdraw or modify their bids during the period of validity, or if they are awarded the contract, and they fail to sign the contract or to submit a performance guarantee before the deadline defined in the request for bids document, they will be suspended/black listed for the period of three years or as decided by the competent authority from being eligible to submit bids for contracts with the entity that invited the bids.

(f) EMD of all unsuccessful bidders (if any) will be returned after finalization of the tender. EMD of the successful bidder will be returned only after receipt of performance guarantee.

(g) In case of a successful bidder, the EMD (if any) may be adjusted towards the performance guarantee.

(h) The amount of EMD (if any) is liable to be forfeited if the tenderer withdraws from the offer after submission of the tender or after the acceptance of the offer and fails to remit the performance guarantee.

(i) No interest will be paid on the EMD (if any), performance guarantee & security deposits.

(j) The bidders shall upload scanned copies of payment details toward the Tender fee and EMD. Bids will be accepted only on verification and confirmation by the Institute. The Institute will not entertain any delay in credit.

(k) **Performance Guarantee:** The successful contractor shall provide a performance guarantee for the satisfactory performance of the contract, and it shall be valid for a minimum period of sixty days beyond the date of completion of contractual obligations. The performance guarantee shall be submitted within seven working days from the date of receipt of the letter of award or work order, whichever is earlier. The performance guarantee may be in the form of bank guarantee issued/ confirmed from any of the commercial banks in India. Bank Guarantee shall be submitted in the format given in this document. The performance guarantee amount shall be 5 % (five percent) of the contract value. The performance guarantee shall be liable to be forfeited for unsatisfactory services (or) violation of conditions under this contract during the entire tenure of this contract.

17. **Eligibility Criteria & Bid Evaluation:**

(a) **Eligibility** Criteria for Work Experience.

To become eligible for participation, the bidders shall satisfy the following work experience criteria.

The Bidders should have satisfactorily completed similar works (i.e., works specified in this tender document) in State Govt/ Central Govt/Central Autonomous Bodies/Central Public Sector Undertaking organizations for a period of one year during the last five years, ending up to 31.03.2023. This should be certified by an officer, not below the rank of Executive Engineer or equivalent.

One similar completed work of value not less than ₹ 158.47 lakhs

or

Two similar completed works of each value not less than ₹ 118.85 lakhs

or

Three similar completed works of each value not less than ₹ 79.23 lakhs

(b) Bidder shall have a valid 33kV electrical license from central or any state government, registration certificate of firm/company, GST registration certificate, PAN card.

(c) Bidder shall have its own office within the states of Andhra Pradesh/ Telangana/ Tamil Nadu/ Karnataka.

(d) Bidder shall have Banker's certificate of ₹ 79.23 lakh (40 % ECPT), certified by the bankers of the applicant. The certificate should have been obtained not earlier than 31.03.2023.

(e) Bidder shall submit IT returns to Tax authorities for the last three years.

Note: A copy of documentary proof for fulfilling all the above conditions and shall be submitted as a part of the technical bid.

(f) Bidder shall have an average annual financial turnover of ₹ 59.42 lakhs (30 % ECPT) during the last three financial years ending 31.03.2023 and, shall not have incurred any loss in more than one financial year during the last three years ending 31.03.2023. This shall be certified by a chartered accountant. The declaration shall be submitted in the prescribed proforma as per Annexure - III.

(g) Bidder shall visit the IIT Tirupati and get themselves acquainted with the campus conditions (location of the campus, area of campus, type of fittings, installations, technology, nature of work etc.) to access the required workforce, tools, plants, machinery & equipment, etc. before submitting the offer. An undertaking letter (Annexure - IV) shall be submitted.

(h) Bidder shall submit Annexure - V for minimum workforce support required for Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt).

(i) Bidder shall not be from a country sharing the land border with India, and if the bidder is from a country sharing the land border with India, the bidder should

have been registered with the competent authority as per orders of DIPP OM No. F. No. 6/18/2019-PPD dated 23rd July 2020, and MoCI Order No. P-45021/112/2020-PP (BE II) (E-43780) dated 24th August 2020. The declaration shall be submitted in the prescribed proforma as per Annexure - IX.

(j) Following documents shall be submitted along with technical bids.

1. Tender fee & EMD payment details (Annexure - I).
2. Details of completed similar works & work completion certificates (along with work order, purchase order, etc.) (Annexure - II).
3. Undertaking for IIT Tirupati visit before submitting the offer (Annexure - IV).
4. Undertaking for Terms & Conditions (Annexure - VI).
5. Undertaking not to sublet the work (Annexure - VII).
6. Structure and Organisation (Annexure - VIII)

Failure to comply with any one of the above conditions will lead to disqualification of technical bids. The financial bids (price bids) of only technically qualified bidders will be opened online by a committee of members, and the result will be displayed on **www.eprocure.gov.in,** which can be seen by all bidders who participated in the tender.

18. While quoting in the Tender, the bidder should consider the minimum wages to be paid to his workforce as per the latest revised rates of wages (Basic rate + Variable Dearness Allowance) applicable from 26.09.2023 (Published by Ministry of Labour & Employment, Govt. of India, vide order No. F.No. 1/8(3)/2023-LS-II, dated: 26.09.2023) for the workers employed in "Construction OR Maintenance of Roads OR Runways OR In Building operations including laying down Underground Cabling work, Electric lines, Water supply lines and Sewerage pipe lines.

    According to the revised rates published by the Govt. of India at different intervals, the difference amount will be reimbursed (contractor quoted percentage will be applicable on difference amount) to the contractor in the subsequent bills by the institute against proof of such order.

19. Eligible bidders shall quote percentage rates. Bidders must ensure to quote a percentage rate above/below on the total amount of the tender. The lowest percentage (L1) quoted among the technically qualified bidders will be considered.

20. If the lowest percentage quoted is not within the justified limit, negotiation will be conducted with the Lowest (L1) bidder. If two or more bidders quote the same L1 percentage, then a sealed revised offer will be obtained from them, and the lowest rate among them will be the L1 percentage for the award. In case the revised offer also results in a tie, then the L1 will be decided based on the draw of lots in the presence of concerned bidders.

21. Rates quoted shall be inclusive of the Contractors & Employee's contribution of EPF and ESI to be paid to the concerned authorities. The entire workforce deployed shall be covered by EPF & ESI. Payment of EPF & ESI contributions are the sole responsibility of the Contractor, and the Contractor shall indemnify to IIT Tirupati in this regard.

22. IIT Tirupati reserves the right to accept or reject any or all bids without assigning any reason thereof.
23. All documents and registrations should be valid as on the date of opening of the tender.
24. Bidders are advised to attend the Pre-Bid meeting on the date mentioned in the critical data sheet for clarification.

GENERAL CONDITIONS OF THE CONTRACT

25. All modifications leading to changes in the contract with respect to technical and/or commercial aspects, including terms of delivery, shall be considered valid only when accepted in writing by IIT Tirupati by issuing an amendment to the contract. IIT Tirupati shall not be bound by any printed conditions, provisions in the contractor's BID, forms of acknowledgment of contract, and other documents which purport to impose any condition at variance with or supplement to the contract.

26. The contractor shall not assign, sublet, or transfer the contract or any part thereof or any benefit or interest therein or there under without the written consent of IIT Tirupati. If any with the consent of IIT Tirupati also, shall not establish any contractual relationship between the subcontractor (s) and the IIT Tirupati and shall not relieve the contractor of any responsibility, liability, or obligations under the contract, and the contractor shall be responsible for the acts, defaults or neglects of any sub-contractor or his agent or workmen.

27. The contractor shall mobilize complete resources like workforce from the date of commencement of the contract. If the contractor fails to mobilise as above, IIT Tirupati shall have the right to terminate the contract, without prejudice to any other clause of the contract.

    The movement of below-tabulated staff will be more in IIT Tirupati. Hence, the contractor shall provide a petrol allowance for not less than as below (or) shall arrange the required transportation facility.

S. No.	Workforce	Minimum Petrol Allowance / Month
1	Engineer	₹ 500/-
2	Skilled Electrician (Maintenance)	₹ 500/-
3	Semi-Skilled Electrician (Maintenance)	₹ 500/-
4	Semi AC Electrician (Maintenance)	₹ 500/-
5	Un-Skilled AC Electrician (Maintenance)	₹ 500/-
6	ESS – 1, 2 & 4 Operators	₹ 500/-
7	ESS – 5 & 6 Operators	₹ 500/-

    Apart from the above, the contractor shall arrange the required transportation facility for the remaining workforce also, under this contract. IIT Tirupati will not provide any transportation for the contractor workforce, tools, etc.

28. Necessary power for the operation of the equipment will be made available free of cost at the nearest point available, and the contractor shall arrange necessary extension boards with due safety measures.

29. The contractor shall make necessary coordination with external agencies like M/s APSPDCL, M/s RWS&S, and other local bodies, etc., whenever required.

30. IIT Tirupati shall provide the required operations and maintenance logbooks and registers mentioned in this contract.

31. Engineer-in-Charge shall have authority for general supervision, overall supervision, co-ordination at the site, proper utilization of equipment and services, monitoring of performance and progress, commenting/ countersigning on reports made by the contractor's representative at the site in respect of works, receipts, and consumption, etc. after satisfying himself with the facts of the respective cases.

    Engineer-in-charge shall have the authority to follow up on the supply and direction of the work and direction to stop the work. Whenever such stoppage may be necessary to ensure the proper execution of the contract and to reject all works/materials/services which do not conform to the contract. The Engineer-in-Charge shall have no authority to either relieve the contractor of any of his duties or obligations under this contract.

    Engineer-in-Charge shall have the authority, but not the obligation, always and at any time to inspect/ test/ examine/ verify any equipment machinery, instruments, tools, materials, personnel, procedures and reports etc., directly or indirectly pertaining to the execution of the work. However, this shall not construe to imply an acceptance by the Engineer-in-Charge. Hence, the overall responsibility for the quality of work shall rest solely with the contractor.

    Every document emerging from the site in support of any claim made by the contractor shall have the counter signature/ comments of the IIT Tirupati representative/ engineer. Otherwise, no claim will be entertained by the IIT Tirupati.

32. This contract is purely a **WORKS CONTRACT** intended for carrying out all the works mentioned in this contract. At no stage should this be construed or interpreted as a LABOUR CONTRACT or SUPPLY OF MANPOWER.

33. **WORKFORCE:** The contractor shall deploy the minimum workforce support throughout the contract period as committed in Annexure – V. The workforce shall be deployed based on the performance test conducted by IIT Tirupati in the relevant trade.

34. The contractor shall provide paid holidays for the workforce on Republic Day, Independence Day & Gandhi Jayanthi. However, Substations, STPs & WTPs shall be operational, and accordingly, operators shall be available on aforesaid holidays also to run the system smoothly. The contractor shall pay double wages to the on-duty operators for aforesaid holidays.

35. The contractor may have to deploy more workforce than that committed by them (Annexure – V) to carry out the works within the scheduled time to the satisfaction of the Engineer-in-Charge. However, no claim can be accepted for deploying additional workforce than that committed for.

36. Only persons with known antecedents and good conduct shall be deployed. Persons who are capable, qualified, and experienced in relevant fields only shall be deployed. The contractor shall be responsible for the conduct of the workforce deployed in case of any defects noticed in the workforce employed. The contractor

shall withdraw the same immediately and replace such workforce with a suitable substitute to ensure efficient and effective services.

37. The contractor shall avoid frequent replacement of working staff and shall do so only with the prior approval of the Engineer-in-Charge.

38. The contractor shall maintain strict discipline among its workforce and shall abide by and conform to all rules and regulations promulgated by the IIT Tirupati governing the operations. If IIT Tirupati feels that the conduct of any of the contractor's workforce is detrimental, the IIT Tirupati shall have the right to request for the removal of such workforce either for incompetence, unreliability, misbehaviour, security reasons, etc., while on or off the job. The contractor shall comply with any such request to remove such workforce at the contractor expense unconditionally. The contractor will be allowed a maximum of seven working days to replace the workforce with competent, qualified workforce at the contractor cost.

39. The contractor shall solely and exclusively be responsible for engaging or employing the workforce for the execution of this work. All workforce engaged by the contractor shall be in its payroll and be paid by them. IIT Tirupati will have no liability whatsoever concerning the workforce engaged for this contract. The contractor shall make/pay full monthly wages on time along with statutory dues in bank transfer to the workmen within the 7^{th} day of the following month, irrespective of whether the contractor has raised the bill or not, and furnish necessary documents whenever required by the competent authority. It shall be the responsibility of the contractor for any dispute arising between them and their workforce. IIT Tirupati is indemnified against losses, damages, or claims arising thereof.

40. There will be no relations between IIT Tirupati, and the workforce engaged by the contractor under the contract. No claims for any employment in IIT Tirupati will be entertained or tenable. It shall be the sole responsibility of the contractor to regulate and affect any terms of employment with the engaged workforce without any liability whatsoever to IIT Tirupati.

41. The contractor shall be solely liable for any accident or injury that may happen to any of his workforce engaged in the contract. The IIT Tirupati shall not be liable for, or in respect of, any damage or compensation payable at law in respect of, or in consequence of, any accident or injury to any workforce in the employment of the contractor, and the contractor shall indemnify and keep indemnified the IIT Tirupati against all such claims, damages, compensations, and proceedings. The contractor shall forthwith report to the IIT Tirupati all cases of accidents to any of his workforces and shall make every arrangement to render all possible assistance and aid to the victims of the accident. The IIT Tirupati will not take any responsibility for providing safety equipment and devices to workmen, and any consequential accident due to the non-provision of safety devices will be to the contractor's account. The contractor shall ensure the implementation of all necessary safety precautions in respect of various activities contemplated in the scope of the contract.

42. **FOCAL POINT:** The Engineer employed by the contractor will be the focal point for IIT Tirupati for only the Electrical, Mechanical Operations and Maintenance Services of this contract. The Engineer shall report to the Engineer-in-charge daily for taking necessary instructions issued to the contractor, and the same shall be signed and acknowledged. The engineer shall be responsible for taking necessary action on behalf of the contractor at IIT Tirupati.

43. **TOOLS, EQUIPMENTS & CONSUMABLES:** The contractor shall mobilize tools the below-tabulated tools (minimum tools) within 15 days from the date of issue of the Letter of Award/Letter of Commencement/Work Order, whichever is earlier. If the contractor fails to mobilize the same (even if one tool also), IIT Tirupati shall impose liquidated damage of ₹ 1,500 per day. The contractor shall maintain the minimum tools during the entire tenure of the contract.

S. No.	Description of Tools	Qty	Remarks
Tools			
1	30 cm multi-end screwdriver (star & minus)	54	For each person (except engineer)
2	Insulated cutting plier	54	
3	Line tester	55	For each person
4	Wire stripper and cutter	10	For Electrical Maintenance Teams
5	Electrical knife	10	
6	Allen key set	10	
7	Wire crimping tool (up to 16 sq. Mm)	01	
8	Measurement tape (05 mtrs)	05	
9	Measurement tape (30 mtrs)	01	For Electrical & Mechanical Maintenance Teams
10	Double-end spanner set (6 mm to 27 mm)	10	
11	Ring spanner set (6 mm to 27 mm)	10	
12	Vacuum cleaner	02	
13	Air blower	02	
14	Adjustable spanner (big)	05	
15	Adjustable spanner (small)	05	
16	Nose plier	02	
17	Gas plier	02	
18	Pipe wrench (up to 90 mm)	02	
19	Pipe wrench (up to 160 mm)	02	
20	Digital clamp-on meter (up to 200 amps)	06	
21	Box spanner set (big)	02	
22	Box spanner set (small)	02	
23	Hammer & chisel	05	
24	Electrically operated hammer drill machine	02	
25	Electrically operated small drill machine	02	
26	Electrically operated angular grinder	02	
27	Battery-operated screwdriver drill machine	02	
28	Self-supporting ladder (10 feet)	05	
29	Anemometer	02	

30	Digital probe thermometer	02	For Mechanical Maintenance Teams
31	Sling psychrometer	02	
32	Decibel meter	02	
33	Double-end spanner set (6 mm to 34 mm)	02	
34	Ring spanner set (6 mm to 34 mm)	02	
35	Flaring tool	01	
36	Copper pipe cutter	01	
37	Pipe bending springs set	01	
38	Vacuum pump	01	
39	Portable one kg ac gas cylinder (empty)	01	
40	Heat torch gun (for butane gas tins)	01	
41	Swagging punch	01	
42	Flat pile (12 inches)	01	
Consumables for tools			
1	Drill bits		For all tools as and when required
2	Grinding wheels		
3	Cutting wheels		

Apart from the above, all the tools and equipment like ladders, insulation resistance tester, earth resistance tester, cable fault locator, etc., for the services and works under this contract shall be arranged by the contractor at no extra cost to the IIT Tirupati. It is the contractor's responsibility to safeguard all his property. IIT Tirupati is nowhere responsible for the loss of the contractor property, tools, appliances, equipment, etc. The contractor may take back the provided tools & equipment after the duration of the contract.

The contractor shall arrange all the consumables for tools, like drill bits, grinding wheels, cutting wheels, etc., as and when required during the tenure of the contract. No extra payment shall be made to the contractor by the IIT Tirupati.

IIT Tirupati may give the institute tools to the contractor. In such case the contractor shall return same to IIT Tirupati in good and working condition, whenever required.

44. No claim, whatsoever, either for loss of contractor's property, tools, appliances, equipment, etc., or accident to the workforce, during the contract, will be entertained by the IIT Tirupati. The workforce deployed on the work shall evince particular care, and necessary precaution shall be bestowed where service to be maintained lies in the vicinity of electric lines and cables, both exposed and underground. Any damage to men or property of IIT Tirupati due to careless operation and any consequential losses shall be charged to the contractor account. In the event of shocks, electrocution, or damage to men or property, especially due to careless working, all consequential losses will be debited to the contractor. The IIT Tirupati will not be responsible for payment of any compensation on such account. The contractor shall take all precautionary steps to avoid any accidents resulting in damages to men and property.

45. IIT Tirupati may provide the institute assets like Table, Chair, Almirah, Fan etc for the required workforce. In such case, the contractor shall sign on the inventory list

before utilizing the same and shall return the same assets to institute, as and when required, in good working condition. The contractor shall not have any rights on institute property.

46. The contractor or his workforce shall not cause any damage to the assets/equipment/tools plants and any of the properties of the IIT Tirupati during the period of this contract. If any damage is caused, the same shall be made good by the contractor at his own cost and risk in a manner approved by the Engineer-in-Charge. All activities shall be carried out without damaging IIT Tirupati property or existing sanitary/water supply/electric service lines. Any damage or loss to IIT Tirupati property due to rough or careless handling will be charged to the contractor account.

47. Any accident that may occur in the working area during this contract period will entirely be the responsibility of the contractor, and IIT Tirupati will not be liable for any such accidents. The contractor shall indemnify the IIT Tirupati against any claims from any agencies/ individuals arising out of any accidents of any nature.

48. Any reduction/increase in the rates of GST from the quoted rates in the BOQ during the currency of the contract, commensurate reduction/increase in the quoted rates in BOQ will be affected, and payment will be made accordingly. The market rate analysis adopted by IIT Tirupati for calculating the reduction/increase in GST will be final and binding on the contractor.

49. **DEFECT LIABILITY PERIOD:** Defect liability for this contract shall have fourteen months from the date of commencement of the work. The contractor shall attend to and rectify the issues raised under the defect liability period at free of cost, within two to three days from the date of receipt of the complaint. Otherwise, the proportionate amount will be deducted from the retention money.

    The Contractor shall provide the warranty/guarantee certificates for the items/spare parts supplied under this contract.

50. **PAYMENT TERMS & CONDITIONS**

    (a) The contractor shall submit the monthly bills in triplicate in respect of a particular month in the first week of the next month.

    (b) The contractor shall submit the monthly bills for electrical, mechanical operations and maintenance services. Payment towards services shall be released on monthly basis, effective within 30 days after receipt of final monthly bills and after certification by Engineer-in-charge.

    (c) Contractor shall submit the monthly bills for materials used for replacement of faulty materials. Payment towards the replacement of faulty material with brand-new spares shall be released monthly, effective within 30 days after receipt of monthly bills and after certification by Engineer-in-charge.

    (d) The wages/salaries paid to the staff/worker by the contractor shall not be less than the rates notified by the Chief Labour Commissioner (Central) from time to time regarding the minimum wages applicable to the respective categories of

workers. In case of revision of the wages (during the contract), the contractor shall have to pay the minimum wages at the revised rate without fail, and the contractor is allowed to claim the difference amount from IIT Tirupati on providing the necessary documentary evidence (contractor quoted percentage will be applicable on difference amount).

The gross salary paid to the engineer shall not be less than ₹ 30,000/month (irrespective of week offs and holidays).

(e) Payment shall be made to the contractor after the production of documentary evidence about making payment of minimum wages to their employees engaged through this contract.

(f) Entire workforce deployed shall be covered by EPF & ESI. Payment of EPF & ESI contributions are the sole responsibility of the Contractor, and the Contractor shall indemnify IIT Tirupati in this regard. Non-payment of EPF & ESI contributions to the Government as per the extant rules will be viewed seriously. Documentary evidence for payment of EPF and ESI shall be provided along with the bill for making necessary payments.

(g) The contractor shall ensure that the bill submitted for the respective months must be supported with the workforce attendance, documents confirming the EPF, and ESI contribution along with documentary evidence confirming the payment done to the workforce.

(h) Any shortage in the attendance of the workforce committed by the contractor is not acceptable. All service buildings shall be operational and shall be provided as detailed in clause no. (63).

In case of the absence of engineer and/or maintenance person, more than two in a day, liquidated damage of ₹ 1,500 per day per person shall be recovered from monthly bills (including the two persons) along with the deduction of wages, EPF & ESI, etc. from monthly bills.

Examples are given below for easy understanding:

1) If two persons are absent in a day, then only wages, EPF & ESI will be deducted from the bills. No liquidated damage will be imposed.
2) If three persons are absent in a day, then wages, EPF, ESI, and total liquidated damage of ₹ 4,500/- will be deducted from the bills.

In case of absence, more than two persons continuously for more than two days, liquidated damage of ₹ 1,500 per day per person shall be recovered from monthly bills (including the two days) along with the deduction of wages, EPF & ESI, etc. from monthly bills.

Examples are given below for easy understanding:

1) If two persons are absent continuously for two days, then only wages, EPF & ESI will be deducted from the bills. No liquidated damage will be imposed.

2) If two persons are absent continuously for three days, then wages, EPF, ESI, and total liquidated damage of ₹ 9,000/- will be deducted from the bills.

In case of the absence of engineer and/or any maintenance person continuously for more than seven working days, then the contractor shall arrange a replacement. Otherwise, liquidated damage of ₹ 1,500 per day shall be recovered from monthly bills (including seven working days) along with the deduction of wages, EPF & ESI, etc., from monthly bills.

Examples are given below for easy understanding:

1) If the engineer and/or any particular maintenance person is absent continuously for seven working days in a day, then only wages, EPF & ESI will be deducted from the bills. No liquidated damage will be imposed.

2) If the engineer and/or any particular maintenance person is absent continuously for eight working days, then wages, EPF, ESI, and total liquidated damage of ₹ 12,000/- will be deducted from the bills. To avoid this, the contractor shall arrange a replacement within eight working days and shall pay the wages and all statutory payments, like EPF, ESI, etc., for the replacement person and shall produce the documentary evidence.

(i) Any loss incurred to the IIT Tirupati due to the shortage of workforce shall also be recovered from monthly bills. IIT Tirupati decision will be the final in this matter.

(j) Payment to the contractor would be strictly on certification of Engineer-In-Charge w.r.t satisfactory services.

(k) Payment shall be made after deducting the retention money (2.5% of each running bill), GST, labour cess and any other taxes deductible at source under the law in force. The applicable taxes & duties will be reimbursed against documentary evidence.

However, the contractor may submit the bank guarantee (it shall be valid until the completion of defect liability period) for a value of 2.5% of the contract value. In such a case, retention money will not be deducted from the running bills (until the total value of retention money is less than the bank guarantee value).

(l) The contractor may request the IIT Tirupati to release the withheld retention money against submission of bank guarantee issues by a scheduled bank, on accumulation of withheld retention money to a minimum of ₹ 5 lacs. In such case, the bank guarantee shall be valid until the completion of defect liability period.

(m) Total withheld retention money will be released after fulfilling the contractual obligations of defect liability period. No interest will be paid to retention money.

(n) In case of non-fulfilment of any obligation under the contract, IIT Tirupati reserves the right to withhold the payments.

51. **INSURANCE:** The contractor shall, at his own expense, arrange appropriate insurance to cover all risks assumed by the contractor under this contract in respect of its personnel deputed under this contract as well as the contractor equipment, tools, and any other belongings of the contractor or their personnel during the entire period of their engagement in connection with this contract. IIT Tirupati will have no liability on this account.

52. **TECHNICAL SPECIFICATIONS:** All works are to be carried out as per current specifications prevailing in the BIS, Indian Electricity Rules, CPWD, statutory norms prescribed by local bodies like CEA, Fire Authorities and directed by the Engineer-in-Charge.

53. **DURATION OF THE CONTRACT:** The contract shall remain valid for a period of twelve months from the starting date of the contract period. However, it may be extended up to one year based on the performance and without any cost escalation. However, IIT Tirupati reserves the right to terminate the contract at any time before the expiry of the normal tenure, in case the services are deficient/ unsatisfactory/ not required.

    IIT Tirupati reserves the right to review the performance, and if the performance is not satisfactory during the initial period of three months, the contract will be terminated. In such case, the contractor must forego the Performance Bank Guarantee amount.

54. **UNIFORM, SAFETY SHOE, SAFETY HELMET & IDENTITY CARDS:** Three sets of uniforms T-shirts for each workforce, along with shock proof safety shoe, safety helmet & Identity cards, etc., shall be provided within 15 days of commencement of work. Otherwise, liquidated damage of ₹ 5,000/person will be imposed on the contractor, and the same shall be recovered from monthly bills. The T-shirts should be in a decent manner. Colour will be decided by the Engineer-in-Charge. All workforces shall wear uniforms, safety shoes, safety helmets & identity cards while on duty. Preferred makes of shock proof safety shoe and safety helmet shall be as below, no other makes will be accepted.

Item	Preferred Makes
shock proof safety shoe	Allen cooper, Karam, Bata
safety helmet	Allen cooper, Karam, 3M

55. **SAFETY:** The contractor shall be responsible for the safety of all its workmen/employees during the period of execution of the work. The contractor shall provide all safety equipment like safety shoes, safety helmets, safety belts, 33 kV & 11kV electrical safety hand gloves, etc., to all its workmen/employees to ensure their safety during the execution of the work.

    The contractor shall provide safety induction training to all the workforces. The contractor shall create and ensure a safe working environment for all the workforces. The contractor shall conduct the Toolbox Talk on every day to all the workforce to educate and sensitize them on safety. The contractor shall also follow the IIT Tirupati safety procedures.

No single person is allowed to do any electrical operations. At least two persons shall be available in such case.

The IIT Tirupati shall not be held responsible in case of any accidents, mishaps, etc., to the contractor and its employees. The contractor shall provide a first-aid facility at the site for his workforce. The contractor shall report all accidents/ near misses etc., along with the root cause analysis and action taken reports to IIT Tirupati.

56. **ACTS & LAWS:** The contractor shall be deemed to have acquainted himself with the Indian Income Tax Act 1961, Indian Companies Act 1956, Indian Customs Act 1962, Indian Electricity Act 2003, Factories Act 1948, Indian Mines Act 1952, Pollution Control Regulation, minimum wages act, payment of wages act, and other related Acts & Laws prevalent in India and as amended from time to time. The contractor shall strictly adhere to various labour laws, rules, regulations, and notifications issued from time to time. Any violation of acts & laws will be seen seriously and contractor only responsible for such case. The contractor shall indemnify the IIT Tirupati in such cases.

57. **LABOUR LICENSE:** The Necessary Labour License for employment of workers shall be obtained by the contractor immediately on receipt of a Letter of Award/Letter of Commencement/Work Order from the Labour Officer concerned from the authorities (The Deputy Chief Inspector of Factories / Assistant Commissioner of Labour as the case may be). The license shall be amended and / or renewed wherever there is an increase in the workmen employed by him or in the event of a contract being extended or renewed. The Contractor shall inform the license number to the IIT Tirupati before taking up the work. The Contractor shall maintain relevant labour engagement registers at IIT Tirupati for inspection by Labour Enforcement Authorities as and when called for. Any fine/compensation levied by the appropriate authority for failure to maintain required labour records at IIT Tirupati will be charged to the contractor account.

58. **RECORDS:** The books of accounts shall be maintained by the contractor as per applicable rules, and the IIT Tirupati shall have the right to inspect these records at any point of time and take necessary action to levy compensation for non-compliance of these provisions.

59. **DEATH, BANKRUPTCY:** If the contractor dies or dissolves or goes into bankruptcy, or being a corporation cause to wind up except for reconstruction purposes or carry on its business under a receiver, the executors, successors or other representatives in the law of the estate of the Contractor or any such receiver, liquidator, or any person in whom the contract may become vested, shall forthwith give notice thereof in writing to IIT TIRUPATI and shall remain liable for the successful performance of the contract, and nothing aforesaid shall be deemed to relieve the contractor or his successors of his or their obligations under the contract under any circumstances. IIT TIRUPATI may terminate the contract by notice in writing to the contractor.

60. **FORCE MAJEURE:** Force majeure is an event beyond the control of the contractor and not involving the contractor's fault or negligence, and which is not foreseeable.

Such events may include but are not restricted to acts of the IIT Tirupati/ contractor either in its sovereign or contractual capacity, wars or revolution, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, and freight embargoes. The decision about force majeure shall rest with IIT Tirupati, which shall be final and binding.

If there is a delay in performance or other failures by the contractor to perform obligations under its contract due to the event of a force majeure, the contractor shall not be held responsible for such delays/failures. If a force majeure situation arises, the contractor shall promptly notify IIT Tirupati in writing of such conditions and the cause thereof within fifteen days of the occurrence of such an event. Unless otherwise directed by IIT Tirupati in writing, the contractor shall continue to perform its obligations under the contract as far as reasonable/practical and shall seek all reasonable alternative means for performance not prevented by the force majeure event. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of force majeure for a period exceeding sixty days, either party may, at its option, terminate the contract without any financial repercussion on either side.

61. **ARBITRATION:** Except where otherwise provided for in the contract, all questions and disputes relating to the meaning of the works, specifications, and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the work or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the Dean Planning & Infrastructure of IIT Tirupati and if Dean Planning &Infrastructure is unable or unwilling to act, to the sole arbitration of some other person appointed by the Dean Planning &Infrastructure, willing to act as such arbitrator. The cases referred to arbitration shall be other than those for which the decision of the Engineer-in-Charge is expressed in the contract to be final and conclusive. There will be no objection if the arbitrator so appointed an employee of IIT Tirupati and he/she is to deal with the matters to which the contract relates and that in the course of his duties as such, he/she had expressed views on all or any of the matters in dispute or difference.

The arbitrator to whom the matter is originally referred being transferred or vacating his/her office or being unable to act for any reason, Dean P&I as aforesaid at the time of such transfer, vacation of office, or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such a person shall be entitled to proceed with the reference from the stage at which his predecessor left it. Subject as aforesaid the provision of the Arbitration & Reconciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is a term of the contract that the party involving arbitration shall specify the dispute or disputes to be referred to arbitration under this clause, together with the amount or amounts claimed in respect of each such dispute. The arbitrator(s) may, from time to time, with the consent of the parties, enlarge the time for making and publishing the award. The work under the contract shall continue during the arbitration proceedings, and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issues notice to both parties fixing the date of the first hearing. The arbitrator shall give a separate award in respect of each dispute or difference referred to him. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion. The award of the arbitrator shall be final, conclusive, and binding on all parties to this contract. For any dispute arising out of this agreement, the legal jurisdiction will be at Tirupati in Andhra Pradesh only.

62. Total campuses/buildings are divided into the following zones for ease of administration.

1. Laboratory Block - 1	South campus zone
2. Laboratory Block - 2	
3. Old Classroom Block	
4. New Classroom Block	
5. Dining Block	
6. Hostel Block - A	
7. Hostel Block - B	
8. Hostel Block - C	
9. Hostel Block - D	
10. Hostel Block - E	
11. Hostel Block - F	
12. Indoor Sports Block	
13. Maintenance Office	
14. Administration Building	Academic zone
15. Department Block - 1	
16. Department Block - 2	
17. Central Instrumentation Facility Block	
18. Lecture Hall Complex	
19. Engineering Unit Office	
20. Helium & Nitrogen Plant	
21. Incubation Centre	
22. Hostel Block - 1	Hostel zone
23. Hostel Block - 2	
24. Dining Block	
25. Sports Utility Block	
26. Director Residence	Residential zone
27. Type – B Quarters	
28. Type – C (1,2,3 & 4) Quarters (4 nos)	
29. Type – D Quarters	
30. Type – E Quarters	
31. Type – F Quarters	
32. Visitors Hostel	
33. 33/11 kV Main Receiving Substation	
34. 11kV Main Receiving Substation	
35. 11/0.433 kV ESS - 1	
36. 11/0.433 kV ESS – 2 & HVAC Plant	
37. 11/0.433 kV ESS – 4	
38. 11/0.433 kV ESS – 5	
39. 11/0.433 kV ESS – 6	

40. 11/0.433 kV ESS – South campus	External zone
41. 600 kLD WTP & Fire Fighting Pump House	
42. 55 kLD WTP	
43. 325 kLD STP	
44. 275 kLD STP	
45. 110 kLD STP	
46. Over Head Tank (Drinking Water)	
47. Over Head Tank – 1 (Flushing Water)	
48. Over Head Tank – 2 (Flushing Water)	
49. 20 kL Underground Diesel Storage Tank	
50. Main Gate	
51. North Gate	
52. South Gate	
53. External Lighting	

63. Contractor shall provide a minimum workforce as detailed in the below table.

Workforce	Minimum Quantity
Engineer	01 no
Skilled Electrician (Maintenance)	10 no's
Semi-Skilled Electrician (Maintenance)	10 no's
Skilled AC Technician (Maintenance)	03 no's
Un-Skilled AC Helper (Maintenance)	03 no's

Apart from the above, the contractor shall provide a minimum dedicated workforce (skilled technicians (operators)) for operations on a shift basis, as per the details mentioned below.

Service Building	Shift - A 06:00 - 14:00	Shift - B 14:00 - 22:00	Shift – C 22:00 - 06:00	Remarks
33/11 kV Main Receiving Substations, South campus Substation	01 no	01 no	01 no	
11kV Main Receiving Substation, Substation - 5 & 6	01 no	01 no	01 no	24 hours, 366 days operational
Substation -1, 2 & 4	01 no	01 no	01 no	
110 kLD STP	01 no	01 no	01 no	
275 kLD STP	01 no	01 no	01 no	
325 kLD STP	01 no	01 no	01 no	
55 kLD WTP	01 no	01 no	01 no	

600 kLD WTP	01 no	01 no	01 no	
1850 TR Chiller Plant & AHU's	2 no's	2 no's	----------	16 hours operational / day, from Monday to Saturday

Any shortfalls or adjustments in this matter are strictly not acceptable. The contractor shall maintain a sufficient workforce to provide eligible leaves and holidays as per the governing rules and regulations, laws, and acts and to meet aforesaid requirements.

The operations workforce shall attend to all urgent and emergency complaints, including which arises after office hours (i.e., 17:30 hrs to 9:00 hrs) and holidays.

64. The contractor shall employ an Engineer to supervise the Electrical, Mechanical Operations and Maintenance Services works mentioned in this tender document. The engineer shall be the focal point, as mentioned in clause no. 42.

65. Educational qualifications and experience for the above-mentioned workforce shall comply with the below table.

Workforce	**Minimum Educational Qualifications**	**Minimum Relevant Experience in Years**
Engineer	Diploma/ B.E/B. Tech in E.E.E.	05 (for Diploma) 03 (for B.E/B. Tech)
Skilled Electrician	I.T.I.	03
Semi-Skilled Electrician		01
Skilled AC Technician	I.T.I.	03
Un-Skilled AC Helper	10^{th} Class	01
Note: The operational workforce deployed for Substations, WTP, STP, and 1850 Chiller Plant Shall have relevant experience in the respective fields.		

LT DG SETS:

66. The contractor shall operate during the power outages/as per requirement & maintain the following DG sets which have been installed in IIT Tirupati.

Rating	**Quantity**	**Make**
1010 kVA	3	M/s Jakson (Cummins Engine & Stamford Alternator)
625 kVA	2	
500 kVA	2	
250 kVA	4	
160 kVA	1	M/s KOEL (Kirloskar Engine & Alternator)
25 kVA	1	
62.5 kVA	2	M/s Power Engineering (India) Pvt. Ltd. (Escorts Engine & Stamford Alternator)

67. The following operational responsibilities of DG sets are included in the contractor scope but are not limited to.

1. Auto & Manual operations of D.G. sets, hourly recording technical parameters like voltages, currents, frequency, etc., and other parameters like start & stop timings, fuel levels (before and after every operation), total running hours (after every operation) in DG operational logbook.
2. Daily trail run of all DG sets to check for any abnormalities, leakages, etc., and record the engine lube oil levels, coolant levels, and battery terminal voltage in DG daily logbooks. If any abnormalities are found during daily trail runs, lube oil & coolant levels, battery terminal voltage, etc., same shall be recorded in the remarks column and brought to the notice of the maintenance team and IIT Tirupati.
3. Recording the preventive & breakdown maintenance activities in the DG maintenance register and intimating the maintenance team and IIT Tirupati about the next schedule of preventive maintenance as recommended O&M manual of O.E.M. Next schedule of preventive maintenance shall be displayed on the substation notice board.

The following maintenance responsibilities of DG sets are included in the contractor scope but are not limited to.

4. Transporting fuel from the 20kL underground storage tank to each substation/DG set and filling the fuel tanks/day service tanks located at respective substation/DG sets whenever required. IIT Tirupati will provide the required transportation facility.
5. Maintaining the DG sets as per the guidelines of the OEM to minimize the downtime & trouble-free operation of DG sets. All breakdowns & troubles shall be attended within 24 hours.
6. Attending the remarks recorded in daily logbooks, maintaining the DG sets as per the guidelines of the OEM to minimize downtime & trouble-free operations. Performing the preventive & breakdown maintenance activities through OEM (or) its authorized service agency and as per the recommendations of OEM. The contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables required to accomplish the job, with the prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.
7. Payments against the spare parts, consumables, service charges of OEM (or) authorized service agency, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully the contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services. No advance payment will be released to the contractor.

SUBSTATIONS:

68. The contractor shall operate & maintain the following Substations.

33 kV Main Receiving Substation
11 kV Main Receiving Substation
11 kV/433 V South Campus Substation
11 kV/433 V ESS - 1
11 kV/433 V ESS - 2
11 kV/433 V ESS - 4
11 kV/433 V ESS - 5
11 kV/433 V ESS - 6
11kV outdoor Substation at the Incubation centre

69. The following operational responsibilities of substations and their equipment are included in the contractor scope but are not limited to.

    1. Manual switching ON & OFF H.T. feeders, Transformers, L.T. distribution feeders, APFC panels, AMF panels, etc., at all Substations, as and when required, and maintaining substation daily logbooks for all operations, including tripping. Tripping of any feeder, equipment, etc., shall be informed to IIT Tirupati in due course of time.
    2. Power interruptions from M/s APSPDCL feeders shall be recorded in daily logbooks of 33kV & 11kV Main Receiving Substations.
    3. Arrangement of the shutdown of feeders as and when required taking all due precautions and with due permission of IIT Tirupati, except in an emergency when shutdown becomes unavoidable for safety reasons. The same shall be recorded in daily logbooks. Permit to work certificate shall be issued for breakdown & preventive maintenance only after ensuring all safety norms and Lock-out Tag-out (LOTO). Padlock shall have only a single key and shall be handed over to the working person.
    4. Switching on any feeder shall be done with extreme safety and as per the standard operating procedures. Work permits shall be closed before energizing any feeder.
    5. Rack-in & Rack-out operations of VCBs, Cable Earthing Trucks, Bus Earthing Trucks, ACBs whenever required with extreme safety and precautions.
    6. Maintaining the checklist logbook to ensure the watering to all earth pits at every substation (including 33kV & 11kV yards), the blue colour of silica gel at transformers breathers, and no oil leakages at transformers on a daily basis.
    7. Recording the 33kV & 11kV APSPDCL energy meter parameters like voltages, currents, frequency, power factors, maximum demand, imported kWh, exported kWh, imported kVAh, exported kVAh, etc. on an hourly basis. Coordinating with M/s APSPDCL in case of breakdowns, fuse-off calls, etc.

8. Recording all technical parameters like incoming voltages, currents, frequency, power factor, etc., on an hourly basis at every substation in the operational logbook.
9. Recording the solar power generation details from respective building solar energy meters daily in solar energy logbooks.
10. Operating all the substations with minimum breakdown time and abiding by the safety rules, Indian Electricity Act 2003, Indian Electricity Rules 1956, CEA Regulations, local governing laws, etc.

The following maintenance responsibilities of substations and their equipment are included in the contractor scope but are not limited to.

11. Performing the preventive maintenance activities on HT switch gear, Transformers, and LT switch gear like internal cleaning of VCBs, ACBs, Capacitor banks, Transformers, bus bars, CTs & PTs, all compartments of HT panel, LT panel, removal of dust/dirt, cleaning with approved solvents & tightening of nut-bolts of terminations, etc., dismantling and cleaning of arcing chutes, arcing contacts, isolating contacts, cleaning of all fixed & moving contacts with approved solvents and cleaning, lubricating the tripping & closing mechanism and also to ensure free movement of breaker on guide channels complete, as required and checking of IR (Insulation Resistance), safety interlock checks, etc. as per prevailing maintenance schedule with due safety and as per the OEM instructions and recommendations.
12. Work permit shall be applied before commencing any maintenance activity. Any work shall be carried out only after receiving the permit to work clearance and the permission of IIT Tirupati.
13. Earth pit resistances shall be measured as per the prevailing maintenance schedule, and the same shall be recorded in the register. If the measured resistances are found high, necessary maintenance shall be done.
14. Faulty components, equipment's including but not limited to MCCBs, MCBs, Fuse, CTs, PTs, VCBs, ACBs, protection relays, master trip relays, auxiliary relays, terminal blocks, any allied components of aforesaid items, etc., shall be serviced/repaired/replaced in due course of time through an OEM or its authorized service agency and as per the recommendations of OEM. If required, the contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables with prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.
15. Payments against the spare parts, consumables, service charges of OEM (or) authorized service agency, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully the contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services.

16. All equipment shall be maintained as per the guidelines of the OEM to minimize downtime & trouble-free operation. All breakdowns & troubles shall be attended within 24 hours. Details investigation to be carried out for any breakdowns/ incidents and Root Cause Analysis shall be submitted to IIT Tirupati within 2 days.

STPs, WTPs & FIRE FIGHTING PUMP HOUSE:

70. The contractor shall operate & maintain the following STPs, WTPs, and Fire Fighting Pump House.

600 kLD WTP
55 kLD WTP
325 kLD STP
275 kLD STP
110 kLD STP

71. The following operational responsibilities of STPs, WTPs, and Fire Fighting Pump House and its equipment are included in the contractor scope but are not limited to.

    1. Operating the STPs & WTPs as per the Standard Operating Procedure.
    2. Operating the Electrical & Mechanical equipment like MDB Panels, PLC panels, Motors, Pumps, Valves, etc., as per the requirements and for the smooth operations of STPs & WTPs.
    3. STP and WTP Intake and Treated water records shall be maintained daily.
    4. Coordinating with M/s RWS&S for any issues related to Raw Water Intake Supply.
    5. Daily checks for the healthiness of the Diesel and Electrically operated Main and Jockey pump sets, Sprinkler pump sets.

    The following maintenance responsibilities of STPs, WTPs, and Fire Fighting Pump House and its equipment are included in the contractor scope but are not limited to.

    6. Maintenance of Electrical & Mechanical equipment like MDB Panels, PLC panels, Motors, Pumps, Valves, etc., as per the standard maintenance procedures.
    7. Faulty components, equipment including but not limited to MCCBs, MCBs, Fuse, CTs, auxiliary relays, terminal blocks, motors, and pumps, and allied components of aforesaid items, etc., shall be serviced/repaired/replaced in due course of time through an OEM or its authorized service agency and as per the recommendations of OEM. If required, the contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables with prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.

8. Attending the remarks recorded in daily logbooks, maintaining the entire Electrical & Mechanical equipment as per the guidelines of the OEM to minimize downtime & trouble-free operations. Performing the preventive & breakdown maintenance activities through OEM (or) its authorized service agency and as per the recommendations of OEM. The contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables required to accomplish the job, with the prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.
9. Payments against the spare parts, consumables, service charges of OEM (or) authorized service agency, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully the contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services.

DAY-TO-DAY ELECTRICAL MAINTENANCE

72. The following day-to-day maintenance responsibilities are included in the contractor scope but are not limited to.
    1. Contractor shall attend all day to day electrical complaints (ex: internal and external electrical installations, street light feeder pillars, street lights, area lights, bollard lights, pathway lights, UG cables (LT & HT), internal and external wiring, power sockets, electrical panel board and its components, VCB's, ACB's, MCCBs, MCBs, urinal sensors, fire alarm systems, PA systems, motors, pumps, washing machines, individual wall mounted split and ceiling mounted cassette type AC's, etc.) immediately after brought to his notice and within 24 hours. Otherwise, IIT Tirupati directly (or) through another agency may attend the complaints. The expenses incurred in this case and liquidated damage of ₹ 1,000/- shall be deducted from monthly bills.
    2. Contractor shall maintain all electrical installations/systems. The contractor shall repair (or) replace all damaged/ defective installations by arranging the required brand-new material of the same make and model with the approval of IIT Tirupati. If the same make and model are not available, the decision of IIT Tirupati will be final on other makes and models.
    3. For the items not covered in the Schedule of Quantities mentioned in this tender, the Contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals. Payments against the spare parts, consumables, rewinding charges, service charges, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory operation. No payment will be released to the contractor for unsatisfactory operations after doing repairs and replacements.
    4. Contractor shall provide minimum support for the installation and maintenance of the Laboratory equipment as and when required by the IIT Tirupati.

5. Contractor shall maintain building-wise/area-wise/nature-wise/zone-wise records of all materials/consumables used for replacement of damaged/ defective installation. The same records shall be provided to IIT Tirupati as and when required. With this data, the contractor shall maintain adequate spares.
6. Contractor shall coordinate with OEM (or) its authorized service agency for timely service of installations/fittings that are under warranty. The contractor shall make its efforts to get the services as early as possible. The contractor may request IIT Tirupati for any information and support in this matter.
7. Generally, all day-to-day complaints shall be attended within working hours only, i.e., from 09:00 hrs to 17:30 hrs. However, during exceptional cases like major breakdowns, or emergency works, the contractor shall work beyond working hours. No additional payments will be made in this case. In case of any urgent and emergency complaints arise after office hours (i.e., 17:30 hrs to 9:00 hrs), and holidays, shift operators shall attend the same.
8. Contractor shall operate of required switchgear equipment, streetlights, UPS systems, lifts, motors, pumps, and valves (near OHTs, buildings, WTPs, STPs, and wherever located in the campus), etc., whenever required and as per the directions of IIT Tirupati.
9. Contractor shall take the monthly readings of energy and water meters installed for residence flats, as per the direction of the Engineer-in-charge.
10. Contractor shall, with the approval of IIT Tirupati, provide support in the transfer of diesel from the 20kL underground storage tank to an internal diesel transport vehicle (to transport the diesel to DG set locations).

1850 TR CHILLER PLANT

73. The contractor shall operate the below HVAC equipment.

Item name	Capacity	Quantity	Make
Air Cooled Chiller (Chiller Plant)	150 TR	2	M/s Dunham-Bush Industries
Water Cooled Chiller (Chiller Plant)	350 TR	1	
	600 TR	2	

74. The following operational responsibilities of the 1850 TR Chiller Plant and its equipment are included in the contractor scope but are not limited to.
    1. Auto & Manual operations of Chillers, Cooling Towers, and Pumps, hourly recording of technical parameters like temperature, pressure, voltages, currents, Capacity, etc., including main MV panel and other parameters like start & stop timings, total running hours in Chiller operational logbook. If any abnormalities are found during daily runs, the same shall be recorded in the remarks column and brought to the notice of the maintenance team and IIT Tirupati. The detailed monitoring registers/records/logbooks to be maintained by the operator shall be provided by the agency as required by IIT Tirupati.
    2. Recording the preventive & breakdown maintenance activities in Chiller, Cooling Towers maintenance register and intimating the maintenance team and IIT

Tirupati about the next schedule of preventive maintenance as recommended O&M manual of O.E.M. Next schedule of preventive maintenance shall be displayed on the Chiller Plant notice board.

3. Calibration of instruments shall be taken care of by the contractor as per guidelines of OEM and IIT Tirupati.
4. Arrangement of shut down of the Chiller Plant as and when required taking all due precautions and with due permission of IIT Tirupati, except in an emergency when shutdown becomes unavoidable for safety reasons. The same shall be recorded in daily logbooks.
5. Switching ON and Switching OFF the AHUs in all academic buildings on a daily basis.

   The following maintenance responsibilities of the 1850 TR chiller Plant and its equipment are included in the contractor scope but are not limited to.

6. Maintaining the Chiller Plant and Cooling Tower as per the guidelines of the OEM to minimize downtime & trouble-free operation. All breakdowns & troubles shall be attended within 24 hours.
7. Performing the preventive & breakdown maintenance activities through OEM (or) its authorized service agency and as per the recommendations of OEM. The contractor shall arrange all necessary OEM recommended, original and brand-new spare parts and consumables required to accomplish the job, with the prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.
8. Payment against the spare parts, consumables, service charges of OEM (or) authorized service agency, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully the contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services. No advance payment will be released to the contractor.
9. Work permit shall be applied before commencing any maintenance activity. Any work shall be carried out only after receiving the permit to work clearance and the permission of IIT Tirupati.
10. Faulty components shall be serviced/repaired/replaced in due course of time through an OEM or its authorized service agency and as per the recommendations of the OEM. If required, the contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables with prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.

11. All the equipment shall be maintained as per the guidelines of the OEM to minimize downtime & trouble-free operation. All breakdowns & troubles shall be attended within 24 hours. A detailed investigation is to be carried out for any breakdowns/ incidents, and Root cause Analysis shall be submitted to IIT Tirupati within 2 days.

DAY-TO-DAY MECHANICAL MAINTENANCE

AIR HANDLING UNITS

75. The following day-to-day maintenance responsibilities are included in the contractor scope but are not limited to.

    1. Recording of hourly technical parameters like temperature, pressure, voltages, currents, CFM, etc., including main MV panel and other parameters like start & stop timings and total running hours of AHU as and when required. If any abnormalities are found during daily runs, the same shall be recorded in the remarks column and brought to the notice of the maintenance team and IIT Tirupati. The detailed monitoring registers/records/logbooks shall be maintained by the contractor and shall be provided to IIT Tirupati as and when required.
    2. Recording the preventive & breakdown maintenance activities in AHU maintenance register and intimating the maintenance team and IIT Tirupati about the next schedule of preventive maintenance as recommended O&M manual of O.E.M. Next schedule of preventive maintenance shall be displayed on the Chiller Plant notice board.
    3. Calibration of instruments shall be taken care of by the contractor as per guidelines of OEM and IIT Tirupati
    4. Maintaining the AHU as per the guidelines of the OEM to minimize downtime & trouble-free operation. All breakdowns & troubles shall be attended within 24 hours.
    5. Performing the preventive & breakdown maintenance activities through OEM (or) its authorized service agency and as per the recommendations of OEM. The contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables required to accomplish the job, with the prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.
    6. Payments against the spare parts, consumables, service charges of OEM (or) authorized service agency, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services. No advance payment will be released to the contractor.

7. Faulty components shall be serviced/repaired/replaced in due course of time through an OEM or its authorized service agency and as per the recommendations of the OEM. If required, the contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables with prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals. Any spares required for breakdown maintenance due to improper maintenance by the contractor, the corresponding cost for spares to be borne by the contractor.
8. All equipment shall be maintained as per the guidelines of the OEM to minimize downtime & trouble-free operation. All breakdowns & troubles shall be attended within 24 hours. A detailed investigation is to be carried out for any breakdowns/ incidents, and Root cause Analysis shall be submitted to IIT Tirupati within 2 days.

VARIABLE REFRIGERANT FLOW AIR CONDITIONING SYSTEMS

76. The contractor shall maintenance of the following VRF Systems.

S. No.	Capacity	Location	Make
1	96 HP	Old Classroom Block	M/s Toshiba
2	142 HP	Visitors Hostel	
3	28 HP	Department Block - 2	
4	26 HP	Directors Residence	
5	20 HP	Hostel - 1	
6	20 HP	Hostel - 2	
7	14 HP	LHC	
8	88 HP	New Classroom Block	M/s Daikin
9	58 HP	Engineering Unit	

77. The following operational responsibilities of VRF Systems and its equipment are included in the contractor scope but are not limited to.
    1. Recording the preventive & breakdown maintenance activities in the VRF maintenance register and intimating IIT Tirupati about the next schedule of preventive maintenance as recommended O&M manual of O.E.M. Next schedule of preventive maintenance shall be displayed on respective VRF Units.
    2. Coordinating with the VRF AC system maintenance service provider for any preventive maintenance & breakdown maintenance issues.
    3. Attending the minor issues like drainpipe blockages etc., as and when required.

FAN COIL UNITS, INDIVIDUAL HI-WALL & CASSETTE AIR CONDITIONING SYSTEMS

78. The following day-to-day maintenance responsibilities are included in the contractor scope but are not limited to.
    1. Attending all day-to-day complaints (ex: not working, low cooling, water leak, drain block, low cooling, etc.) immediately after they were brought to the contractor notice and within 24 hours. Otherwise, IIT Tirupati directly (or)

through another agency may attend the complaints. The expenses incurred in this case and liquidated damage of ₹ 1,000/- shall be deducted from monthly bills.

2. Performing preventive maintenance activities (normal filter cleaning, pressure water wash servicing) and maintenance register. The contractor shall intimate to IIT Tirupati about the next schedule of preventive maintenance as recommended O&M manual of O.E.M.
3. Performing the breakdown maintenance activities through OEM (or) its authorized service agency and as per the recommendations of OEM. The contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables required to accomplish the job, with the prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.
4. Payment against the spare parts, consumables, service charges of OEM (or) authorized service agency, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully the contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services. No advance payment will be released to the contractor.
5. Any spares required for breakdown maintenance due to improper maintenance by the contractor, the corresponding cost for spares is to be borne by the contractor only.
6. Removing and re-installation of individual HI-WALL & CASSETTE AIR CONDITIONING SYSTEMS as and when required. The same shall be done by the existing maintenance workforce (skilled & unskilled AC technicians) or shall be done by engaging external technicians. No payment shall be made for engaging the external technicians. However, payment against the spare parts and consumables (like refrigerant gas, butane gas tins, etc.,.) will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully the contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services. No advance payment will be released to the contractor.

FIRE FIGHTING EQUIPEMENT

79. The following day-to-day maintenance responsibilities are included in the contractor scope but are not limited to.
    1. As per the guidelines of the AP fire department, the contractor shall perform the periodical testing for all fire hydrant systems (building internal and external hydrant points), which shall be recorded in the register. The same shall be

certified by IIT Tirupati and shall intimate to IIT Tirupati about the next schedule of periodical tests.

2. As per the guidelines of the AP fire department, the contractor shall perform the periodical testing for all portable fire extinguishers (both ABC & CO_2 type), which shall be recorded in the register. The same shall be certified by IIT Tirupati and shall intimate to IIT Tirupati about the next schedule of periodical tests.
3. Shall perform the breakdown maintenance for firefighting equipment (wet risers, down comers, valves, pumps, gauges, hydrants, sprinklers, FAPA system, smoke detection system, etc..) through OEM (or) its authorized service agency and as per the recommendations of OEM. The contractor shall arrange all necessary OEM recommended, original, and brand-new spare parts and consumables required to accomplish the job, with the prior approval of IIT Tirupati. The contractor shall submit the obtained quotation along with the price list catalogue to IIT Tirupati for obtaining the necessary approvals.
4. Payment against the spare parts, consumables, service charges of OEM (or) authorized service agency, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services. No advance payment will be released to the contractor.
5. Shall refill the used/expired portable fire extinguishers and replace the faulty parts with the approval of IIT Tirupati. Payment against the refill and any other spare parts, consumables, service charges, transportation & freight charges will be released as per the actuals to the contractor against submission of tax invoices supporting with a copy of original bills and only after satisfactory services. It is fully the contractor responsibility to obtain satisfactory service. No payment will be released to the contractor for unsatisfied services. No advance payment will be released to the contractor as and when necessary.

PREVENTIVE MAINTENANCE

80. The contractor shall perform quarterly preventive maintenance for all electrical and mechanical equipment as per the schedule given in below.

QUARTERLY PREVENTIVE MAINTENANCE SHEDULE												
LOCATION/BUILDING	December / March / June / September				January / April / July / October				February / May / August / October			
	1 - week	2 - week	3 - week	4 - week	1 - week	2 - week	3 - week	4 - week	1 - week	2 - week	3 - week	4 - week
33/11 kV Main Receiving Substation	T1											
11kV Main Receiving Substation	T1											
11/0.433 kV ESS – South campus		T1										
11/0.433 kV ESS - 1		T1										
11/0.433 kV ESS – 2 & HVAC Plant			T1									
11/0.433 kV ESS – 4			T1									
11/0.433 kV ESS – 5				T1								
11/0.433 kV ESS – 6				T1								
600 kLD WTP & Fire Fighting Pump House					T1							
55 kLD WTP					T1							
325 kLD STP					T1							
275 kLD STP						T1						
110 kLD STP						T1						
Over Head Tank (WTP)						T1						
Over Head Tank – 1 (STP)						T1						
Over Head Tank – 2 (STP)							T1					
Main Gate							T1					
North Gate							T1					
South Gate							T1					
20 kL UG Diesel Storage Tank							T1					
Laboratory Block - 1								T1				
Laboratory Block - 2								T1				
Old Classroom Block									T1			
New Classroom Block									T1			
Old Dining Block									T1			
Hostel Block - A										T1		
Hostel Block - B										T1		
Hostel Block - C											T1	
Hostel Block - D											T1	
Hostel Block - E												T1

Hostel Block - F												T1
Hostel Block - 1	T2											
Hostel Block - 2		T2										
New Dining Block			T2									
Indoor Sports Block			T2									
Maintenance Office				T2								
Sports Utility Block				T2								
Engineering Unit Office				T2								
Helium & Nitrogen Plant				T2								
Administration Building					T2							
Lecture Hall Complex						T2						
Academic Building - 1							T2					
Academic Building - 2								T2				
CIF Block									T2			
Incubation Centre										T2		
Director Residence										T2		
Visitors Hostel										T2		
Road Lighting Panels & Steet Lights											T2	T2
Type – B Quarters	T3											
Type – C1 Quarters		T3										
Type – C2 Quarters			T3									
Type – C3 Quarters				T3								
Type – C4 Quarters					T3							
Type – D Quarters						T3						
Type – E Quarters							T3					
Type – F Quarters								T3				

* T1: Team one, T2: Team two, T3: Team three

81. **Schedule of Quantities**

S. No	Description of item	Each	Qty	Rate	Amount
1.00	Electrical, Mechanical Operations and Maintenance Services (for certified work force as per annexure - V)	Month	12	₹ 15,43,979	₹ 1,85,27,750
2.00	Supplying of the following consumables for 110 kLD STP operations, as and when required.				
2.01	Di-ammonium Phosphate	kg	1200	₹ 34	₹ 40,800
2.02	Urea	kg	1080	₹ 7	₹ 7,560
2.03	Jaggery	kg	600	₹ 65	₹ 39,000
2.04	Sodium Hypochlorite 8% Solution	Ltr	400	₹ 66	₹ 26,400
2.05	Powder Bacterial Culture	kg	20	₹ 1,315	₹ 26,300
3.00	Supplying of the following consumables for 275 kLD STP operations, as and when required.				
3.01	Sodium Hypochlorite 6% Solution	Ltr	1830	₹ 53	₹ 96,990
3.02	Sodium Hypochlorite 12% Solution	Ltr	480	₹ 86	₹ 41,280
3.03	HCL 33% Solution	Ltr	150	₹ 59	₹ 8,850
3.04	Powder Bacterial Culture	kg	25	₹ 1,315	₹ 32,875
4.00	Supplying of the following consumables for 325 kLD STP operations, as and when required.				
4.01	Sodium Hypochlorite 6% Solution	Ltr	3666	₹ 53	₹ 1,94,298
4.02	Sodium Hypochlorite 12% Solution	Ltr	480	₹ 86	₹ 41,280
4.03	HCL 33% Solution	Ltr	150	₹ 59	₹ 8,850
4.04	Powder Bacterial Culture	kg	25	₹ 1,315	₹ 32,875
5.00	Supplying of the following consumables for 55 kLD WTP				

	operations, as and when required.				
5.01	Rock salt	kg	4500	₹ 8	₹ 36,000
5.02	Harness Testing Kit	Each	4	₹ 823	₹ 3,292
5.03	Sodium Hypochlorite 8% Solution	Ltr	370	₹ 66	₹ 24,420
6.00	Supplying of the following consumables for 600 kLD WTP operations, as and when required.				
6.01	Rock salt	kg	16000	₹ 8	₹ 1,28,000
6.02	Harness Testing Kit	Each	4	₹ 823	₹ 3,292
6.03	Sodium Hypochlorite 8% Solution	Ltr	2400	₹ 66	₹ 1,58,400
6.04	Sodium Hypochlorite 8% Solution (for UF)	Ltr	2400	₹ 66	₹ 1,58,400
6.05	HCL 33% Solution	Ltr	60	₹ 59	₹ 3,540
6.06	NaOH 48%	kg	900	₹ 95	₹ 85,500
7.00	Supplying of the following consumables for 1850 TR Chiller Plant operations, as and when required.				
7.01	Rock salt	kg	7925	₹ 8	₹ 63,400
7.02	Harness Testing Kit (for 600kLD WTP)	Each	24	₹ 823	₹ 19,752
	TOTAL				**₹ 1,98,09,104**

Note: supply of quantities mentioned in schedule of quantities (i.e., from item 2.01 to 7.02) will be based on the actual requirements only.

On Company Letter Head

ANNEXURE – I

TENDER FEE & EMD PAYMENT DETAILS

To,
The Executive Engineer,
Engineering Unit, IIT Tirupati,
Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt),
Andhra Pradesh - 517619.

Sub: **Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt).**

Sir,

We, the undersigned, declare that the Tender Fee & EMD is submitted as per the tender document, and the payment details are as given in the below table.

Particular	Amount	Payment Reference Details	Payment Date
Tender Fee	₹ 1,500/-		
EMD	₹ 3,96,182/-		

Signature and Seal of the Bidder:

Date:

On Company Letter Head

ANNEXURE - II

Details of Completed Similar Works & Work Completion Certificates										
S. No	Name of the Work & Location	Owner (or) Sponsoring Organization	Agreement/ Work Order/ Purchase Order No	Scope of Work	Cost of Work (in INR)	Date of Start of Work	Stipulated Date of Completion	Actual Date of Completion	Litigation/ Arbitration pending/ In progress with details. *	Address/ Phone No of Officer to whom reference may be

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

Signature and Seal of the Bidder:

Date:

Performance Certificate for the Works Mentioned in Annexure – II

1. Name of the Work & Location:
2. Name of the Contractor:
3. Scope of the Work:
4. Agreement/Work Order/Purchase Order No:
5. Estimated Cost (in INR):
6. Tendered Cost (in INR):
7. Value of Work Done (in INR):
8. Date of Start:
9. Stipulated Date of Completion:
10. Actual Date of Completion:
11. Amount of Compensation Levied for Delayed Completion (in INR):
12. Performance Based on Quality of Work, Time Management, and Resourcefulness:

Very Good/ Good/ Fair/ Bad

Signature seal of Executive Engineer (or) equivalent
(client/owner to whom the work was executed)

Date:

On Company Letter Head

ANNEXURE - III

ANNUAL FINANCIAL TURNOVER, PROFIT/ LOSS

S. No.	Details	2020 - 21	2021 - 22	2022 - 23
1	Gross Annual Turnover (in INR)			
2	Profit (+) / Loss (-) (in INR)			

Details to be furnished duly supported by figures in Balance Sheet / Profit and Loss Account for the last three years duly certified by the Chartered Accountant, as submitted by the applicant to the Income-Tax Department (Copies to be uploaded separately).

Signature and Seal of the Bidder:

Date:

SIGNATURE OF CHARTERED ACCOUNTANT WITH SEAL

On Company Letter Head

ANNEXURE – IV

UNDERTAKING FOR IIT TIRUPATI SITE VISIT

To,
The Executive Engineer,
Engineering Unit, IIT Tirupati,
Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt),
Andhra Pradesh - 517619.

Sub: **Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt).**

I / We hereby confirm and declare that I / We have visited the IIT Tirupati on _____ to get acquainted with the campus conditions like (location of the campus, area of campus, type of fittings, installations, technology, nature of work etc.) to access the required workforce, tools, plants, machinery & equipment etc. before submitting the offer.

Name & Signature of IIT Tirupati Representative

(for Witness)

Signature and Seal of the Bidder:

Date:

On Company Letter Head

ANNEXURE – V

UNDERTAKING FOR MINIMUM WORKFORCE

To,
The Executive Engineer,
Engineering Unit, IIT Tirupati,
Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt) – 517619.

Sub: **Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt).**

It is certifying that we will ensure the minimum workforce, as mentioned below, will be deployed for electrical, mechanical operations and maintenance services during the entire tenure of the contract, abiding by the tender document terms and conditions.

Minimum workforce				
Engineer				1 no
Skilled Electrician (Maintenance)				10 no's
Semi-Skilled Electrician (Maintenance)				10 no's
Skilled AC Technician (Maintenance)				03 no's
Un-Skilled AC Helper (Maintenance)				03 no's
Minimum operations workforce (skilled electricians)				
Service Building	Shift – A	Shift – B	Shift – C	
33/11 kV Main Receiving Substations, South campus Substation	1 no	1 no	1 no	
11kV Main Receiving Substation, Substation - 5 & 6	1 no	1 no	1 no	
Substation -1, 2 & 4	1 no	1 no	1 no	
110 kLD STP	1 no	1 no	1 no	
275 kLD STP	1 no	1 no	1 no	
325 kLD STP	1 no	1 no	1 no	
55 kLD WTP	1 no	1 no	1 no	
600 kLD WTP	1 no	1 no	1 no	
1850 TR Chiller Plant & AHU's	02 no's	02 no's	----------	16 hours operational/day, from Monday to Saturday

However, in case of any emergency works, or major breakdown works, to attend the complaints within 24 hours, an extra workforce will be deployed as per requirement, but we will not claim the charges for the same. I / We shall maintain sufficient workforce to provide eligible leaves, holidays for all above workforce as per the governing rules and regulations, laws, acts.

Signature and Seal of the Bidder:
Date:

On Company Letter Head

ANNEXURE – VI

UNDERTAKING FOR TERMS & CONDITIONS

To,
The Executive Engineer,
Engineering Unit, IIT Tirupati,
Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt),
Andhra Pradesh - 517619.

Sub: **Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt).**

Sir,

I / We hereby offer to carry out the work of Electrical Operations and Maintenance Services & Minor Electrical Works (Including Supply of Materials) at IIT Tirupati, Merlapaka (V), Yerpedu (M), Tirupati (Dt).

I / We hereby confirm and declare that I / We have carefully read, understood & complying with the above-referred tender document, including instructions, terms & conditions, scope of work, schedule of quantities and all the contents stated therein. I / We also confirm that the rates quoted by me / us are inclusive of all taxes, duties etc., applicable as on date.

I / We agree to execute all the work referred to in the said documents upon the terms & conditions contained in the tender document.

Signature and Seal of the Bidder:

Date:

On Company Letter Head

ANNEXURE – VII

FORM OF UNDERTAKING FOR NOT TO SUBLET THE WORK

To,
The Executive Engineer,
Engineering Unit, IIT Tirupati,
Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt),
Andhra Pradesh - 517619.

Sub: **Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt).**

Sir,

With reference to the above, I hereby undertake not to sublet the work cited above if the work is awarded to me.

Signature and Seal of the Bidder:

Date:

On Company Letter Head

ANNEXURE – VIII

STRUCTURE AND ORGANISATION

1. Name and Address:

2. Telephone No./E-Mail address:

3. Legal Status (attach copies of the 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)
    (a) Registration Number:

    (b) Organization / Place of registration:

5. Names and Titles of Directors and officers with designation to be concerned with this work with Designation of individuals authorized to act for the organization:

6. Was the bidder ever required to continuously suspend for more than six months after the work commenced? If so, give the name of the project and give reasons thereof.

7. Has the bidder or any constituent partner (in the case of a partnership firm), ever abandoned the awarded work before its completion? If so, give the name of the project and give reasons thereof.

8. Has the applicant or any constituent partner (in the case of a partnership firm), ever been debarred/blacklisted for tendering in any organization at any time? If so, give details.

9. Has the applicant or any constituent partner (in the case of a partnership firm), ever been convicted by a court of law? If so, give details.

10. Any other information considered necessary but not included above.

Signature and Seal of the Bidder:
Date:

On Company Letter Head

ANNEXURE – IX

CERTIFICATE

(Bidders from India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that I am not from such a country.

OR *(whichever is applicable)*

(Bidders from Country which shares a land border with India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that I from _____ (Name of Country) and has been registered with the Competent Authority. I also certify that I fulfil all the requirements in this regard and is eligible to be considered. *(Copy/ evidence of valid registration by the Competent Authority is to be attached)*

Signature and Seal of the Bidder:

Place:
Date:

BG FORMAT FOR PERFORMANCE GUARANTEE DEPOSIT

(To be executed on non-judicial stamp paper of ₹ 200/- (Rupees Two Hundred only) or as per appropriate Stamp Act.)

WHEREAS on or about the _____(date, month, year), M/s _____ (Contractor name), having its registered office situated at _____(Postal address) (hereinafter referred to as Contractor) entered into a contract agreement bearing reference no._____ dt._____with Indian Institute of Technology Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt), Andhra Pradesh - 517619 (hereinafter referred to as IIT TIRUPATI), for Electrical, Mechanical Operations and Maintenance Services (hereinafter referred to as 'The contract agreement').

AND WHEREAS under the terms and conditions of the contract agreement, the contractor is required to submit a Bank Guarantee for an amount of ₹_____ (_____Rupees only) as performance guarantee for the fulfillment of the terms and conditions of the contract agreement, and the contractor is ready to submit a Bank Guarantee.

We _____ Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from IIT TIRUPATI stating that the amount claimed is due by way of loss or damage caused to or that would be caused to or suffered by IIT TIRUPATI by reason of breach of any of the terms and conditions of the said contract agreement. 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 ₹ _____ plus interest @ 12% per annum from the date of demand for payment till the actual date of payment made by us.

We undertake to pay to IIT TIRUPATI any money so demanded, notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or tribunal relating thereto, our liability under these present being absolute and unequivocal.

The payment so made by us under this guarantee shall be a valid discharge of our liability for payment thereunder, and the contractor shall have no claim against us for making such payment.

We_____ Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said contract agreement and that it shall continue to be enforceable till all the dues of IIT TIRUPATI under or by virtue of the said contract agreement have been fully paid and its claims satisfied or discharged or till IIT TIRUPATI certifies that the terms and conditions of the said contract agreement have been fully and properly carried out by the said contractor and accordingly discharges this Guarantee. Our Guarantee shall remain in force until_____and unless a

demand or claim under this guarantee is made on us in writing within six months from the expiry of the Guarantee period, we shall be discharged from all liability under this Guarantee thereafter.

We _____ Bank, further agree that IIT TIRUPATI 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 contract agreement or to extent time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by IIT TIRUPATI against the said contractor and to forbear or enforce any of the terms and conditions relating to the said contract agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contract agreement or for any forbearance, act or omission on the part of IIT TIRUPATI or any indulgence by IIT TIRUPATI to the said contractor 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.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Consultant.

We _____ Bank lastly undertakes not to revoke this guarantee during its currency except with the previous consent of IIT TIRUPATI in writing.

Dated the _____day of 2023.

……

Signature of the Authorised Officer of the Bank

….……

….……

(Name and designation of the Officer)

Seal

Name, Address of the Bank (Head Office) with Phone/Fax Nos.

Name & Address of the Branch with Phone/Fax Nos

Validate Print Help

Percentage BoQ

Tender Inviting Authority: Executive Engineer, Engineering Unit, IIT Tirupati

Name of Work: Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt)

Tender Notification No: IITT/EU/E&M/TENDER/2023-24/001

Name of the Bidder/ Bidding Firm / Company :	

PRICE SCHEDULE

(Important Note:
1) The tenderer is to quote a single consolidated percentage only at par/above/below estimated cost to cover all the rates of all the items under the schedule of composite tender
2) If the percentages quoted are not clear, or if the rate is not quoted in percentage, the tender shall be treated as invalid and will not be entertained as lowest tenderer)

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Estimated Rate in Rs. P	TOTAL AMOUNT With Taxes in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	6	7
1	**C/o IIT Tirupati**					
1.01	**Electrical, Mechanical Operations and Maintenance Services at IIT Tirupati, Venkatagiri - Yerpedu Road, Yerpedu (M), Tirupati (Dt), Andhra Pradesh.**	1.000	Nos	19809104.00	**19809104.00**	INR One Crore Ninety Eight Lakh Nine Thousand One Hundred & Four Only
Total in Figures					**19809104.00**	INR One Crore Ninety Eight Lakh Nine Thousand One Hundred & Four Only
Quoted Rate in Figures			Select		**0.00**	INR Zero Only
Quoted Rate in Words		**INR Zero Only**				