Notice Inviting Tender

The Registrar, Central University of Rajasthan, NH-8, Bandarsindri, Kishangarh, Dist.-Ajmer, Rajasthan invites sealed **percentage rate tenders** from contractor of CPWD, MES, BRO, State PWD or Public sector undertakings set up by the Central or State Government registered in appropriate class or the manufacturer or their authorized channel partner or specialized agency all should have experience in **Rooftop solar photovoltaic power system** fulfilling Eligibility Criteria for the following work:

1.	Name of the Work	Supply, Installation, Testing & Commissioning of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan.
2.	NIT No.	CURAJ/R/F.135/2022/3659 dated 14.03.2022
3.	Estimated Cost Put To Tender	Rs. 73,27,200/-
4.	Earnest money deposit	Rs. 1,46,544/-
5.	Time of completion	60 Days (Two Months)
6.	Time & Date of submission of Bid	21.03.2022 at 2.00 PM
7.	Time & Date of Opening of Tender	21.03.2022 at 3.00 PM

The tender forms and other details can be downloaded from the University website www.curaj.ac.in and CPP portal free of cost.

Registrar
Central University of Rajasthan

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INFORMATION AND INSTRUCTIONS FOR TENDERERS

The Registrar, Central University of Rajasthan, NH-8, Bandarsindri, Kishangarh, Dist.-Ajmer, Rajasthan invites sealed **percentage rate tenders** from contractor of CPWD, MES, BRO, State PWD or Public sector undertakings set up by the Central or State Government registered in appropriate class or the manufacturer or their authorized channel partner or specialized agency all should have experience in **Rooftop solar photovoltaic power system** fulfilling Eligibility Criteria for the following work:

S No.	NIT No	Name of work & Location	Estimated cost put to tender	Earnest Money Deposit	Period of completion	Last date & time of submission of tender	Time & date of opening of tender
1	2	3	4	5	6	7	9
1	CURAJ/R/F.135/2022/3659	Supply, Installation, Testing & Commissioning of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan.	Rs. 73,27,200/-	Rs. 1,46,544/-	60 Days (Two Months)	21.03.2022 at 2.00 PM	21.03.2022 at 3.00 PM

1. The contractor of CPWD, MES, BRO, State PWD or Public sector undertakings set up by the central or state government have to submit copy of enlistment in appropriate class Or Manufacture/their authorized dealer of Solar Street Light, valid up to date
2. The intending **tenderer** must read the terms and conditions carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required. Information and Instructions for tenderers shall form part of bid document.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from University website www.curaj.ac.in and CPP portal free of cost.
4. The tenderer must ensure to quote rate of each item. Therefore, if any cell is left blank and no rate is quoted by the tenderer, rate of such item shall be treated as "0" (ZERO).
5. Earnest Money Deposit in the form of Demand Draft/FDR (drawn in favour of Central University of Rajasthan) of any Scheduled Bank payable at Bandarsindri/Kishangarh, District-Ajmer.
6. The Contractor whose tender is accepted will be required to furnish performance guarantee of 3% (Three Percent) of the tender amount within 10 days of issue of letter of award. This guarantee shall be in the form banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank or Government Securities or Fixed Deposit Receipt or Guarantee Bonds of any Scheduled bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the 10 days from date of issue of letter of acceptance,

including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.

7. Goods and service tax turn over tax, Excise duty, work contract tax or any other tax on materials as applicable shall be paid by the contractor himself. **The contractor shall quote his rates considering all such taxes.**
8. The tender should be submitted in two parts i.e. Technical Bid and Financial Bid. Both the bids shall be placed in two separate envelope with due mentioning of name of work and bid type. Both Sealed Envelopes should be kept in a main/ bigger envelope with due mention of Name of work date & time of opening of bids. This is to be submitted in the Tender Box, Dispatch Section Room No 101, Ground Floor, Administrative Building, Central University of Rajasthan within the period mentioned above. The University will not be responsible for any postal or other delay whatsoever. The offers submitted by Telegram/Fax/e-Mail shall not be considered. No correspondence will be entertained in this matter.

DETAILED NOTICE INVITING TENDER

The Registrar, Central University of Rajasthan, NH-8, Bandarsindri, Kishangarh, Dist.-Ajmer, Rajasthan-305817 invites sealed **Item Rate Tender** from Contractor of CPWD, MES, BRO, State PWD or Public sector undertakings set up by the central/state government Or Manufacturer/authorized dealer having successfully completed works of similar nature as per eligibility condition.

1. **Name of Work:** Supply, Installation, Testing & Commissioning of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan.

   1.1 The work is estimated to cost Rs.73,27,200/- This estimate, however, is given merely as a rough guide.

2. **Minimum Eligibility Criteria**

   2.1 The Contractors, who fulfill the following requirements, shall be eligible to apply**.** Joint Ventures are not accepted.

   (a) Should have satisfactorily completed the works as mentioned below during the last seven years ending previous day of last date of submission of tenders:
   Similar work shall mean works of "SITC of Rooftop solar photovoltaic power plant."

   The specialized firms shall satisfy the following eligibility criteria: Experience of having successfully completed works during last seven years ending on previous day of last day of submission of tender **(SITC of Rooftop solar photovoltaic power plant.).**
   Three similar works each of value not less than 40% of the estimated cost put to tender **(Rs. 29,30,880/-**). OR
   Two similar works each of value not less than 60% of the estimated cost put to tender **(Rs. 43,96,320/-**). OR
   One similar work of value not less than 80% of the estimated cost put to tender **(Rs. 58,61,760/-).**
   All amounts rounded off to a nearest convenient figure.

   - **The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to previous day of last date of submission of tenders.**
   - **For eligible private works of similar nature, form 16A and form 26AS (i.e. work done for private client) needs to be necessarily submitted by the bidder as a proof of actual amount of work done by the bidder and paid by the private client.**
   - **The Performance certificate issued by private client for execution of private work may be got verified by the Engineer-in-charge, before processing of the technical/eligibility bids.**
   - **The eligible Private/Government/PSU works as given under letter of Transmittal and Form C may be got inspected by committee constituted by NIT approving authority for verification of completion of work and quality of work. The grading recorded by the committee shall be considered final for evaluation of the performance of the contactor.**

   2.2 The Tenderer must submit copy of registration certificate in appropriate class of CPWD, MES, BRO, State PWD/Public sector undertakings set up by the central/state government, valid upto date. Documentary Proof in case of Channel Partner's/OEM's/Manufacturer's Authorization Form (in Original Letter Head), valid upto date.

2.3 The bidder should have had average annual financial turnover (Gross) of **Rs. 36,63,600/-** on construction works during the last three consecutive years balance sheets dully audited by chartered account. Year in which no turnover is shown would also be considered for working out the average. (**Documentary evidence to substantiate above fact must be submitted along with Annexure-II with technical bid)**

2.4 The bidder should not have incurred any loss (profit after tax should be positive) in more than two years during last five years ending **14.03.2022** duly certified by the chartered accountant. (Annexure-II)

3. The tenderers have to submit a list of jobs in progress. Brief details of the units scope of work, names and address (postal mail) of present clients. (Annexure-IV)

4. The tenderers must ensure to quote rate of each item. Therefore, if any cell is left blank and no rate is quoted by the tenderer, rate of such item shall be treated as "0" (ZERO).

5. The track record of the contracting firm/Contractor should be clean and should not be blacklisted or not have any involvement in illegal activities or financial misappropriation / frauds etc by any Central/State Government/Public Undertaking/Institute on any account. **A self-certificate on the Non-Judicial Stamp paper shall be attached**. (Annexure-V)

6. This annual maintenance contract will be valid for a period of one (01) year from the date of issue of work order/service order. However the contract further may be extended for next year on same terms and conditions if the Contractor's performance is found satisfactory. The performance would be evaluated by the University authorities before renewal of contract. Scope of work and cost of such extension may be mutually decided.

7. Agreement shall be drawn with the successful tenderer on prescribed Form. The tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

8. **Preparation & Submission of bids :**
The tender should be submitted in two parts i.e. Technical Bid and Financial Bid. Both the bids shall be placed in two separate envelope with due mentioning of name of work and bid type. Both Sealed Envelopes should be kept in a main/ bigger envelope with due mention of Name of work date & time of opening of bids. This is to be submitted in the Tender Box, Dispatch Section Room No 101, Ground Floor, Administrative Building, Central University of Rajasthan within the last date of submission as mentioned above. The University will not be responsible for any postal or other delay whatsoever. The offers submitted by Telegram/Fax/e-Mail shall not be considered.
No correspondence will be entertained in this matter.

9. **Earnest Money Deposit: Bidders are required to submit Bid Security Declaration Form in the prescribed format on the letter head of firm, as per Annexure- VII**
The tenderer shall be required to submit the Earnest Money Deposit (EMD) for an amount of Rs. Rs1,46,544/- by way of demand draft/Fixed Deposit Receipt drawn in favour of **"Central University of Rajasthan".** The EMD must be enclosed in the envelope containing the technical bid. The EMD of the successful tenderer shall be become part of performance Guarantee and for unsuccessful tenderer(s) it would be returned after award of the contract. Bid(s) received without EMD will be rejected. **Note:** The firm who are registered with Medium Small and Micro Enterprise Management

(MSME)/Small Scale Industries (SSI) are exempted to submit the EMD (copy of registration must be provided along with technical bid). No other relaxation will be allowed.

11. **Performance Guarantee:**
    - The Contractor whose tender is accepted will be required to furnish performance guarantee of 3% (Three Percent) of the tendered amount within 10 days of issue of letter of award. This guarantee shall be in the form banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank or Government Securities or Fixed Deposit Receipt or Guarantee Bonds of any Scheduled bank or the State Bank of India in accordance with the prescribed form favoring Central University of Rajasthan payable at Bandarsindri/ Kishangarh, District-Ajmer, Rajasthan.
    - The performance Guarantee shall be valid upto the contract period plus 90 days beyond that. The said performance guarantee shall be returned to the contractor after satisfactory completion work.
    - This Performance guarantee shall be forfeited if he/they fails to comply with any of the conditions of the contract. No interest shall be paid on the EMD/Performance guarantee.

12. **Payment Clause**: Payment will be made on after satisfactory and successful completion of work. No advance payment will be made. Income tax and all other statutory tax deduction will be made as per Govt. of India norms. **GST:** The amount of GST (if any) charged by the Contractor from the University on account of the services rendered by him, will be paid only after submission of copy of challan of GST with necessary supporting documents with next month bill.

13. **Security Deposit:**
    - 5% of the billed amount shall be deducted from the bill to cover the defect liability period of five years.
    - The said security deposit shall be returned after satisfactory completion of warranty/ defect liability period.
    - This security deposit shall be forfeited if he/they fails to comply with any of the conditions of the contract. No interest shall be paid on the security deposit.

14. The tender for the works shall remain open for acceptance for a period of **Ninety Days (90) days** from the date of opening of tenders**.** If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further, the tenderer shall not be allowed to participate in the re-tendering process of the work.

15. Before tendering, the tenderer shall inspect the site to fully acquaint himself about the conditions in regard to accessibility of site, nature and extent of ground working conditions of site and movement of labour etc. required for the satisfactory execution of the work contract. No claim whatsoever on such accounts shall be entertained by the University in any circumstances after award of tender.

16. Except writing rates and amount, the tenderer should not write any conditions or make any changes, additions, alterations and modifications in the printed/downloaded form of tenders. If any changes, additions, alterations , modifications are detected in the submitted bid even at a later date when contract has been awarded , the contract will be liable to be void .The decision of Registrar, Central University of Rajasthan will be final & binding to the Contractor in this regard.

17. The authorized person of the contracting firm/ Contractor must put his/her signature on all the pages of the tender documents invariably in having accepted all the terms and conditions in respect of this tender work. The bid submitted shall also become/considered invalid if a tenderer quotes nil rates against each item in Item rate tender.

18. The Central University of Rajasthan reserves the right to accept or reject any or all tender bids without assigning any reasons whatsoever and this decision will be binding on all the parties.

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

20. **Documents to be enclosed with technical bid:**

i Earnest Money Deposit (EMD) - Bid Declaration Form on letter head of firm

ii Copy of GST Registration Certificate.

iii Copy of PAN card.

iv Copy of Experience/work completion certificates from the clients regarding the quality and duration of services rendered during last seven years as described above. (Annexure-I)

v Copy of work orders from the client regarding the work awarded during last Seven years. (Annexure-I)

vi Copy of registration certificate / authorization letter

vii Copy of audited balance sheets of last three financial years.(Annexure-II)

viii Copy of document showing net-worth certified by CA.(Annexure-II)

ix An undertaking to provide genuine spares parts required for maintenance of said work, etc as per direction of Engineer-in-charge. (on letter head of firm) (Annexure-III)

x Copy of work orders of on-going work at other sites. (Annexure-IV)

xi A self-certificate showing the track record of contracting firm/Contractor on the non-judicial stamp paper. (Annexure-V)

Note:

1. Tenders received without EMD will not be accepted.

2. Each and every page of all the tender documents, annexures, corrigendum/addendum **(if any)** and their annexures should be duly seal & signed and submitted with technical bid.

21. **Financial bid** should contain only the Tenderer's/Contractor's quoted rates in the given format (Annexure-XI) enclosed in **Envelope-II** with due mentioning name of work and bid type. Financial bid shall be opened only of those who have submitted proper EMD and have qualified in the Technical Bid as per eligibility criteria and on submission of all the required documents.

22. This Notice Inviting Bid shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the

stipulated date of start of the work, sign the contract consisting of:-

a) The Notice Inviting Bid, all the documents including additional or special conditions, specifications and drawings, if any, forming part of the bid as uploaded online at the time of invitation of bid and rate quoted at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

b) Standard CPWD Form 8/GCC with up-to-date correction slips as applicable.

c) Integrity Pact.

23. The tender documents can be seen/ downloaded from the University website www.curaj.ac.in & CPP Portal and all future Corrigendum/Corrigenda will be uploaded on our website.

24. Before submitting the tender, please go through complete tender document and terms and conditions on which the work will be awarded and shall be executed by the successful tenderer.

25. Any dispute unless resolved amicable shall be settled by a court of law having jurisdiction over Jaipur/Ajmer.

LETTER OF TRANSMITTAL/Submission of Bid

From : (Bidder Name)

To

The Registrar
Central University of Rajasthan .

Subject : Supply, Installation, Testing & Commissioning of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan.

NIT NO : CURAJ/R/F.135/2022/3659 dtd 14.03.2022

Sir,

Having examined details given in Tender Notice and bid document for the above work, I/we hereby submit the bid with requisite information & documents.

1. I/We hereby certify that all the information and documents submitted with the bidare true and correct.
2. I / We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/We also authorize Registrar, Central University of Rajasthan to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. Our Current Contact address, email and telephone number details are as under:

Name of Bidder/Authorized Person of Bidder:
Contact Address of Bidder:
Email of Bidder:
Telephone Number of Bidder:

Seal of bidder Date of submission :	Signature(s) of Bidder(s)

C.P.W.D.-7

GOVERNMENT OF INDIA
CENTRAL University of Rajasthan
STATE : Rajasthan

Percentage Rate Tender & Contract for Works

Tender for the work of : "SITC of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan."

(i) To be submitted by 9:00 hours on 21.03.2022 to Registrar Central University of Rajasthan, in Tender Box, Dispatch Section, Room 101, Administration Building.

(ii) The Technical bid opened in presence of tenderers who may be present at 9:30 hours on 21-03-2022 in the office of Executive Registrar Central University of Rajasthan.

T E N D E R

I/We have read and examined the notice inviting tender, schedule, A,B,C,D, E & F. Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule "F", viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for **60** days from the due date of its opening in case of single bid system / Sixty (60) days from the date of opening of technical bid in case tenders are invited on 2 bid / envelop system and not to make any modifications in its terms and conditions.

A sum of Rs **1,46,544/-** is hereby forwarded in cash/receipt treasury challan/deposit at call receipt of a scheduled bank/fixed deposit receipt of scheduled bank/demand draft of a scheduled bank/bank guarantee issued by a scheduled bank as earnest money. If I/We, fail to furnish the prescribed performance guarantee within prescribed period. I/We agree that the said President of India or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a

guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rate to be determined in accordance with the provision contained in Clause 12.2 and
12.3 of the tender form.

Further, I/We agree that in case of forfeiture of Earnest Money or Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

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

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

Dated : ……(yyy)

Signature of ContractorPostal Address

Witness.....(yyy)

Address..... (yyy)

Occupation..... (yyy)

FORM OF AGREEMENT

(To be executed on non-judicial stamp paper of Rs.500/-)

Agreement No: _____ Dated: _____

CONTRACT FOR

Supply, Installation, Testing & Commissioning of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan.

THIS AGREEMENT is made on _____ day of _____ (month), _____(year) between **Central University of Rajasthan, NH-8 Bandarsindri, Tehsil-Kishangarh, District- Ajmer , Rajasthan, Pin-305817**, hereinafter called University, (which expression shall, wherever the context so demands or requires, includes their successors in office and assigns) on the one part and **…….** hereinafter called the Contractor (which expression shall wherever the context so demands or requires, include his/their successors and assigns) on the other part.

WHEREAS the University is desirous that certain works should be executed viz. SITC of Solar roof top plant at Central University of Rajasthan and has by Letter of Acceptance ……dated …….accepted the quotation/offer submitted by the contractor for the execution, maintenance and completion of such works at a total contract price of Rs…… (Rupees …… only).

Now THIS AGREEMENT WITNESSETH as follows:

1. In this agreement, words and expressions shall have the same meaning as are respectively assigned to them in the conditions of contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of the agreement viz:

a) This Form of Agreement
b) The Letter of Award dated _____
c) NIT document
d) Priced Schedule/ Schedule of Quantities.
e) Scope of work and conditions of contract.
f) All Annexures to NIT
g) CPWD Specifications/GCC with upto date correction as applicable.

The aforesaid documents shall be taken as complementary and mutually explanatory of one another, but in the case of ambiguities or discrepancies, shall take precedence in the order set out above.

3. In consideration of the payment to be made by the University to the contractor as hereinafter mentioned, the contractor hereby covenants with the University to execute, complete and maintain the works in conformity in all respects within the provisions of the contract.
4. The University thereby covenants to pay to the contractor in consideration of the execution, completion and maintenance of the works at contract price at the time and in the manner prescribed by the contract.

In WITNESS whereof the parties hereto have caused their respective common seals to be here into affixed (or have herewith set their respective hands and seals) the day and year first above written.

Signed, Sealed And Delivered By Signed, Sealed And Delivered By

For and on behalf of

By:

Name

Designation

In the presence of

WITNESS

1.

2.

For and on behalf of

Central University of Rajasthan
Bandarsindri, Kishangarh
Ajmer, Rajasthan By:

In the presence of

WITNESS

1.

2.

To be signed by the tenderer and same signatory competent / authorised to sign the relevant contract on behalf of Central University of Rajasthan

INTEGRITY AGREEMENT

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

BETWEEN

Central University of Rajasthan through Registrar, Central University of Rajasthan, bandersindri, Dist-Ajmer. (Hereinafter referred as the 'Principal/Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....

(Name and Address of the Individual/firm/Company)

Through .....

(Details of duly authorized signatory)

Hereinafter referred to as the "Tenderer/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender (NIT No. **……**) (hereinafter referred to as "Tender/Bid") and intends toward, under laid down organizational procedure, contract for - ……..

Here in after referred to the "Contract".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Tenderer(s) and Contractor(s).

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

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

Article 1: Commitment of the Principal/Owner

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

(a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

(b) The Principal/Owner will, during the Tender process, treat all Tenderer(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Tenderer(s) the same information and will not provide to any Tenderer(s) confidential/ additional information through which the Tenderer(s) could obtain an advantage in relation to the tender process or the contract execution.

(c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

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

Article 2: Commitment of the Tenderer(s)/Contractor(s)

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

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

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

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

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

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

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

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

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

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

Article 3: Consequences of Breach

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

1) If the Tenderer(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the Contractor shall have powers to disqualify the Tenderer(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Tenderer/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.

2) Forfeiture of EMD/Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Tenderer(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Tenderer/Contractor.

3) Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Tenderer or Contractor, or of an employee or a representative or an associate of a Tenderer or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

1) The Tenderer declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.

2) If the Tenderer makes incorrect statement on this subject, he can bed is qualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Tenderer/Contractors deemed fit by the Principal/ Owner.

3) If the Tenderer/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Tenderers/Contractors/SubContractors

1) The Tenderer(s)/Contractor(s) undertake(s) to demand from all subContractors a commitment in conformity with this Integrity Pact. The Tenderer/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-Contractors/sub-vendors.

2) The Principal/Owner will enter into Pacts on identical terms as this one with all Tenderers and Contractors.

3) The Principal/Owner will disqualify Tenderers, who do not submit, the duly signed Pact between the Principal/Owner and the tenderer, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other tenderers, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, CPWD.

Article 7- Other Provisions

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

Article 8- LEGAL AND PRIOR RIGHTS

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

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

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

WITNESSES:

1. ..... 2. .....
(signature, name and address) (signature, name and address)

Place:
Dated

:

SCHEDULES

SCHEDULE 'A'

Schedule of quantities (i) Elect. Schedule attached with Financial Bid

SCHEDULE 'B'
Schedule of materials to be issued to the contractor

S.No.	Description of item	Quantity	Rates in figures & wordsat which the material will be charged to the contractor	Placeof issue
1	2	3	4	5

NIL

SCHEDULE 'C'
Tools and plants to be hired to the contractor

S.No.	Description	Hire charges per day	Place of issue
1	2	3	4

NIL

SCHEDULE 'D'

Extra schedule for specific requirement/documents for the work, if any

NIL

SCHEDULE 'E'

Reference to General Conditions of contract : As per CPWD SOP for CPWD Works Manual 2019 & General conditions of contract 2020 amendment upto date of call offender

Name of Work : ***Supply, Installation, Testing & Commissioning of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan.***

Estimated cost of work	:	**Rs. 73,27,200/-**
Earnest Money	:	**Rs. 1,46,544/-**
Performance Guarantee	:	3% of Tendered Value.

Security Deposit : 5% of Tendered Value.

SCHEDULE 'F'
General Rules & Directions:

Officer inviting tender		**Registrar,**
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3Definitions:		see under Clause 12
2(V)	Engineer-in-charge	Executive Engineer
2(viii)	Accepting Authority	Executive Engineer
2(x)	Percentage on cost of materials and labour to cover all overhead and profits	15%
2(xi)	Standard schedule of Rates	DSR 2018 & Market rates.
2(xii)	Department	Central Public Works Department
2(xiii)	Standard CPWD contract Form corrected upto date	GCC 2020 & CPWD form 7 as modified &
Clause 1 i)	Time allowed for Submission of performance guarantee from the date of issue of letter of acceptance	7 Days
ii)	Maximum allowable extension beyond the period as provided in (i) above.	1 Days with late fee @ 0.1% per day of PG amount..
Clause 2	Authority for fixing compensation under clause 2.	Registrar.
Clause 2A	Whether clause 2A shall be applicable	No
Clause 5	Number of days from the date of issue of letter of acceptance for reckoning date of start	……4 Days/ as per LoA……..

Mile stone (s) as per table given below:-

TABLE OF MILE STONE(S)

S. NO.	Description Of Milestone (Physical)	Time Allowed In Days (From The Date Of Start)	Amount To Be With-Held In Case Of Non-Achievement Of Milestone.
1	Submission of Make, Model and Technical Data Sheet of **Rooftop solar photovoltaic power plant** i/c work execution plan / Drawing.	15 Days	1.25% of Tender Value
2	Supply **Rooftop solar photovoltaic power system and its associated accessories** and Cables,	30 Days	1.25% of Tender Value
3	Installation of **Rooftop solar photovoltaic power system** and laying of Cables.	45 Days	1.25% of Tender Value
4	Testing & Commissioning and handing over of complete installation.	60 Days	1.25% of Tender Value

Time allowed for execution of work : **02 Month.**

Authority to Decide:

Extension of time **Executive Engineer**

Rescheduling of mile stones **Executive Engineer**

Clause 6, 6A Clause applicable – (6 or 6A) Clause 6 A

Clause 7 Gross work to be done together with net payment/adjustment of advances formaterial collected, if any, since the last such payment for being eligible to interim payment. ***As applicable***

Clause 7A No running account bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board,whatever, applicable are submitted by contractor to EIC **Applicable**

Clause 10A List of testing equipment to be provided by the contractor at site lab (for electrical work)

1. Earthing Tester
2. Insulation Tester (LT / HT)
3. Tong Tester
4. Multimeter
5. Lux Meter
6. Vernier Caliper
7. Wire Gauge
8. Hand Blower / Vacuum Cleaner
9. Drill Machine
10. Chase Cutting Machine
11. Crimping Tool Kit
12. Self Supporting Ladder - 4 feet (3 Nos.)
13. Ladder – 20 feet (1 No.)

Clause 10C Component of labour expressed as percent of value of work N.A.

Clause 10CA No

Whether clause 10CA shall be Applicable.

Materials covered under thisclause	Nearest material for which AllIndia Wholesale Price Index is to be followed	Base price of all material coveredunder Clause 10 CA
Nil	Nil -	Nil-
Nil	Nil -	Nil -
Nil	Nil -	Nil -

Clause 10CC Clause 10CC to be applicable in contracts with stipulated period of completion exceeding theperiod shown in next column : N.A.

Schedule of component of cement, steel, other materials, Labour etc. for price escalation:

CLAUSE 10 CC Not admissible. 'Xc' Nil %
Component of cement-expressed as percent of total value ofwork.

Component of steel-expressed as percent of total value of work.	'Xs' Nil %
Component of civil (except cement & steel) / Electrical construction materials-expressed as percent of total value ofwork.	'Xm' Nil %'Y' Nil %
Component of labour-expressed as percent of total value ofwork.	
Component of P.O.L.-expressed as percent of total value of work.	'Z' Nil %

Clause 11

Specifications to be followed CPWD General specifications amended upto date .

Clause 12 Original Work

12.2 & 12.3 clauses 12.2 & 12.3 shall applyfor electrical work.	Deviation limit beyond which	100% (Hundred Percent)
12.5 clauses 12.2 and 12.3 shall applyfor foundation work.	Deviation limit beyond which	100% (Hundred Percent)
Clause 16 reduced rates.	Competent Authority for deciding	Registrar
Clause 18 deployed by the contractor at site.	List of mandatory machinery, tools & plants to be	As required for timely executionof work

Clause 25 Standing Committee for dispute redressal :

Constitution of Dispute Redressal Committee (DRC)
DRC constituted by competent authority

Place of Arbitration : Jaipur

Clause 36 (i) : Requirement of Technical Representative(s) and recovery Rate

S. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical Representative	Number	Minimum Experience	Rate at which recovery shall be made from contractor in the event of non deployment.	
						Figures	Words
1.	--		--	--	--	--	--

~~Assistant Engineers retired from Government services that are holding Diploma will be treated atpar with Graduate Engineers.~~

~~Clause 42~~

i) (a) Schedule/statement for determiningtheoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates 2007 printed by C.P.W.D.

ii) Variations permissible on theoretical quantities.

a) Cement for works with estimated cost put to NIL.tender not more than Rs.5 lakhs for works with estimated cost put to tender more than Rs.5 Lakhs — 2% plus/minus.

b) Bitumen for all works. — 2.5% plus only & nilon minus side.

c) Steel Reinforcement and structural steel sections for each diameter, section and category. — 2% plus/minus.

d) All other materials. — Nil.

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl. No.	Description of Item	Rates in figures and words at which recovery shall be made from the Contractor.	
		Excess beyond permissible variation	Less use beyond the permissible variation.
1.	Cement	Nil	Not Allowed
2.	Steel reinforcement	Nil	Not Allowed

Items which are to be executed through specialized agency (Electrical Component)

The contractor must associate specialized agencies meeting eligibility criteria as detailed below forspecialized nature of items / work listed below :-

Sl. No.	Specialized Work(s) / item of work(s)	Eligibility criteria for specialized agency to be associated by contractor for the work
1	EI Work	If the main agency do not have any valid electrical contractor license then he will have to associate an agency who is having valid electrical contractor license of competent authority.
Specialized E&M works as per **List-IIA& IIB of Annexure-6 of CPWD Works Manual 2019**.		The contractor shall associate specialized E&M agencies which fulfills eligibility criteria as per CPWD Works Manual 2019 SOP No. 4/7(5) and amended upto last date of submission of tender.

ADDITIONAL CONDITION FOR MISUSE OF PAYMENT RECEIVED AGAINST ADVANCE PAYMENTS

1. Till the work is almost completed to the satisfaction of Engineer-in-charge,

(i) Contractor shall not divert any advance payments or part thereof for any purpose other than needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e. mobilization, secured against materials brought at site, secured against plant & machinery and / or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.

(ii) All running account bills preferred by the contractor for advance payments shall be processed only if Engineer-in-charge is satisfied that upto date investments (excluding security deposit & performance guarantee, which are not considered as investments) made by the contractor against contracted work are more than the payments received. Accordingly, all running account bills shall be supported with an account of uptodate payments received vis-à-vis upto date investments made on the work to enable engineer-in-charge to check to his satisfaction that the payments made by engineer-in-charge are property utilized only on the work and nowhere else."

COMMITTED PROGRAM OF COMPLETION FROM CONTRACTOR SIDE

2. On acceptance of work, contractor has to submit a committed program of completion keeping in the view of the prescribed mile stones, stipulated period of completion duly signed by him. The program submitted by contractor shall be monitor able in a format as may acceptable to Engineer-in-charge.

3. On receipt of the prescribed Performance Guarantee and aforesaid committed programme of completion necessary letter to commence the work shall be issued to contractor by Engineer-in-charge and the site of work would be handed over to contractor thereafter.

GENERAL & COMMERCIAL TERMS AND CONDITIONS

Name of Work : SITC of 120kWp Capacity Online Grid connected Solar Rooftop Plant at Central University of Rajasthan.

General.

The work shall be executed as per CPWD's general specification for Electrical Works Part-I Internal (2013), Part-II (External-2004), IE Rules, Indian Standards amended up to date & as per direction of Engineer-in-Charge. The additional specifications are to be read with above & in case of any variations, specifications given along with the tender shall apply.

i) Location : The work is to be executed at **Central University of Rajasthan**

ii) Confirmation with the statutory Acts, Rules, Standard codes.

All electrical work shall be carried out in accordance with the provision of Indian Electricity Act2003 & IE Rules 1956 amended up to date.

iii) The tenderer should, in his own interest, visit the site and familiarizes himself with the site conditions before tendering. For any clarification, tenderer may discuss with the Engineer-in- Charge.

iv) No T&P shall be issued by the Department and nothing extra shall be paid on account of this.

1. Terms of payment

The following percentage of contract rates shall be payable against the stages of work as shown.

SlNo	Stage of Work	Payment
1	After initial inspection of material (wherever specified) & delivery atsite in good condition on pro rata basis	70%
2	On completion of installation	20%
3	On Testing & commissioning	10%

No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

2. Rates:

The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including G.S.T. & Labour Welfare Cess), octroi, entry tax, duties and levies and all charges for packing forwarding, insurance, freight and delivery, installation, testing, commissioning etc at site i/c temporary constructional storage, risks, over head charges, general liabilities/obligations and clearance from local authorities. The fee for the inspection of installation by government authorities shall be reimbursed by the department on production of receipts. The contractor has to, however, initially make the payment. Likewise taxes applicable shall be initially paid by the contractor and shall be reimbursed to him by the department after satisfying that the payments are genuinely made.

3. COMPLETENESS OF THE TENDER, SUBMISSION OF PROGRAMME, APPROVALOF DRAWINGS AND COMMENCEMENT OF WORK

i) Completeness of the tender:-

All sundry equipment, fittings, assemblies, accessories, hardware items, foundation bolts, supports, termination lugs for electrical connections, cable glands, junction boxes and all other items which are useful and necessary for proper assembly and efficient working of the various equipments and components of the work shall be deemed to have been included in the tender, irrespective of the fact whether such items are specifically mentioned in the tender or not.

ii) Submission of programme:-

Within fifteen days from the date of receipt of the letter of award, the successful tenderer shall submit his programme for submission of drawings, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in-charge. This programme shall be framed keeping in view the building progress and the Milestones fixed in Schedule 'F' Clause-5 of General Conditions of Contract. Items like piping etc. that directly affect the building progress shall be given priority.

iii) Commencement of Work :-

The contractor shall commence work as soon as the drawings submitted by him are approved either in full or in part as the case may be.

4. DISPATCH OF MATERIALS TO SITE AND THEIR SAFE CUSTODY

The contractor shall dispatch materials to site in consultation with the Engineer-in-Charge. Suitable lockable storage accommodation shall be made available free of charge temporarily. Watch and ward however, shall be the responsibility of contractor. Programme of despatch of material shall be framed keeping in view the building progress. Safe custody of all machinery and equipment supplied by the contractor shall be the responsibility of the contractor till final taking over by the department.

5. CO-ORDINATION WITH OTHER AGENCIES

The contractor shall co-ordinate with all other agencies involved at the site of work so that the work of other agencies is not hampered due to delay in his work. Piping, cabling or any other work, which directly affect the progress of work of other agencies, shall be given priority.

6. QUALITY OF MATERIALS AND WORKMANSHIP

i) The components of the installation shall be of such design so as to satisfactorily function under all conditions of operation.

ii) The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice.

iii) All equipments and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and proper after sales service.

7. CARE OF THE BUILDING

Care shall be taken by the contractor during execution of the work to avoid damage to the building. He shall be responsible for repairing all such damages and restoring the same to the original finish at his cost. He shall also remove all unwanted and waste materials arising out of the installation from the site of work from time to time.

8. INSPECTION AND TESTING

For items / equipment requiring initial inspection at manufacturer's premises (Within India), the contractor will intimate the date of testing of equipments at the works before despatch. The successful tenderer shall give sufficient advance notice regarding the dates proposed for such tests / inspection to the Engineer-in-Charge to facilitate his presence during testing. The Engineer-in- charge at his discretion may witness such testing.

The Engineer-in-charge reserves the right to independently test the materials / components / equipment as he deems fit. The cost of such testing shall be initially borne by the contractor. The cost of the tests shall be reimbursed on production of receipts in case the materials / components / equipment have passed the test. In case of materials / components / equipment failing in testing no charges shall be reimbursed and such materials / components / equipment shall be replaced.

The cost of the first visit of the officials of the department for witnessing the tests at the manufacturer's works shall be borne by the department. If the tests fail, then the cost of the travel, lodging and boarding of the inspection team of the officials of the department (for 2 nos. officials) shall be borne by the contractor for all subsequent visits till the tests are satisfactorily conducted.

9. GUARANTEE

9.1 All equipments shall be guaranteed for a period of **60 months from the date of completion and taking over** of the installation by the Department against unsatisfactory performance and/or breakdown due to defective design, material, manufacture, workmanship or installation. The equipment or component or any part thereof so found defective during the guarantee period shall be repaired or replaced free of cost to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of Engineer-in-Charge in this regard shall be final.

11 Installation and Commissioning

11.1 Detailed project execution program shall be submitted within 7 days after award of work. The bidder will be responsible for arranging all tools & plants for installation and commissioningthe complete system.

11.2 The bidder will also submit the erection, testing & commissioning procedure for approval to the owner. These procedures will form integral part of the acceptance report for successful erectionand commissioning the system. These reports will be prepared and signed by the bidder or his representative & the officials of the Purchaser concerned with project.

12. TENDER DRAWINGS, DRAWINGS FOR APPROVAL AND COMPLETIONDRAWING

i) Tender Drawings

The drawing appended with the tender documents is intended to show the areas allotted for various equipments and tentative routes. The equipments offered shall be suitable for installation in the spaces shown in these drawings.

ii) Drawings for approval on award of the work

The contractor shall prepare and submit following drawings and get them approved from the Engineer-in-Charge before the start of the work. The approval of drawings however does not absolve the contractor of his responsibility to supply the equipments/materials as per agreement. In case of any contradiction between the approved drawings and agreement the decision of the Engineer-in- Charge shall be final and binding on the contractor.

a) Lay out drawings of the equipments to be installed.

b) Electrical wiring diagrams for all equipments and controls including the sizes and capacities of the various cables and equipments.

c) Any other drawings relevant to the work.

iii) Completion Drawings

Three sets **(soft and hard copy)** of the following drawings shall be submitted by the contractor while handing over the installation to the Department.

a) Installation drawings giving complete details of all the equipments.

b) Single Line Control Wiring Diagram with Block diagram showing all control components and circuits.

13.0 Cables and Accessories

13.1 All the cables shall be supplied conforming to IS 694 & shall be of 650 V/ 1.1 kV grade as per interconnections, array to junction boxes, junction boxes to DCDB, DCDB to PCU etc shall be so selected to keep the voltage drop and losses to the minimum.

13.2 Bidders are required to mention each size of cables used and should consider their resistance/ impedance in the design optimization. Such calculation should be submitted along with the bid.

13.3 The contractor shall supply all installation accessories, which are required to install and successfully commission the power plant.

13.4 Cables of appropriate size to be used in the system shall have the following characteristics: i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards ii. Temp. Range: –10degC to +80degC. iii. Voltage rating 660/1000V iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation v. Flexible vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. vii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. viii. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years. ix. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation. x. Multi Strand, Annealed high conductivity Aluminum conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V ,UV resistant for outdoor installation IS /IEC 69947. xi. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%. xii. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.

14. Storage and custody of materials:

The department shall arrange, if available, lockable storage space to be used for storage of sundry materials and erection equipment. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the complete installation by the department.

15. Spare Parts

Bidder shall mention recommended spares and also furnish details for spare parts for at least 3-5 years of their nearest service center.

16. Care of the Building:

Due care shall be taken by the contractor while handling and installing the various equipment and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his cost all unwanted and waste materials arising out of the installation from the site of work.

17. Completion period :

The completion period of 2 months indicated in the tender documents is for the entire work of planning, designing, approval of General arrangement drawings, supplying, installation, training of personnel, testing, commissioning and handing over of the entire installation to the satisfaction of theEngineer-in-charge.

18. Guarantee:

The tenderer shall guarantee among other things, the following vis-à-vis specifications.

i) Quality, strength and performance of the materials used.

ii) Safe mechanical and electrical stress on all parts under all specified conditions of operation

iii) Satisfactory operation during the maintenance period.

19. Defect Liability Period:

All the equipments shall be guaranteed for a period of **five years** (i.e. CMC) **from** the date of taking over the installation by the department against unsatisfactory performance and / or break down due to defective design, workmanship of material etc. The equipments or components, or any part thereof, so found defective during this guarantee period (defect liability period) shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-Charge in this regard shall be final.

i) If the total downtime of any of the SITC of the system is more than 7 days during the defect liability period, then the defect liability period of the same shall be extended for the downtime period.

ii) Sufficient trained and experienced personnel shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation.

iii) The maintenance, routine as well as preventive, for **five year** from the date of taking over the installation (i.e. during the guarantee period) as per manufacturer's recommendations / standard practice shall be carried out and the record of the same shall have to be maintained. Nothing extra shall be paid on this account.

20. Power Supply:

Power supply for execution of work shall be arranged by tenderer however for testing andcommissioning purpose power supply will be arranged by department.

21. Data to be furnished by the tenderers:

i) With Technical Bid.

a) The tenderer shall furnish along with the technical bid, detailed technical literature,pamphlets and technical data sheets duly filled in for appraisal and evaluation of the offer.

ii) After Award of Work:

The Contractor shall prepare the programme chart for the execution of the work showing clearly all activities from the start of work to the completion, with details of requirements of components & materials, man power and equipment deployment required for the completion of the work within the stipulated period and submit the same to the Engineer-in-Charge within fifteen days after the issue of letter for commencement of the work. The Contractor shall also submit monthly programme and progress reports and up date / re-schedule the same every month. These shall besubmitted by the contractor in soft copy also besides forwarding hard copy of the same.

22. Documentation:

The successful tenderer should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, operation and maintenance including preventive maintenance & trouble shooting together with all the relevant data sheets, spare parts catalogue and procedure regarding installation, programming/ resetting/ adjustments etc. all in triplicate. Wherever feasible these shall be submitted in soft copy also.

23. Extent of work :

i) The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. The term complete installation shall not only mean major items of the hardware components and equipments and software covered by Technical Specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender documents in connection with this contract.

ii) Minor building works necessary for installation of equipment, making of opening in walls or in floors and restoring to their original condition, finish and necessary grouting etc as required to be undertaken.

iii) Maintenance (Routine & preventive) for **five year** from date of completion and handing over.

24. Compliance with Regulations and Indian standards

i) All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to this work. In particular, the equipment and installation shall comply with the following:

a. Factories Act

b. Indian Electricity Rules

c. I.S. & BS Standards as applicable

d. Workmen's compensation Act

e. Statutory norms prescribed by local bodies

f. Nothing in this tender shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

ii) Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tenderer liable for penalty of Rs.50/- for each default. In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.

25. Indemnity:

The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations, for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible.

26 Erection Tools:

No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the department. The successful tenderer shall make own arrangement for all these facilities.

27. Cooperation with other agencies:

The successful tender shall co-ordinate with other contractors and agencies engaged in the construction of building and exchange freely all technical information so as to make the execution of this works contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the successful tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the successful tenderer himself.

28. Mobilization Advance: No mobilization advance shall be paid for this work.

29. Insurance:

All consignments are to be duly insured upto the destination from warehouse to site at the cost of the supplier. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned. Documentary proof shall be submitted in this regard.

30. Verification of correctness of Equipment at Destination:

The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufacturers has been supplied and erected.

31. Training:

The Scope of work includes training of personnel at site / works as applicable. Nothing extra shall be payable on this account.

32. Order of Preference:

Should there be any difference or discrepancy between the description of items as given in the Schedule of Quantities, technical specifications for individual items of work (including additional and commercial conditions) and IS Codes etc., the following order of preference shall be followed:

a. Schedule of quantities

b. Technical specifications of the tender

c. Additional and Commercial Conditions

d. General Conditions of Contract for CPWD Works

e. Drawings

f. CPWD General Specifications

g. Relevant IS or any other International code in case IS code is not available.

Note:

a) Any item particular or specification not mentioned in the above or in Technical Specification but required for proper functioning of the SITC of Rooftop solar photovoltaic power plant shall be provided free of cost.

b) The various parameters are to be designed as per requirement and data sheets are to be furnished along with the offer.

c) Contractor shall co-ordinate with the civil contractor during construction of civil work to avoid any future complication.

d) Contractor shall submit the shop drawing for approval before execution.

TECHNICAL SPECIFICATIONS

Name of Work : SITC of Roof Top Solar Panel system at Central University of Rajasthan.

1. SOLAR/ PV SYSTEM

1.1 Solar Photovoltaic Module

Standard

Solar Photovoltaic Modules shall conform to UL/ CE/ IEC/ IS specifications necessary certification from the reputed laboratory shall be provided by bidder.

Electrical Features

Solar Photovoltaic module array shall consist of high efficiency Solar Modules utilizing Crystalline Silicon Solar Photovoltaic cells. Solar Photovoltaic module shall be min. 310Wp. crystalline high power cells are used in the Solar Photovoltaic module. Solar module shall be laminated using lamination technology using established polymer (EVA) and Tedlar/ Polyester laminate.

Solar Photovoltaic module having a efficiency of minimum 16.0%. Module shall be made of high transmissivity glass front surface with anti reflection coating giving high encapsulation gain and hot butyl rubber edge sealant for module protection and mechanical support.

All materials used must have a proven history of reliable and stable operation in external outdoor applications. Solar modules are designed to operate and perform in relative humidity up to 100% with temperatures between -10 Deg C and +85 Deg C and It shall perform satisfactorily wind speed upto 200 KM/Hr from back side of panel.

Sample modules and production processes employed in the manufacture of the offered module are in accordance with the requirements of IEC 61215/ IEC61730.

The module frame must be made of corrosion resistant materials, which is electrolytic ally compatible with the structural material used for mounting the module.

Module Junction box (weather resistant) shall be designed for long life out door operation in harsh environment.

Degradation of power generated should not exceeding 20% of the min. rated power over the 25 year period. Efficiency of solar PV system shall be guaranteed to 90% for above 10 years & 80% for above 25 years.

The solar modules shall have suitable encapsulation and sealing arrangements to protect the silicon cells from the environment. The arrangement and the material of encapsulation is compatible with the thermal expansion properties of the Silicon cells and the module framing arrangement/ material. The encapsulation arrangement ensures complete moisture proofing during life of the solar modules.

Each module must have low iron tempered glass front for strength and superior light transmission. It also must have back sheet for environment protection against moisture and high voltage electrical insulation. The fill factor of modules is not less than 0.70 or above 70%.

The peak power point voltage and the peak power plant current of any supplied module and / or any module string (Series connected module) shall be not more than 3% from the respective arithmetic mean for all modules and / or for all modules string as the case may be.

Mechanical Features

Solar Photovoltaic Module shall be made of toughened, low iron content, high transmissivity front glass. Anodized Aluminum Frame shall be provide around the module. The module shall be encapsulated with Ethyl Vinyl Acetate (EVA). Silicon edge sealant shall be provided around laminate. The back surface shall be Tedlar/ Polyester trilaminate. ABS plastic terminal box shall be provided for the module output termination with gasket to prevent water moisture the module shall be Resistant to water, abrasion, hail impact, humidity & other environment factor for the worst situation at site. Bypass diode arrangement shall be provided.

1.2 Data Sheet For The Solar PV Module Shall Be Furnished By Vender

i.	PV Module Manufacturer name & Country	
iii.	No. of PV cells per Module	
iv.	Max peak watt of each module (Wp)	
v.	ROHS compliance (Yes/No) Enclose certificate	
vi.	Solar module frame material GI/SS	
vii.	Module dimensions	
viii.	Cable gland type at module Junction Box	
ix.	Weather resistant Junction Box(IP65) Yes/ No	
x.	Is it suitable for ambient Temperature of 50 deg. C.	
xi.	Nominal voltage at AM 1.5 & 1000 lm radiation	
xii.	Operating voltage of solar module	
xiii.	Peak power voltage(Vmp) at 50 Deg C	
xiv.	Peak power current (Imp) each module.	
xv.	Open circuit Voltage(Voc)	
xvi.	Short circuit current (Isc)	
xvii.	Weight of each module Kg	
xviii.	Standard / Approvals from International Agencies	
xix.	PID free certificate enclosed (yes/No)	
xx.	LID free certificate enclosed (Yes/ No)	
xxi.	Module efficiency (min 16.0%)	
xxii.	Negative temp coefficient of power (not> minus 0.3%)	

1.3 Module Mounting Structure

Structure shall support SPV modules at a given orientation, absorb and transfer the mechanical loads to the roof properly. There shall be no requirement of welding or complex machinery at site. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from SPV panels & shall withstand heavy winds. The supplier/ manufacturer shall specify installation details of the PV modules and the support structures with appropriate diagrams and drawings.

Module mounting structure shall be made up of aluminium. Super structure shall be designed &

fabricated according to site condition.

Support structure design and foundation or fixation mounting arrangements should withstand minimum horizontal wind speed of 200kms/ hr (Designed value shall be greater than 200kms/ hr). All fasteners shall be of Stainless steel - SS 303.

The size of main supporting structure shall not be less than 40mm x 40mm x 5mm (Thick) Ms-Angle iron and the inter connecting structure shall be suitable size of Ms angle iron/ flat strip as per recommendation of OEM. The lower edge of the structure shall not be less than 900mm height. The structure should not be directly grout in the roof of building to avoid puncturing of the roof. The structure shall be fitted with CC foundation block having CC Ratio 1:2:4 of suitable size on the existing roof of the building compatible to with stand required wind speed.

2. Power Conditioning Unit (PCU)

Solar array shall produces DC energy output and supplied to the DC bus for inverting to AC voltage. Maximum Peak Power Tracking (MPPT) (The peak efficiency of PCU shall not be less than 95% & shall be designed to meet the Solar PV Array capacity control) will extract

maximum energy from solar array and provides 220VAC+/-2%, single phase / 415 volt +/ 10% 3 phase 50HZ,. PCU should have 150 % Over load capacity for 60sec. Output wave shape shall be sine wave with < 5% total harmonic distortion (THD). Additionally, it will provide protection features such as, over current, short circuit, over temperature as a minimum. PCU shall be of very high quality having high efficiency and shall be capable of running load in isolated mode. The PCU should be completely compatible with the SPV array voltage and grid supply voltage. The PCU shall be string type inverters to reduce the DC power losses & can have the flexibility to increase the capacity of the plant. The PCU shall be designed for continuous, reliable power supply as per specifications. The PCU shall have internal protection arrangement against any sustained fault. The dimension, weight, foundation details etc. of the PCU shall be clearly indicated in the detailed technical specification. It has user friendly LCD display for programming and view on line parameters. Unit shall be IP-65/67

2.1 Reference Data Sheet for Power Conditioning Unit Vendor to Submit Their Data Sheet.

	Typical Electrical Parameters / Unit	
i	Nominal AC Output Power (Min. 50 KVA)	
ii	Output AC Voltage	
iii	Frequency	
iv	Total harmonic distortion	
v	AC over / under voltage over voltage / under	
	frequency protection.	
vi	Phase SIFT (COS Phi)	
b.	DC Side	
i	PV Power	
ii	Maximum DC Voltage	
iii	MPPT Voltage range	
iv	Maximum DC Current	
v	DC voltage ripple	
vi	DC over voltage protection	
c.	Other Parameters	
i	Minimum efficiency (CE)	

ii	Ambient temperature	
iii	Humidity (Non Condensing)	
iv	Quiescent Power	
v	Degree of protection for enclosure	
vi	Dimension / Weight	
vii	Noise level	
viii	Cooling	
ix	Input Range	

3. DC Combiner Box

3.1 A DC Combiner Box shall be used to combine the DC cables of the solar module arrays with DC fuse protection for the outgoing DC cable(s) to the DC Distribution Box.

4. DC Distribution Box

4.1 A DC distribution box shall be mounted close to the solar grid inverter. The DC distribution box shall be of the thermo-plastic IP65 DIN-rail mounting type and shall comprise the following components and cable terminations:

4.2 Incoming positive and negative DC cables from the DC Combiner Box;

4.3 DC circuit breaker, 2 pole (the cables from the DC Combiner Box will be connected to this circuit breaker on the incoming side);

4.4 DC surge protection device (SPD), class 2 as per IEC 60364-5-53;

4.5 Outgoing positive and negative DC cables to the solar grid inverter.

4.6 As an alternative to the DC circuit breaker a DC isolator may be used inside the DC Distribution Box or in a separate external thermoplastic IP 65 enclosure adjacent to the DC Distribution Box. If a DC isolator is used instead of a DC circuit breaker, a DC fuse shall be installed inside the DC Distribution Box to protect the DC cable that runs from the DC Distribution Box to the Solar Grid Inverter.

5 AC Distribution Box (if required)

5.1 An AC distribution box shall be mounted close to the solar grid inverter. The AC distribution box shall be of the thermo plastic IP65 DIN rail mounting type and shall comprise the following components and cable terminations:

Incoming 3-core / 5-core (single-phase/three-phase) cable from the solar gridinverter AC circuit breaker, 2-pole / 4-pole

AC surge protection device (SPD), class 2 as per IEC 60364-5-53 Outgoing cable to the building electrical distribution board.

6 Cables

6.1.1 All cables shall be supplied conforming to IEC 60227/ IS 694 & IEC 60502/ IS 1554. Voltage rating: 1,100V AC, 1,500V DC

6.1.2 For the DC cabling, XLPE or XLPO insulated and sheathed, UV stabilised single core flexible copper cables shall be used. Multi-core cables shall not be used.

6.1.3 For the AC cabling, PVC or XLPE insulated and PVC sheathed single or multi-core flexible copper cables shall be used. Outdoor AC cables shall have a UV-stabilised outer sheath.

6.1.4 The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.

6.1.5 The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%

6.1.6 The DC cables from the SPV module array shall run through a UV-stabilised PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.

6.1.7 Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.

6.1.8 All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm. The minimum DC cable size shall be 4.0 mm^2 copper. The minimum AC cable size shall be 4.0 mm^2 copper. In three phase systems, the size of the neutral wire sizeshall be equal to the size of the phase wires. The following colour coding shall be used for cable wires:

DC positive: red (the outer PVC sheath can be black with a red line marking) DC negative: black

AC single phase: Phase: red; neutral: black

AC three phase: Phases: red, yellow, blue; neutral: blackEarth wires: green

6.1.9 Cables and conduits that have to pass through walls or ceilings shall be taken through a PVC pipe sleeve.

6.1.10 Cable conductors shall be terminated with tinned copper end-ferrules to prevent fraying and breaking of individual wire strands. The termination of the DC and AC cables at the Solar Grid Inverter shall be done as per instructions of the manufacturer, which in most cases will include the use of special connectors.

7. Earthing

7.1.1 The PV module structure components shall be electrically interconnected and shall be grounded.

7.1.2 Earthing shall be done in accordance with CPWD Internal EI specification earthling will done as per BOQ

7.1.3 A minimum of two separate dedicated and interconnected earth electrodes must be used for the earthing of the solar PV system support structure with a total earth resistance not exceeding 5 Ohm.

7.1.4 The earth electrodes shall have a precast concrete enclosure with a removable lid for inspection and maintenance. The entire earthing system shall comprise non-corrosive components.

8. Surge Protection

8.1.1 Surge protection shall be provided on the DC side and the AC side of the solar system.

8.1.2 The DC surge protection devices (SPDs) shall be installed in the DC distribution box adjacent to the solar inverter.

8.1.3 The AC SPDs shall be installed in the AC distribution box adjacent to the solar inverter.

8.1.4 The SPDs earthing terminal shall be connected to earth through the above mentioned dedicated earthing system. The SPDs shall be of type 2 as per IEC 60364-5-53

9. Junction Boxes

9.1.1 Junction boxes and solar panel terminal boxes shall be of the thermo plastic type with IP 65 protection for outdoor use and IP 54 protection for indoor use.

9.1.2 Cable terminations shall be taken through thermo-plastic cable glands. Cable ferrules shall be fitted at the cable termination points for identification.

10. Bill of Materials

11.1 Complete Bill of Materials inclusive of Solar PV Modules, array Junction box, main junction box, cables, PCU, Module mounting structures, etc shall be provided along withthe offer.

11.2 The items not listed in BOM but required for successful installation/ commissioning of SPV Power plant shall also be considered to be part of the supply scope without any extra cost to the owner.

11. Type Test

Type testing certification should be produced at the time of delivery or earlier. Type testcertification should be dated not earlier than 1 year.

13 Support/ Training

The contractor must agree to provide complete support as per site requirement (single point of contact regarding for entire solutions). Contractor shall provide the on site 3 day basic operation

shall provide the operations and maintenance staff for first month in two shifts at site. The O&M staff provided for first month at site should be able to take care the fault finding and repair system to maintain the desired level of uptime of solar solutions at site.

ANNEXURE – I
(to be submitted with Technical Bid)

Details of works of similar type executed by the bidder

S.No	Name of Company/ Organization with full address, phone, email and name of contact person	Work Description	Cost of work in crores	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Ref. & Date of the Order	No. & Date of completion certificate attached.	Remarks
1	2	3	4	5	6	7	8	9	10

Signature of Bidder(s) with Seal

- Indicate gross amount claimed and amount awarded by the Arbitrator.
- Work order & Completion certificate to be attached.
- Supporting documents like notice of award, schedule of qualifying works shall also be attached.

ANNEXURE – II
(to be submitted with Technical Bid)

FINANCIAL INFORMATION

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

S.No.	Descriptions	Figure
1.	Average Gross Annual Turn Over of last three financial years	
2.	Net Profit/Loss of last three financial years	

Signature of Bidder(s) with Seal

Signature of Chartered Accountant with Seal

ANNEXURE – III
(to be submitted with Technical Bid)

UNDERTAKING FOR SUPPLY OF GENUINE PARTS
(on letter head of firm)

I hereby certify that the ……. firm will supply genuine spare parts as and when required or as per directions of the Engineer-In-Charge.

I also certify that the firm will execute the work as per the standards of manufacturer and specification given by department and also abide all the terms and conditions stipulated in NIT document.

Date: Name :

Place: Business Address :

Signature of Bidder :

Seal of the Bidder :

ANNEXURE – IV

(to be submitted with Technical Bid)

LIST OF WORKS WHICH ARE IN HAND (PROGRESS)

S. No	Name of Work	Name & particulars of Dept. where work is being executed	Value of Work	Position of works in progress (Date of start & completion)	Remarks
1	2	3	4	5	6

Seal & Signature of Bidder

ANNEXURE – V
(to be submitted with Technical Bid)

SELF DECLARATION CERTIFICATE
(To be submitted on Non-Judicial Stamp Paper)

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

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

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

Date: Name :

Place: Business Address :

Signature of Bidder :

Seal of the Bidder :

ANNEXURE – VI

FORM OF PERFORMANCE SECURITY (GUARANTEE)
BANK GUARANTEE BOND

In consideration of the President of India (hereinafter called " The Government") having offered to accept the terms and conditions of the proposed agreement between……..and ……(hereinafter called "the said Contractor(s)") for the work……(hereafter called "the said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs……(Rupees……..……only) as a security/guarantee from the Contractor(s) for compliance of lhis obligations in
accordance with the terms and conditions in the said agreement.

We…….(hereinafter referred to as "the Bank") hereby (indicate the name of the Bank) undertake to pay to the Government in amount not exceeding Rs……(Rupees…….Only) on demand by the Government.

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

3) We, the said bank further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any court or Tribual relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

4). We ……..… further agree that the guarantee herein contained(indicate the name of the Bank) shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

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

6) This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7) We ……..…… lastly undertake not to revoke this (indicate the name of the Bank) guarantee except with the previous consent of the Government in writing.

8) This guarantee shall be valid upto _____ . Unless extended on demand by Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. _____ (Rs. _____only) and unless a claim in writing is lodged with us within 6 Months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged. Dated the _____ day of _____for _____ (indicate the name of Bank)

ANNEXURE-VII

WILLINGNESS CERTIFICATE

Name of work : "SITC of Roof Top Solar Panel system at Central University of Rajasthan ."

I hereby give my willingness to work as Associate Specialized Agency for electrical component of the above mentioned work.

I will execute the work as per specifications and conditions for the agreement and as per direction of the Engineer-in-Charge. Also I will engage full time technically qualified supervisor/engineer for the works. I will attend inspection of officers of the department as and when required.

Dated:

Signature of the Associate Specialized Agency

LIST OF APPROVED MAKES FOR EQUIPMENT & MATERIALS

S. No.	Details of Materials / Equipments	Manufacturer's Name / Make
A.	**Internal EI**	
1.	MCB, Isolator, Industrial Plug Socket, RCCB, RCBO's	Schneider Electric ACTI-9 (N) / Legrand (DX3) / Hager/ L&T (Exora) / C&S (Win Trip 1/2) / ABB (S200M) / Siemens (Betaguard) /MK(Honeywell)
2.	MCBDB & Loose Wire Box	Legrand (EKINOX-3) / L&T (EXORA) / C&S (Win Class)/ Hager (Novello) / Schneider (ACTI-9) / ABB (Elegance) / Siemens / MK(Honeywell) **(Note : MCBs Make shall be same as DBs Make)**
3.	Change Over Switches	L&T / Havells / HPL / Hager / C&S / Socomac / ABB / ASCO
4.	Automatic Transfer Switch (ATS)	Asco (Schneider) / Russel / Socomac / Hager / ABB / Legrand / L&T / Havells
5.	FRLS PVC insulated copper conductor single core cable for wiring. (ISI marked)	Finolex / RR Kabel / KEI /Havells / Polycab / Bonton / Grandlay
6.	Armoured/Unarmoured telephone cable, Coaxial Cable/LAN Cable	Delton / Finolex / RR Kabel / Polycab/Havells / Bonton / Grandlay / KEI
7.	MS Conduit (ISI Marked) with heavy duty MS conduit pipe accessories	BEC / NIC / AKG / RMCON **(Note : The make of accessories will be same that of conduit pipe & will comply to IS / 4768 part 2 2003)**
8.	PVC Conduit (ISI Marked) with heavy duty PVC conduit pipe accessories	AKG / Norpack / BEC / Polycab / Precision / Astral / Finolex / Pressfit
9.	Modular Switch, Socket/Telephone Socket/ Cable TV Socket/ Data outlet Socket / Fan Regulator/ G.I. Boxes Etc.	Legrand (Arteor) / Schneider Electric (Zencelo) / Honeywell- MK (Elements)
10.	Modular MCB	Legrand / Schneider Electric /MK-Honeywell
11.	Selector Switch & Toggle switch	Salzer (Larsen & Toubro) / Siemens / Kaycee / C&S /Schneider
12.	PVC Trunking	Mk (Honeywell)/ Legrand / Schneider
13.	GI pipe (ISI Marked)	Tata / Jindal (Hissar) / SAIL
14.	Paints	Asian / Berger /Dulux
15.	Terminal Blocks and Connectors	Elmax / Wago / Hensel / Connectwell

16.	Phenolic Laminated Sheet / Bakelite Sheet	Hylam / Formica (P-I Grade) / Mylam / Greenlam
17.	Cat-6 /Cat-6A Cable, Wires & Fiber Optic Cable	Amp / Beldon / Legrand / Krone Communication / Molex
18.	Indoor and Outdoor LED fittings /LED Lamp/ LED Tube	Wipro / Philips / Trilux / Regent / Osram / Lighting Technology (LT)
19.	Decorative Indoor/Outdoor LED fitting	Wipro / Philips / Trilux / Regent / Osram / Lighting Technology (LT)/Bajaj/Havells/Crompton
20.	Exhaust Fan/Fresher Fan	Havells / Crompton Greaves / USHA / Almonard / Alstom
21.	BLDC Ceiling Fan	Havells / Crompton Greaves / Atombarg Gorilla / Superfan / Usha
22.	Wall Bracket Fitting	Havells / Wipro / Decon / Jaquar / Philips / Bajaj / Trilux
23.	Geysers	Racold / CG / Havells / Jaquar / AOSmith / Usha / Venus
24.	Air circulator / Wall Fan	Havells / Usha / Almonard / Crompton / Orient
25.	LED Street Lights with inbuilt Solar Panel & Controller	Havells / Crompton / Philips / Wipro / Bajaj
26.	Ornamental Pole (Factory Finish)/ Hot Dipped Galvanized Octagonal Pole /High Mast	Valmont / Philips / Crompton / Wipro / Bajaj / Keselec / Singh profile /Transrail
27.	Hot Dipped Galvanized Octagonal Pole /High Mast	Valmont / Philips / Crompton / Wipro / Bajaj / Keselec / Singh profile /Transrail/Utkarsh
28.	Polycarbonate Junction Box / Enclosure / Pole box	Hensel / Spelsberg / Naptune-Bals / Sintex/Standard
B.	**POWER CABLE**	
1.	XLPE insulated PVC sheathed Alum. / Copper Conductor Armored cable of 1.1 KV grade	Finolex / Polycab / KEI / Havells / Grandlay / RR Kabel /Bonton/LAPP/RPG
C.	**HT Cable**	
1.	H.T. cable (ISI marked)	Finolex / CCI / Polycab / KEI / Havells / RR Kabel / Grandlay / LAPP/RPG
D.	**Sub Station Equipments**	
1.	LT Panel / Meter Panel Board/Outdoor Feeder Pillar / APFC Panels (Above 200 Amp Incomer)	Tricolite Electrical Industries / Control & Switchgears Electrical Ltd. / Sterling & Wilson / Milestone / Adlec Control System Pvt. Ltd. / Advance Panels & Switchgear Pvt. Ltd. Haridwar / BSPL (Bhopal)/ Engineers & Engineers (Electricals) Pvt. Ltd. / Peaton Electrical Co. Ltd. /Dynamic Electropower Pvt. Ltd./ Pristine/ Neptune /Pyrotech India Electronic pvt Ltd.Udaipur

2.	LT Panel / Meter Panel Board/Outdoor Feeder Pillar / APFC Panels (Upto 200 Amp Incomer)	Tricolite Electrical Industries / Control & Switchgears Electrical Ltd. / Sterling & Wilson / Milestone / Adlec Control System Pvt. Ltd. / Advance Panels & Switchgear Pvt. Ltd. Haridwar / BSPL (Bhopal)/ Engineers & Engineers (Electricals) Pvt. Ltd. / Peaton Electrical Co. Ltd. /Dynamic Electropower Pvt. Ltd./ ASPL (Associated Switchgears & Projects Ltd.) / Pristine / Neptune /Allied engineers/ Pyrotech India Electronic pvt Ltd.Udaipur/Johns electric co.pvt Ltd Jaipur
3.	Rising main / Bus Trunking	C&S / L&T / Schneider / Legrand / Godrej
4.	Moulded Case Circuit Breaker (MCCB) Thermal Release / Microprocessor based (Ics=Icu=100%)	Schneider Electric (CVS Series) / Siemens (VL Series) / L&T (D-Sine) / Legrand (DPX3) / C&S (Winbreak 1/2) / ABB (TMax) / Hager
5.	Contactor/Relay /Timer	Schneider Electric / L&T / BCH / Siemens / Legrand / ABB / C&S / Hager/
6.	Potential Transformers / Current Transformer	Automatic Electric / Matrix / Precise / L&T / Kappa /Procom
7.	LED type indicating lamps / Push Button	Schneider Electric / L&T / Siemens / Vaishno
8.	Digital Meters (A/V/PF/Hz/KW/KWH)	Conzerv / Larsen & Toubro / Secure / AE / Socomac / Neptune /Hager
9.	Fasteners / GI Clamps	Hilti / Fisher / Chilli /OBO
10.	D.W. Corrugated HDPE Pipe (ISI marked)	REX / Dura plast / Zenduct / Gemini(Triputi)/ Duraline / Keshav Kripa Polyplast (LLP)
11.	Transformer (Oil / Dry type) **Upto 250 KVA**	Crompton / ABB / Raychem / Schneider / Voltamp / Uttam Bharat / United / Bharat Bijlee/RTS-Jaipur
12.	Transformer (Oil / Dry type) Above **250 KVA**	Crompton / ABB / Schneider / Sterling & Wilson / Raychem / Bharat Bijlee /Voltamp
13.	HT Panel / Ring Main Unit	Siemens / ABB / L&T / Schneider / C&S
14.	HT End Termination / Cable Jointing Kit	Reychem / Denson / Cap Seal / Safekei / 3M
15.	ACBs	Siemens (3WL–ETU45B) / L&T (U-Power-OMEGA MTX 4.0) / ABB (Emax)PR122 / Legrand (DMX^3 MP4) / Schneider (MVS Series) / C&S (Winmaster 2/3)
16.	Rubber Mat (MV / HT)	Jyoti / Deep Jyoti / Premier (duly ISI marked)
17.	Fire Extinguishers	Minimax / Safex / Life Guard / Kanex / Omex / Firequip (ISI Mark)
18.	Capacitors & Reactors / APFC Relay	EPCOS/ L&T / DUCATI / ABB / Siemens / Schneider / Neptune
19.	Cable Glands /lugs .	Baliga lighting / Comet / Cosmos / Dowells / Lapp / Gripwell

20.	Perforated Cable Tray	Pilco / Slotco /RMCON/ BEC / Steelways / OBO
21.	SS Wire mesh cable Tray /Raceways	Legrand / OBO / MK
22.	Programmable Logic Controller (PLC)	Siemens / Woodward / Allen / Bradley/ Legrand / OBO / MK-Honeywell
E.	**DG Set**	
1.	Diesel operated Power Generating Engine Upto 200 KVA	Cummins India / Caterpillar / Ashok Leyland / KOEL
2.	Diesel operated Power Generating Engine Above 200 KVA	Cummins India / Caterpillar / KOEL / Volvo Penta
3.	Alternator	Stamford / Lerroy Sommer / Kirloskar Electric / Caterpillar / Crompton Greaves
4.	DG Set Canopy / Enclosure & AMF Panel	As per OEM / OEA of respective DG Set manufacturer
5.	Alarm Annunciator	Advani Oralikon / Larsen & Toubro / Minilec
F.	**Fire Fighting Equipments**	
1.	MS Pipe/GI Pipe	Tata / Jindal Hisar / SAIL
2.	Forged Steel Fittings / Flanges	Johnson Industries / VS Forge / JK Forging / Trueforge
3.	Pipe Hangers	Chilli / Hilti / OBO / Fisher
4.	Gun Metal / Brass / NRV/ Gate Valve/Check Valve/Foot Valve (ISI marked)	Sant / Leader / Advance / Audco / Zoloto/Honeywell
5.	CI Sluice Valve/ Butterfly Valve/ NRV/ Y - Stainer (ISI marked)	Audco / Advance / Kirloskar / Zoloto/Honeywell/Kartar/Kalpna
6.	Fire pump/Jockey pump	Kirloskar/KSB/Matherplatt(Wilo)/Crompton
7.	Electrical Motor	ABB / Siemens / Kirloskar / Grundfos / Crompton / Bharat Bijli/ Matherplatt(Wilo)
8.	Diesel Engine for Fire Pump	KOEL / Ashok Leyland / Cummins
9.	Couplings (Tyre – Type)	Lovejoy / Fenner
10.	Anti Vibration Mountings / Neoprene Gasket	Kanwal Industrial Corporation / Dunlop / GERB / Resistoflex
11.	Pressure Switch (ISI marked)	System Sensor / Indfoss / Danfoss / Switzer
12.	Pressure Gauge (ISI marked)	H Guru / Fiebig / Dwyer/ Hebig/Honeywell
13.	Landing Valve/Fire Hose coupling /First Aid Hose Reel and Drum /Shut of Nozzle /Branch Pipe/Fire Brigade inlet / RRL Hose Pipe / Thermoplastic Pipe (ISI marked)	New Age / Safeguard / Lifeguard / Padmini / Omex / Minimax/Safex
14.	Water Flow Switch (FM / UL listed)	System Sensor / Switzer / Rapid Control / Honeywell/ Danfoss
15.	Pipe coat	Pypcoat / Makphalt / Rustech

16.	Level Controller & Indicator (Water) (ISI Marked)	Auto Pump / Cirrus Engineering / Techtrol
17.	Fire Sealent	Promat / Birla / 3M / Hilti
18.	Single Phase Preventer / Water level guard	Schneider Electric / L&T / Siemens / ABB / Minilec
19.	LT Jointing Kit / Termination	Reychem / Denson / Cap Seal / Safekei / 3M
20.	Batteries	Exide / Rocket / HBL / Pulse / Amco / Amaraja
21.	Battery Charger	Statcon / Amarraja / CDC / AE / Expofyn / Thycon India/ Procom/Microtek
22.	Epoxy Paint	Dulux / Berger / Asian / Nerolac
23.	Air Release Valve	Rb / Tbs / Cimbrio / Zoloto
24.	Solenoid Valve / Spray Nozzle	Parker / HD / Tyco / Emersion / Honey Well
25.	Sprinkler Head	HD / Tyco / Viking / Omex / Easy Flex
26.	SS Flexible Drop	HD / Omex / Newage / Tyco / Lifeguard / Easy Flex
27.	Deluge Valve	Tyco / Viking / HD
G.	**Fire Alarm System**	
1.	Addressable Fire alarm control panel / Repeater panel / multi sensing detector / Fault isolator / Strobe light / Hooter / Manual call box / Response indicator	Johnson Control / Notifier / Siemens / Bosch make
2.	Cat-6 /Cat-6A Cable, Wires & Fiber Optic Cable	Amp / Beldon / Legrand / Krone Communication / Molex
3.	HDMI cable	Lightware/AMx/crestron/Extron
4	Fire retardant cable	Finolex / Polycab / KEI / Havells / Grandlay/ RR Kabel //Bonton/RPG/LAPP
5	Amplifire/Speaker	Bosch/Honeywell/Yamaha/JBL/Shure
H.	**Water Supply Pump Sets**	
1.	Mono Submersible/ Submersible pump Set	KSB / CG / Kirloskar / Grundfos / Mather & Platt (Wilo)
2.	DOL / Star Delta Starter	L&T / BCH / Havells / C&S / Siemens / Schneider
3.	Submersible Cable	Finolex / RR kabel / Polycab / Havells / KEI/ Bonton
I.	**EPABX System**	
1.	EPABX System / Master Console Phone/	Siemens / Cisco / Alcatel / Coral / Panasonic / AVAYA/ Matrix
2.	Analog Telephone instrument	Beetal / Tata / Panasonic/ Seimens
3.	18 SWG Sheet (Chrone Box)	Topaz / Coral / Crown
4.	Constant Voltage Transformer	Topaz / Bhurji / Delta / Servokon
J.	**Air Conditioner & Water Purifier**	
1.	Split Air Conditioner	Mitshubshi Electric / Mitshubshi Heavy Industries / O General / Daikin / Hitachi
2.	Window Type Air Conditioner	O General / Voltas / Carrier / Blue Star
3.	Voltage Stablizer	V Guard / Blue Bird / Voltas / Servocon
4.	RO / Water Purifier	Kent / Ion Exchange / Aquaguard (Eureka Forbes)/ Havells
5.	Drinking Water cooler	Voltas / Blue Star / Usha

K.	**Solar Water Heating System**	
	Solar Water Heating System	Inter solar / Racold / BHEL / Electrotherm / Rashmi/V-guard/Emmvee Solar
L.	**CCTV System**	
1.	IP based Camera (All type) / NVR / Server	Bosch / Pelco / Axis / Sony / Tyco / Honeywell
2.	Conventional Camera/Connect (Dome / PTZ / Bullet / C-mount type)	Bosch / Honeywell / Pelco / Axis / Tyco / Sony
3.	Managed Networking layer Switch	Cisco / DLink / Extreme / Fortinet / Ruckus/HP/Netgear
4.	U Rack	Valrack(Legrand) / EOM Rack / Belchem /Comrack/ Vertiv
M.	**Uninterrupted Power Supply (UPS)**	
1.	Online / Offline UPS	Vertiv / Numeric / Peaguses (Auto Meter)/ Socomac/Eaton/Schneider
2.	SMF Batteries	Exide/Amron/Rocket/HBL/Pulse/Amco/ Amaraja
N.	**Solar Power Generation System**	
1	Solar Power Generation System	REIL / BHEL / BEL / CEL / REC / SOLON / VIKRAM / ABB / Havells
2	Junction Box	VNT / SUN GARNER / OEM of SPV Modules
3	SPV Inverter	Sungrow / Delta / SMA / ABB
4	Module Mounting Structure	As per MNRE / Manufactures Standards
5	XLPE Aluminium / Copper Cable	Finolex / Universal / Nicco / RPG Cables / KEI / Grandlay/LAPP / Polycab
6	Solar Cable XLPO Insulated (DC)	RR Kabel / Polycab / Havells / Finolex / Lapp
O.	**LED TV**	LG / Samsung / Panasonic / Toshiba / Sony
P.	**VRV/VRF System**	
1	Indoor/Outdoor Unit	O-General/Mitsubishi Heavy/Mitsubishi Electric / Hitachi/ Daikin
2	Copper Pipe	Total line/Mandev/Rajko/Diamond/Star/Camipro
3	CPVC pipe	Ashirwad/Supreme/Astral/Prayag
4	GSS Sheet (For site fabricated duct)	SAIL/Jindal/Tata
5	Aluminium Sheet	Hindalco/Balco/Nalco
6	Flexible duct/Company fabricated duct	Waves/Zeco/Ductofab/Airflow/Caryaire/ Atco
7	Supply/Return Grill/diffuser	Airflow/Trox/Dynacfaft/ Caryaire/Matejoints

Note- Any item of make other then above said will be got approved by Engineer-in-chargebefore brought at site.