

# ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

("ವಿ ಟಿ ಯು ಅಧಿನಿಯಮ ೧೯೯೪" ರ ಅಡಿಯಲ್ಲಿ, ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ")

## *Visvesvaraya Technological University*

"Jnana Sangama", BELAGAVI – 590 018, Karnataka



*Name of the work: Setting up of 100KWp roof top solar power plant at Post Graduate Centre, Muddenahalli.*

*(K/W 2 Format).*

Contractor With Seal  
and Signature

Registrar  
V.T.U., Belagavi

## ELIGIBILITY CRITERIA

In continuation to the terms and conditions of the Tender Notification following are the additional qualifying requirements from the Bidder. Bidder should submit the tender documents in the following manner only.

1. The tender should possess a valid firm registration certificate.
2. Bid shall be accompanied by Earnest Money Deposit (EMD) for an amount of ₹ 0.00. EMD payable along with tender document on the e-procurement portal as per e-procurement rules.
3. **The Bidder should have executed similar nature of single work not costing less than 50% amount put to tender. The agency should have supplied, installed, tested and commissioned single work of not less than 50KW roof top solar power plant.**
4. Bidder should submit list of minimum Govt./Semi Govt. customers where Solar Roof Top Installation has been Executed in India.
5. The Bidder should have at least 5 years experience of supplying and installing roof top solar power plant.
6. Bidder should have manufacturing unit/registered office/service center in Karnataka.
7. The Tenderer should furnish Manufacturers Authorization Forms (MAF) for PV modules from the OEM (Original Equipment Manufacturer) and MAF should be taken specifically for this work.
8. The Tenderer should furnish Manufacturers Authorization Forms (MAF) for invertors from the OEM (Original Equipment Manufacturer) and MAF should be taken specifically for this work.
9. The Bidder should submit balance sheet statement obtained from C.A, including for the last 5 years and should also submit Income Tax and Sales Tax Clearance Certificate from the competent authority. The bidder transaction for financial year 2016-17, 2017-18, 2018-2019, 2019-2020 and 2020-2021 shall be minimum of Rs 2 Crores Per Annum.
10. Bid shall be accompanied by attested copies of clearance certificate from Income Tax (PAN), Sales Tax, Service Tax and Quote KST/VAT/GST registration numbers if any.
11. Bids shall be accompanied by authenticated work certificates for executing similar nature of works in the last five years in any Government/Quassi Government, Universities or any other organisations/reputed firms. The agency should have supplied and installed single work of not less than 50 KW roof top solar power plant either on CAPEX/ OPEX (RESCO) Model.
12. Bids shall be accompanied by certificates whether the bidder has completed the work well within stipulated time or not.

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## SCOPE OF WORK

- 1. Scope of work:** The scope of the work is supplying, installing, testing and commissioning of 100 KW roof top solar power plant (Grid connected) at PG centre, VIAT Campus, Muddenahalli. This includes insuring, transportation, loading and unloading of all materials/equipments for the above work required for the above work. The buildings identified for the above work are D2 & D3 Block. The bidder shall ensure that proper water treatment on the rooftops of buildings is provided at the time of installation of structure for mounting PV solar panels on roof tops. Further, if there are any water leakages in future during the warranty period (i.e. 5 years) in any of the buildings where the roof top solar panels are installed, then the bidder shall dismantle the roof top solar panels for water proofing and reinstall the solar panel once the water proofing work is done satisfactorily. The bidder shall bear the cost towards both dismantling and reinstallation of the solar panels in these buildings in such case. Further, if the water leakage in the rooftop is due to the installation of solar panels, then the water proofing cost shall also be borne by the bidder only. The bidder has identified only such buildings where future expansion is not present. However, due to unavoidable circumstance in future if the VISVESVARYA TECHNOLOGICAL UNIVERSITY, MUDDENAHALLI intends to expand/construct other floor in the warranty period, then the bidder shall dismantle the solar panels in such buildings and reinstall the same in any other location shown by VTU or reinstall on top of the new roof top of the same building as a cost agreed by both parties.
- 2.** In case of any dispensary being noticed in these conditions, specifications, quantities in the schedule, the tenderer, at the time of filling the tender, shall report and get clarified the same. A suitable clarification then shall be issued to all the concerned tenders by way of a circular. In case none of the tenders report such of the discrepancies, then such discrepancy shall not be entertained. But, if such of the discrepancy that are brought to the notice of the VTU, they shall be set right by the contractor at his cost in favour of VTU to maintain the highest degree of construction standards and decision of the VTU is final and binding on the contractor.
- 3. Field conditions:** The contractor shall inspect the field or site of execution of the work Post Graduate Centre, Muddenahalli to understand the field or site conditions for assessing the time schedule and the manner of execution the work. The expenditure towards assessment of the field conditions/site shall be the whole and sole responsibility of the bidder. VTU shall not make any payments towards the same.
- 4. Procurement of materials:** In General, the contractor is responsible for procuring, insuring, bringing to work, storing, maintaining and protecting all materials/equipments etc complete.
- 5. Time being the essence of the contract:** Completion of work is time bound program. The contractor should submit his action plan and work schedule in full detail to enable VTU to assess the feasibility of the same. If the contractor is not in a position to complete the work in time the VTU is at its full liberty to split the work and award to other agencies who may have to work side to side and independently.

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6. **Co-ordination of work with other agencies:** The contractor shall carry out his work in such a way that his activities do not come in the way of other contract agencies that are already working in the site. Proper coordination's with such of the other agencies shall be the contractor responsibility and the contractor shall ensure that the work of other contractor working for VTU is not held up due to non completion of his portion of works. In case of dispute the decision of the Engineer-in-charge of VTU shall be final and binding on the contractor.
7. **Statutory Regulations:** The contractor shall abide by all the statutory provisions related to the work and to the regulations, byelaws of any authority/authorities under whose jurisdiction the work falls.
8. **Materials and equipment:** All materials being used in the work shall conform to the relevant IS standards and shall be of approved makes/design and as mentioned in the bill of quantities. Unless, otherwise called for only, the best quality materials and equipments shall be used. The contractor shall be responsible for the safe custody of all the materials and insure against theft, damage of fire, natural calamities and also against riots, etc.
9. **Completion certificate:** The contractor shall furnish the completion report of the works after completing the works duly certified by the Licensed Electrical supervisor under whose direct supervision the work is carried out. Further, the tenderer should get the clearance certificate from the Chief Electrical Inspectorate's office for commissioning the roof top solar power plant.
16. The rates shall be inclusive of all taxes (GST), duties, octroi etc complete. Any variations in all taxes and duties etc shall be borne by the contractor. Taxes will be deducted as per prevailing norms.
17. **Statutory deductions like difference in EMD if any, security deposit, GST, income tax, surcharge on income tax, education cess on income tax etc shall be done as per norms prevailing from time to time.**
18. **No advance payment shall be done for the above work. The payments shall be done only after completion of the above work in all respects. 95% will be released against completion of the work. Further 1% shall be released at end of every year for 5 years against O&M works.**
19. **Further, the payments will done only after getting approval from Electrical Inspectorate.**
20. **The Defect Liability period for roof top solar power plant are for a 60 Calender months from the date of completion of works.**

**Important Note: This tender is through e-Procurement only and the clauses pertaining to manual tendering are changed accordingly. Payment for BOQ & EMD, submission of all tender documents etc are through e-Procurement (online) only and no hard copy of the same shall be accepted at the university or elsewhere. All the terms and conditions relevant to the e-Procurement only are to be followed and rest may not be followed. Please Note.**



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Visvesvaraya Technological University  
“Jnana Sangama”, BELAGAVI – 590 018, Karnataka State

Dr. A.S. Deshpande B.E., M.Tech., Ph.D..  
Registrar

Phone No: (0831) 2405468  
Fax No: (0831) 2405467

Ref. No. VTU/BGM/RE/JE/ELECT/2021-22/IFT NO. 20/4624

Dated: 24-12-2021

**Tender for setting up of 100KWp roof top solar power plant at Post Graduate Centre, Muddenahalli.**

**IFT No: Ref:** VTU/BGM/RE/JE/ELECT/2021-22/IFT NO. 20/4624 dated 24-12-2021.

<b>Tender Documents Available in e-portal</b>	03-01-2022 from 5.00 P.M.
<b>Last date for receipt of tender (Technical Bid)</b>	18-01-2022 up to 16.00 Hours
<b>Date &amp; time of opening of the Tender (Financial Bid)</b>	25-01-2022 up to 16.00 Hours (Tentatively)
<b>Address for communication</b>	The Registrar Visvesvaraya Technological University, “Jnana Sangama” Belagavi – 590 018

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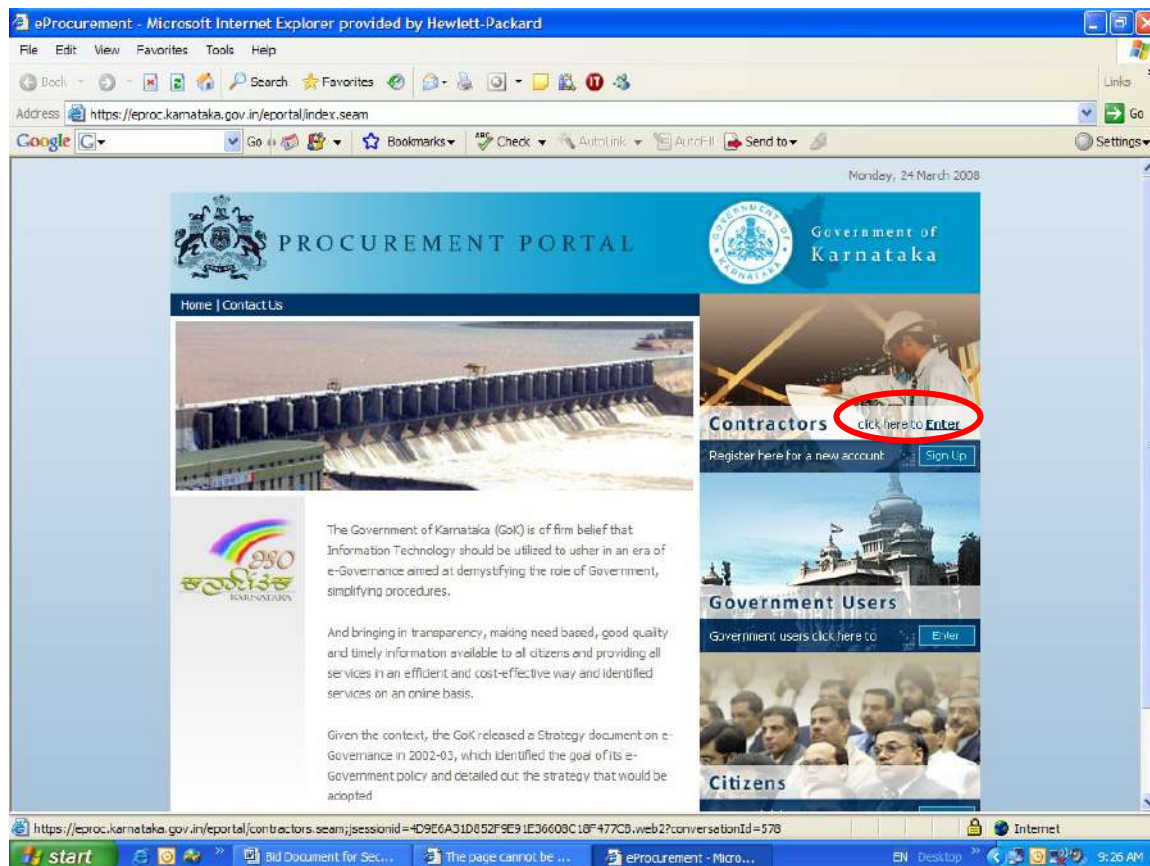
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## SECTION 1: INVITATION FOR TENDERS (IFT)

### Dates: Please refer e-procurement portal

1. The Registrar, VTU, Belagavi invites tenders from eligible tenderers for the construction of works detailed in the Table below. The tenderers may submit tenders for any or all of the works given in the Table. **Two Cover Tender procedure as per Rule 28 of the KTPP Act shall be followed. The Tenders are required to submit two separate sealed covers, one containing the Earnest money deposit and the details of their capability to undertake the tender (as detailed in ITT Clause 3 and 6), which will be opened first and the second cover containing the price tender which will be opened only if the Tenderer is found to be qualified to execute the tendered works. The Tenderers are advised to note the minimum qualification criteria specified in Clause 3 of the Instructions to Tenderers to qualify for award of the contract.**
2. Tender documents may be downloaded from Government of Karnataka e-Procurement website <https://eproc.karnataka.gov.in/eportal/index.seam> under login for Contractors:

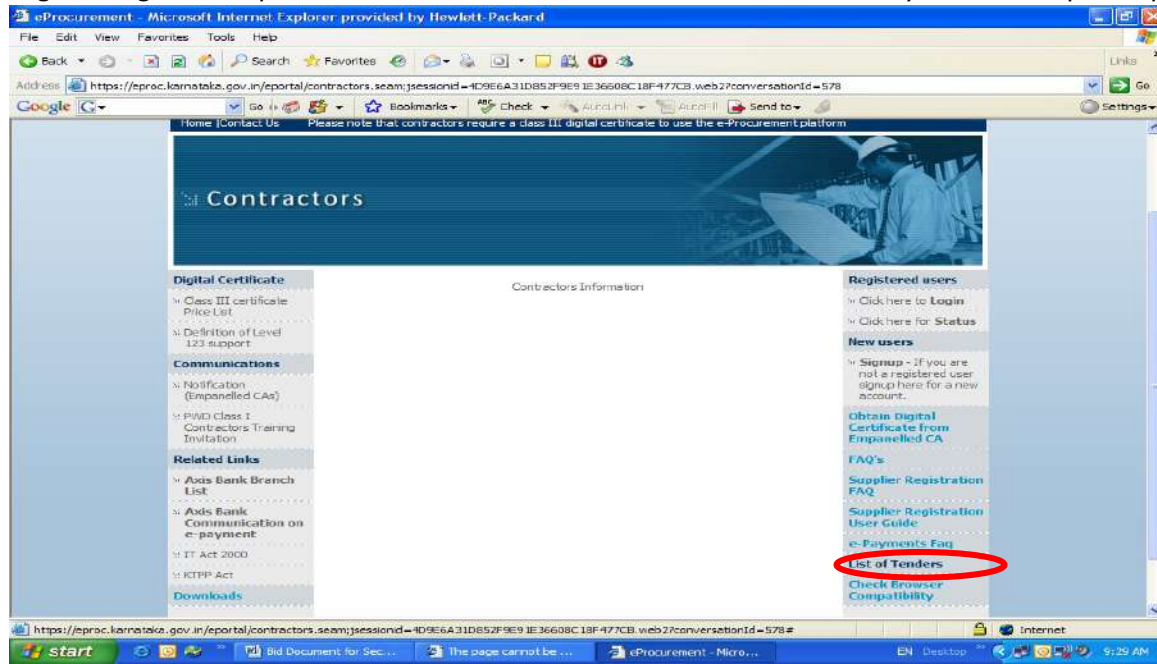


After login to Contractors, Please scroll down to the right side bottom to see List of Tenders, Please click there to find the details of NIT and download copy of the tender. The tender can be downloaded in the portal as per prescribed date and time published in the portal. Only Interested

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Contractors who wish to participate should remit online transaction fee for tender after registering in the portal . The transaction fee is non-refundable if you wish to participate .



3. Tenders must be accompanied by earnest money deposit which will paid online through e-Procurement portal .
4. Tenders must be electronically submitted (on-line through internet) within the date and time published in e-procurement portal. First Cover Tenders will be opened at prescribed time and date in the e-procurement portal, in the presence of the Tenderers who wish to attend at the Office of the Registrar, VTU, Jnana Sangama, Belagavi.
5. A Pre-tender meeting will be held at published time and place in e-procurement portal to clarify the issues if any, and to answer questions on any matter that may be raised at that stage as stated in Clause 8.2 of 'Instructions to Tenderer's of the tender document.
6. Other details can be seen in the tender documents.

**TABLE**

S. No.	Name of work	Approximate value of work (Rs.In Lakhs)	Earnest Money Deposit (Rs.In Lakhs)	Transaction fee, only in case Tenderers who wish to participate.	Period of completion including monsoon	Contractor eligibility
1	2	3	4	5	6	7
1	Setting up of 100KWp roof top solar power plant at Post Graduate Centre, Muddenahalli	47.21	0.00	As per e-portal	4 Months	Registered Contractor/Firms/Agencies

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## **SECTION 2: INSTRUCTIONS TO TENDERERS (ITT)**

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## **A. General**

### **1. Scope of Tender**

- 1.1 The Registrar, VTU, Belgaum (Referred to as Employer in these documents) invites tenders following Two Cover tender procedure, from eligible Tenderers, for the construction of works (as defined in these documents and referred to as "the works") detailed in the Table given in the Invitation for Tenders (IFT). The Tenderers may submit tenders for any or all of the works detailed in the table given in IFT.

### **2. Eligible Tenderers**

- 2.1 Tenderers shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Government of Karnataka

### **2.2 Tenders from Joint ventures are not acceptable.**

### **3. Qualification of the Tenderer:**

- 3.1 All Tenderers shall provide the requested information accurately and in sufficient detail in Section 3: Qualification information.
- 3.2 To qualify for award of this contract, each Tenderer in his name should have in the last five years i.e., 2012-13, 2013-14, 2014-15, 2015-16 & 2016-17 & should have MoU with reputed registered Solar panel manufacturers/.
  - a achieved in at least two financial years a minimum annual financial turnover (in all cases of civil engineering construction works only) of **Rs 23.6 Lakhs,**
  - b Mandating satisfactory completion as prime contractor for at least one similar work of value not less than **Rs 23.6 Lakhs and 50 KW roof top solar power plant.**
  - c executed in any one year, (for a continuous period of 12 months) the following minimum quantities of work:
    - d) Tenderer or his identified sub-contractor should possess required valid electrical license for executing building electrification works and should have executed similar electrical works totaling Rs..... (usually not less than 50% of the electrical works) in any one year - **Deleted**
    - e) The Tenderer or his identified sub-contractor should possess valid license for executing water supply/sanitary engineering works and should have executed similar water supply/sanitary engineering works totaling Rs..... (usually not less than 50% of the water supply/sanitary engineering works)\* in any one year - **Deleted**
- 3.3 Each Tenderer should further demonstrate: the following equipments
  - (a) Availability by owning the required key and critical equipment for this work.  
Availability by owning at-least 50% of the required / specified key and critical equipment for this work and the remaining 50% can be deployed on lease / hire basis for all works provided, the relevant documents (commitment agreements etc.,) for availability for this work are furnished.

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(b) liquid assets availability of credit facilities of not less than **Rs. 47.21 Lakhs** (Credit lines/ letter of credit/ certificates from banks for meeting the fund requirement etc)

- 3.4 To qualify for a package of contracts made up of this and other contracts for which tenders are invited in this IFT, the Tenderer must demonstrate having experience and resources to meet the aggregate of the qualifying criteria for the individual contracts.
- 3.5 Sub-contractors' experience and resources shall not be taken into account in determining the Tenderer's compliance with the qualifying criteria except to the extent stated in 3.2 (d) and (e) above.
- 3.6 Tenderers who meet the above specified minimum qualifying criteria, will only be qualified, if their available tender capacity is more than the total tender value. The available tender capacity will be calculated as under:

$$\text{Assessed available tender capacity} = ( A*N*1.5 - B )$$

where

A = Maximum value of works executed in any one year during the last five years (updated to 2020-21 price level) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which tenders are invited.

B = Value, at 2020-21 price level, of existing commitments and on-going works to be completed during the **next 6 Months**.

**Note:** *The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Employer in charge, not below the rank of an Executive Engineer or equivalent.*

- 3.7 Even though the Tenderers meet the above criteria, they are subject to be disqualified if they have:
- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
  - record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
  - participated in the previous Tender for the same work and had quoted unreasonably high tender prices and could not furnish rational justification.
4. One Tender per Tenderer:
- 4.1 Each tenderer shall submit only one tender for one package. A tenderer who submits or participates in more than one Tender (other than as a sub-contractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Tenderer's participation to be disqualified.

## **5. Cost of Tendering:**

5.1 The tenderer shall bear all costs associated with the preparation and submission of his tender, and the Employer will in no case be responsible and liable for those costs.

6. Site visit:

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**6.1 The Tenderer at his own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for construction of the Works. The cost of visiting the Site shall be at the Tenderer's own expense.**

B. Tender documents

**7. Content of Tender documents**

- 7.1 The set of tender documents shall have all the Sections given in Page 2:
- 7.2 Both the sets should be completed and returned with the tender.

**8. Clarification of Tender Documents**

8.1 A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by cable (hereinafter "cable" includes telex and facsimile) at the Employer's address indicated in the invitation to tender. The Employer will respond to any request for clarification which he receives earlier than 15 days prior to the deadline for submission of tenders. Copies of the Employer's response will be forwarded to all purchasers of the tender documents, including a description of the enquiry but without identifying its source.

**8.2 Pre-tender meeting:**

- 8.2.1 The tenderer or his authorized representative is invited to attend a pre-tender meeting which will take place at Office of The Registrar, VTU, Belagavi as date notified in e-procurement portal.
- 8.2.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage
- 8.2.3 The tenderer is requested to submit any questions in writing or by cable to reach the Employer not later than one week before the meeting.
- 8.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be transmitted without delay to all purchasers of the tender documents. Any modification of the tender documents listed in Sub-Clause 7.1 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 9 and not through the minutes of the pre-tender meeting.
- 8.2.5 Non-attendance at the pre-tender meeting will not be a cause for disqualification of a tenderer.

**C. Preparation of Tenders**

**10. Documents comprising the Tender**

10.1 The tender submitted by the Tenderer shall be in two covers and shall contain the documents as follows: :

**10.1.1 First Cover: ( Only online )**

- (a) Earnest Money Deposit; on line payment through e-Procurement platform.
- (c) Qualification Information as per formats given in Section 3;
- (d) Tender transaction fee. Online payment through e-Procurement platform.
- (e) General eligibility criteria.

**10.1.2 Second Cover: ( Only online )**

- (a) The Tender (in the format indicated in Section 4)
- (b) Priced Bill of Quantities (Section 9); online through e-procurement portal, no hardcopy of commercials should be attached or disclosed.

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and any other materials required to be completed and submitted by Tenderers in accordance with these instructions. The documents listed under Sections 3, 4, 6 and 9 shall be filled in without exception.

- 10.2 Tenderers submitting tenders together with other contracts stated in the IFT to form a package will so indicate in the tender together with any discounts offered for the award of more than one contract.

## 11. Tender prices

- 11.1 The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Tenderer.
- 11.2 The Tenderer shall fill in rates and prices and line item total (both in figures and words) for all items of the Works described in the Bill of Quantities along with total tender price (both in figures and words). **Items for which no rate or price is entered by the Tenderer will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. Corrections, if any, shall be made online only before the submission of the bid.**
- 11.3 All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause, shall be included in the rates, prices and total Tender Price submitted by the Tenderer.
- 11.4 The rates and prices quoted by the Tenderer shall be subject to adjustment during the performance of the Contract in accordance with the provisions of Clause of the Conditions of Contract

## 12. Tender validity

- 12.1 Tenders shall remain valid for a period not less than ninety days after the deadline date for tender submission specified in Clause 16. A tender valid for a shorter period shall be rejected by the Employer as non-responsive.
- 12.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the Tenderers may extend the period of validity for a specified additional period. The request and the Tenderers' responses shall be made in writing or by cable. A Tenderer may refuse the request without forfeiting his earnest money deposit. A Tenderer agreeing to the request will not be required or permitted to modify his tender, but will be required to extend the validity of his earnest money deposit for a period of the extension, and in compliance with Clause 13 in all respects.

## 13. Earnest money deposit

### 13.1 Earnest Money Deposit/ Bid security (Not applicable for this tender)

The tenderer shall furnish as part of his tender, Earnest Money Deposit (EMD) at the following rates. ( EMD) amount as % of the estimated cost of the work put to tender

1. Upto Rs. 20 lakh – 2.5%
2. Rs. 20 lakhs and above upto Rs. 1 Crore – 2% subject to minimum of Rs. 50,000/-
3. Rs. 1 crore and above upto Rs. 10 Crore – 1.5% subject to a minimum of Rs. 2,00,000/-
4. Rs. 10 crore and above – 1% subject to minimum of Rs. 15,00,000/-

The supplier/contractor can pay the Earnest Money Deposit (EMD) in the e-Procurement portal using any of the following payment modes:

- Credit Card
- Direct Debit

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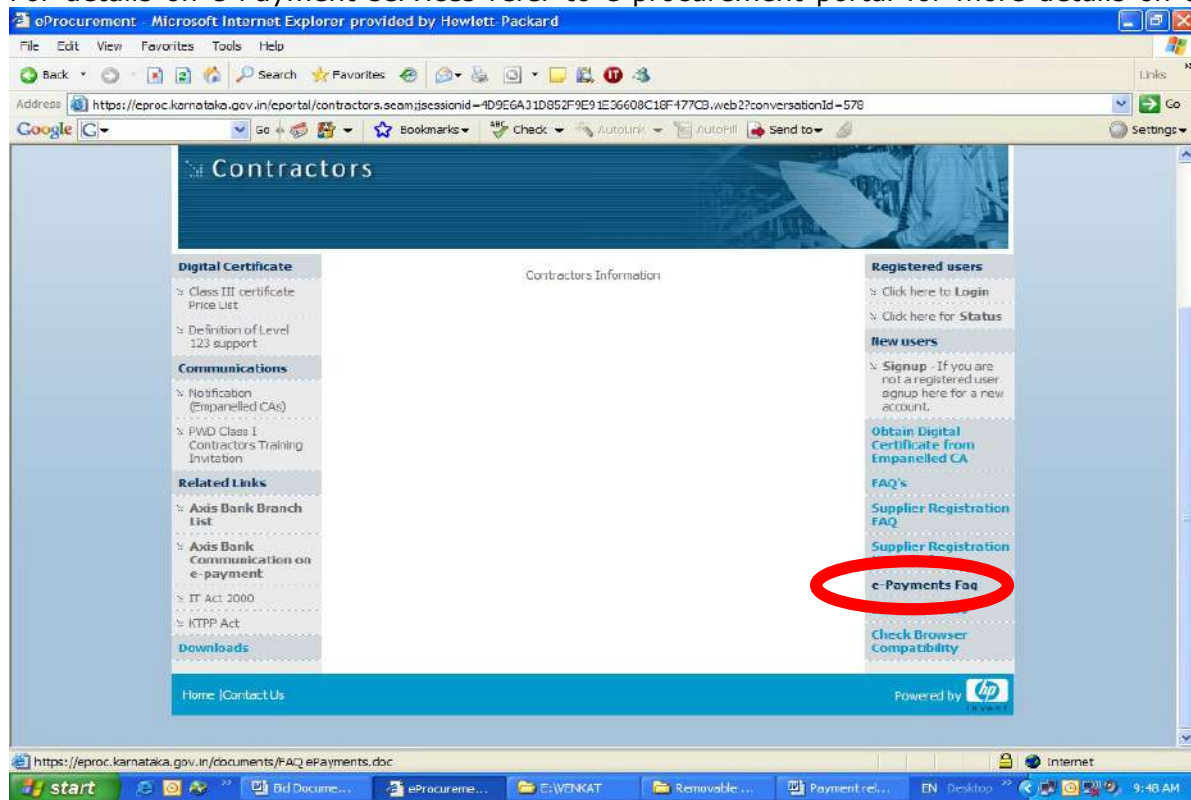
- National Electronic Fund Transfer (NEFT)
- Over the Counter (OTC)

The supplier/contractor's bid will be evaluated only on confirmation of receipt of the payment (EMD) in the Government of Karnataka central pooling a/c. EMD amount will have to be submitted by the supplier/contractor taking into account the following conditions:

a. EMD will be accepted only in the form of electronic cash of One Lakh Rupees of the specified EMD amount, Bank Guarantee must be given for the remaining amount in prescribed format. The copy of the Bank Guarantee must be scanned and submitted along with the Technical bid. The original should be produced during opening of Technical bid.

b. The entire EMD amount for a particular tender has to be paid in a single transaction. It is responsibility of Contractors to ensure that payment through NEFT reaches Payment to Government of Karnataka Bank before Bid submission date and time, through online payment. In case of OTC Payment, the DD to be drawn in favour of " e-Procurement, Government of Karnataka " and submit to Axis Bank before bid submission time and up date the transaction reference in e-Procurement portal.

For details on e-Payment services refer to e-procurement portal for more details on the process.



## Refund of EMD

Based on the instructions of Tender Accepting Authority (TAA) the EMD amount of the unsuccessful bidders will be refunded to the respective Bank a/c's of the supplier/contractor registered in the e-Procurement system.

13.2 Instruments having fixed validity issued as earnest money deposit for the tender shall be valid for 45 days **beyond** the validity of the tender.

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- 13.3 Any tender not accompanied by an acceptable earnest money deposit and not secured as indicated in Sub-Clauses 9.1 and 9.2 above shall be rejected by the Employer as non-responsive.
- 13.4 The earnest money deposit of unsuccessful Tenderers will be returned within 30 days of the end of the tender validity period specified in Sub-Clause 8.1.
- 13.5 The earnest money deposit of the successful Tenderer will be discharged when the Tenderer has signed the Agreement and furnished the required Performance Security.
- 13.6 The earnest money deposit may be forfeited:
- (a) if the Tenderer withdraws the Tender after tender opening during the period of tender validity;
  - (b) if the Tenderer does not accept the correction of the Tender Price, pursuant to Clause 19; or
  - (c) in the case of a successful Tenderer, if the Tenderer fails within the specified time limit to
    - (i) sign the Agreement; or
    - (ii) furnish the required Security deposit

#### **14. Format and signing of Tender**

Tenderer shall submit the Bid electronically before the submission date and time published in e-procurement portal.

#### **D. Submission of Tenders**

15. Tenderer shall submit the Bid electronically before the submission date and time published .

#### **16. Deadline for submission of the Tenders**

The Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Clause 9, in which case all rights and obligations of the Employer and the Tenderers previously subject to the original deadline will then be subject to the new deadline.

#### **17. Late Tenders**

- 17.1 In online e-procurement system , you shall not be able to submit the bid after the bid submission time and date as the icon or the task in the e-procurement portal will not be available.

#### **18. Modification and Withdrawal of Tenders**

**Tender has all the time to modify and correct or upload any relevant document in the portal till Bid submission date and time ,as published in the e-procurement portal.**

#### **E- Tender opening and evaluation**

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## **19. Opening of First Cover of all Tenders and evaluation to determine qualified Tenderers:**

- 19.1 The Employer will open online the First Covers of all the Tenders received through e-procurement portal, in the presence of the Tenderers or their representatives who choose to attend at 16.30 hours on the date and the place specified in the e-procurement portal. In the event of the specified date of Tender opening being declared a holiday for the Employer, the Tenders will be opened at the appointed time and location on the next working day.
- 19.2 The Tenderers names, the presence or absence of earnest money deposit (amount, format and validity), the submission of qualification information and such other information as the Employer may consider appropriate will be announced by the Employer at the opening.
- 19.3 The Employer shall prepare minutes of the Tender opening, including the information disclosed to those present in accordance with Sub-Clause 19.3.
- 19.4 The Second Cover of all the Tenderers including modifications for Second Cover shall be placed in a large cover and securely sealed in the presence of the tenderers or their representatives, who are present and also get the same signed by all those tenderers or their representatives. The large cover shall be kept in safe custody by the Employer.
- 19.5 The Employer will evaluate and determine whether each tender (a) meets the eligibility criteria defined in ITT Clause 2; (b) is accompanied by the required earnest money deposit as per stipulations in ITT Clause and (c) meets the minimum qualification criteria stipulated in ITT Clause 3. The Employer will draw out a list of qualified Tenderers

### **3.7 Opening of Second Cover of qualified Tenderers and evaluation:**

- 20.1 The Employer will inform all the Qualified Tenderers the time, date and venue fixed for the opening of the Second Cover containing the priced Tenders. The Employer will open online the Second Covers of Qualified Tenderers at the appointed time and date ( as indicated in the e-Procurement Portal ) in the presence of the Tenders or their representatives who choose to attend. In the event of the specified date of Second Cover opening being declared a holiday for the Employer, the Second Covers will be opened at the appointed time and location on the next working day.
- 20.2 The Employer shall prepare minutes of the Second Cover Tender opening.

## **21. Process to be confidential**

- 21.1 Information relating to the examination, clarification, evaluation, and comparison of Tenders and recommendations for the award of a contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced. Any effort by a Tenderer to influence the Employer's processing of Tenders or award decisions may result in the rejection of his Tender.

## **22 Clarification of Tenders**

- 22.1 To assist in the examination, evaluation, and comparison of Tenders, the Employer may, at his discretion, ask any Tenderer for clarification of his Tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Tender shall be sought, offered, or permitted .
- 22.2 Subject to sub-clause 22.1, no Tenderer shall contact the Employer on any matter relating to its Tender from the time of the Tender opening to the time the contract is awarded. If the Tenderer wishes to bring additional information to the notice of the Employer, it should do so in writing.
- 22.3 Any effort by the Tenderer to influence the Employer in the Employer's Tender evaluation, Tender comparison or contract award decisions may result in the rejection of the Tenderers' Tender.

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### **23. Examination of Tenders and determination of responsiveness**

- 23.1 Prior to the detailed evaluation of Tenders, the Employer will determine whether each Tender; (a) has digitally signed; and; (b) is substantially responsive to the requirements of the Tender documents.
- 23.2 A substantially responsive Tender is one which conforms to all the terms, conditions, and specifications of the Tender documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Tender documents, the Employer's rights or the Tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Tenderers presenting substantially responsive Tenders.
- 23.3 If a Tender is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

### **24 Correction of errors**

- 24.1 Tenders determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:
- (a) where there is a discrepancy between the rates in figures and in words, the lower of the two will govern; and
  - (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.
- 24.2 The amount stated in the Tender will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Tenderer, shall be considered as binding upon the Tenderer. If the Tenderer does not accept the corrected amount the Tender will be rejected, and the earnest money deposit may be forfeited in accordance with Sub-Clause 13.6 (b).

### **25. Evaluation and comparison of Tenders**

- 25.1 The Employer will evaluate and compare only the Tenders determined to be substantially responsive in accordance with Clause 23.
- 25.2 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the Tender documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Tender evaluation.
- 25.3 The estimated effect of the price adjustment conditions under Special conditions of contract (F) Clause-41, during the implementation of the Contract, will not be taken into account in tender Evaluation.
- 25.4 If the tender of the successful tenderer is seriously unbalanced in relation to the Employer's estimate of the cost of the work to be performed under the contract, the Employer may require the Tenderer to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 29 be increased at the expense of the successful Tenderer to a level sufficient to protect the Employer against financial loss in the event of default of the successful under the contract.

## **F. Award of Contract**

### **26. Award criteria**

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26.1 Subject to Clause 27, the Employer will award the Contract to the Tenderer whose Tender has been determined to be substantially responsive to the Tender documents and who has offered the lowest evaluated Tender Price, provided that such Tenderer has been determined to be (a) eligible in accordance with the provisions of Clause 2, and (b) qualified in accordance with the provisions of Clause 3.

## **27. Employer's right to accept any Tender and to reject any or all Tenders**

27.1 Notwithstanding Clause 26, the Employer reserves the right to accept or reject any Tender, and to cancel the Tender process and reject all Tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the grounds for the Employer's action.

## **28. Notification of award and signing of Agreement**

28.1 The Tenderer whose Tender has been accepted will be notified of the award by the Employer prior to expiration of the Tender validity period by, e-mail or facsimile or e-procurement portal or through letter . This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

28.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of Security deposit in accordance with the provisions of Clause 29.

28.3 The Agreement will incorporate all agreements between the Employer and the successful Tenderer. It will be kept ready for signature of the successful Tenderer in the office of Employer within 30 days following the notification of award along with the Letter of Acceptance. Within 20 days of receipt, the successful Tenderer will sign the Agreement and deliver it to the Employer.

28.4 Upon the furnishing by the successful Tenderer of the Performance Security, the Employer will promptly notify the other Tenderers that their Tenders have been unsuccessful.

## **29. Performance security**

29.1 **Within 20 days of receipt of the Letter of Acceptance, the successful Tenderer shall deliver to the Employer a Security deposit in any of the forms given below for an amount equivalent to 5% of the Contract price plus additional security deposit for unbalanced tenders in accordance with clause 25.5 of ITT and clause 44 of the conditions of contract for all works.:**

- A bank guarantee in the form given in Section 10 in favour of **Finance Officer, VTU, Jnanna Sangama Belagavi payable at Belagavi.**

29.2 If the security deposit is provided by the successful Tenderer in the form of a Bank Guarantee, it shall be issued either by a Nationalized/Scheduled bank.

29.3 The security deposit if furnished in demand draft can, if requested, be converted to interest bearing securities at the cost of the contractor.

29.4 Failure of the successful Tenderer to comply with the requirements of Sub-Clause 29.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Earnest money deposit.

## **30 Advance Payment and Security:**

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30.1 The Employer will provide an advance payment on the contract price as stipulated in the Conditions of Contract, subject to the maximum amount as stated in the Contract Data. - **Deleted**

**31. Corrupt or Fraudulent practices**

- 31.1 The GOK requires that the Tenderers/Suppliers/Contractors, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, GOK :
- (a) will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
  - (b) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a GOK contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a GOK contract.
- 31.2 Further more, Tenderers shall be aware of the provision stated in sub-clause 50.2 of the Conditions of Contract.

**SECTION 3: QUALIFICATION INFORMATION**

The information to be filled in by the Tenderer hereunder will be used for purposes of computing Tender capacity as provided for in Clause 3 of the Instructions to Tenderers. This information will not be incorporated in the Contract.

- 1.1 Constitution or legal status of Tenderer [Attach copy]  
 1.2 Place of Registration \_\_\_\_\_  
 (Attach Copy)
- Principal place of business: \_\_\_\_\_
- 1.2 Total value of works executed and payments received in the last five years (in Rs. Lakhs)
- |  |           |  |
|--|-----------|--|
|  | 2014 - 15 |  |
|  | 2015 - 16 |  |
|  | 2016 - 17 |  |
|  | 2017 - 18 |  |
|  | 2018 - 19 |  |
- (Duly attested by the employer / C.A.)**
- 1.3 Work performed as Prime Contractor (in the same name) on works of similar nature over during the five years specified in 1.2 above.

Project Name	Name of Employer	Date of completion Work	Description of Remarks explaining reasons for delay in completion of work	Contract Number	Value of contract	Date of issue of order	Specified period of	Actual
1	2	3	4	5	6	7	8	9

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1.4 Quantities of work executed as prime contractor (in the same name) during the last five years specified in 1.2 above:

Year	Name of Work	Name of Employer	Quantity of work performed ( As per Clause 3.2 (C))			Remarks (Indicate contract reference)
			Cement Concrete	Masonry	Earth work	
2014-15						
2015-16						
2016-17						
2017-18						
2018-19						

1.5 Information on works for which Tenders have been submitted and works which are yet to be completed as on the date of this Tender.

(A) Existing commitments and on-going works:

Value of works of Work	Description & State	Place & Date Anticipated	Contract No. and Address of Employer	Name Contract (Rs. lakhs)	period of completion	Value of remaining to be completed (Rs. lakhs)	Stipulated date of completion
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

The contractor shall enclose / attach all the necessary documents / certificates dully attested by the employer

(B) Works for which Tenders already submitted:

Description of Work	Place & State	Name and Address of Employer	Estimated value of works (Rs. lakhs)	Stipulated period of completion	Date-when decision is expected	Remarks if any
(1)	(2)	(3)	(4)	(5)	(6)	(7)

1.6. The following items of equipment are considered essential for successfully carrying out the works. The

Tenderer should furnish all the information listed below.

Item of Equipment	Requirement			Remarks	Owned and available	
	No.	Capacity	Owned		Number/ Capacity	Age/ Condition

As per Clause - 3.3 of ITT

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- 1.7 Reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the last five years;
- 1.8 Qualification and experience of the key technical and management personnel in permanent employment with the tenderer and those that are proposed to be deployed on this contract, if awarded.
- 1.9. Name, address, and telephone, telex, and fax numbers of the Tenderers' bankers who may provide references if contacted by the Employer.
- 1.10 Evidence of access to financial resources to meet the qualification requirement specified in ITT Clause 3.3 (b): Cash in hand, Letter of Credit etc. List them below and attach certificate from the Banker in the suggested format as under:

## BANKER'S CERTIFICATE

This is to certify that M/s. .... is a reputed company with a good financial standing. If the contract for this work, namely **Setting up roof top solar power plant at VTU, Jnana Sangama, Belagavi** is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. .... to meet the working capital requirements for executing the above contract

Sd/-  
Name of the Bank, Senior Bank Manger  
Address:.....

1.11 Proposals for subcontracting components of works amounting to more than 20% of the contract price .

Item of Work similar work	Value of Sub-Contract	Identified Sub-Contractor (Name and address)	Experience of
DELETED			

1.12 Information on litigations in which the Tenderer is involved:

Other Party (ies)Employer status	Details of disputeAmount involved	Remarks showing present

1.13 The proposed methodology and program of construction, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones.

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**SECTION 4: FORMS OF TENDER, LETTER OF ACCEPTANCE, NOTICE TO PROCEED WITH THE WORK AND AGREEMENT FORM**

**Form of Tender**

**Description of the Work:**      **Setting up 100 KWp roof top solar power plant at Post Graduate Centre, Muddenahalli.**

**Tender**

To                   : **The Registrar,**  
Address           : VTU, Jnanna Sangama,  
                          Machhe, Belagavi- 590 -018.

GENTLEMEN,

We offer to execute the Works described above in accordance with the Conditions of Contract accompanying this Tender for the Contract Price of

This Tender and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Tender you receive.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

We hereby confirm that this Tender complies with the Tender validity and Earnest money deposit required by the Tender documents.

We attach herewith our current income-tax clearance certificate.

Yours faithfully,

Authorized Signature:

Name & Title of Signatory:

\_\_\_\_\_

Name of Tenderer \_\_\_\_\_

Address:                   -----

-----

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and Signature

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**Letter of Acceptance**

(letterhead paper of the Employer)

\_\_\_\_\_ [date]

To:

\_\_\_\_\_  
[name and address of the Contractor]

Dear Sirs,

This is to notify you that your Tender dated \_\_\_\_\_ for execution of the **Setting up 100 KWp roof top solar power plant at Post Graduate Centre, Muddenahalli** for the Contract Price of Rupees ( \_\_\_\_\_ ) [amount in words and figures], as corrected and modified in accordance with the Instructions to Tenderers is hereby accepted by our Agency.

You are hereby requested to furnish Security deposit plus additional security for unbalanced tenders in terms of Clause 25.5 of ITT, in the form detailed in Clause 29.1 of ITT for an amount of Rs.----- within 20 days of the receipt of this letter of acceptance valid up to 30 days from the date of expiry of Defects Liability Period i.e. up to \_\_\_\_\_ and sign the contract, failing which action as stated in Para 29.4 of ITT will be taken.

Yours faithfully,

Authorized Signature  
Name and Title of Signatory  
Name of Agency

-----  
-----

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**Issue of Notice to proceed with the work**  
(letterhead of the Employer)

----- (date)

To

----- (name and address of the Contractor)

-----

-----

Dear Sirs:

Pursuant to your furnishing the requisite security deposit as stipulated in ITT Clause 25.1 and signing of the contract agreement for the **Setting up roof top 100 KWp solar power plant at Post Graduate Centre, Muddenahalli** at Tender Price of Rs.-----, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

Contractor With Seal  
and Signature

Registrar  
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**Agreement Form**

**Agreement**

This agreement, made the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_, between Registrar, VTu, Belagavi.

(hereinafter called "the Employer") of the one part and

\_\_\_\_\_

\_\_\_\_\_ [name and address of contractor] (hereinafter called "the Contractor") of the other part.

Whereas the Employer is desirous that the **Setting up roof top 100 KWp solar power plant at Post Graduate Centre, Muddenahalli** (hereinafter called "the Works") and the Employer has accepted the Tender by the Contractor for the execution and completion of such Works and the remedying of any defects therein at a contract price of Rupees.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
  - i) Letter of Acceptance;
  - ii) Notice to proceed with the works;
  - iii) Contractor's Tender;
  - iv) Contract Data;

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- v) Conditions of contract (including Special Conditions of Contract);
- vi) Specifications;
- vii) Drawings;
- viii) Bill of Quantities; and
- ix) Any other document listed in the Contract Data as forming part of the contract.

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of \_\_\_\_\_  
 was hereunto affixed in the presence of:

Signed,            Sealed            and            Delivered            by            the            said

\_\_\_\_\_  
 \_\_\_\_\_  
 —

in the presence of:

Binding                      Signature                      of                      Employer

\_\_\_\_\_

Binding Signature of Contractor \_\_\_\_\_

**SECTION 5: CONDITIONS OF CONTRACT**

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## **Conditions of Contract**

### **A. General**

#### **1. Definitions**

- 1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Bold letters are used to identify defined terms.

**Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Tender.

**Compensation events** are those defined in Clause 34 hereunder.

The **Completion Date** is the date of completion of the Works as certified by the Employer in accordance with Sub Clause 38.1.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below. The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or corporate body whose Tender to carry out the Works has been accepted by the Employer.

The **Contractor's Tender** is the completed Tender document submitted by the Contractor to the Employer.

The **Contract price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

**Days** are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects liability period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

**Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Employer by issuing an extension of time.

**Materials** are all supplies, including consumables, used by the contractor for incorporation in the Works.

**Plant** is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

**Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Employer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.- **Deleted**

A **Variation** is an instruction given by the Employer which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

## **2. Interpretation**

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Employer will provide instructions clarifying queries about the Conditions of Contract.
- 2.2 The documents forming the Contract shall be interpreted in the following order of priority:
- (1) Agreement
  - (2) Letter of Acceptance, notice to proceed with the works
  - (3) Contractor's Tender
  - (4) Contract Data
  - (5) Conditions of Contract
  - (6) Specifications
  - (7) Drawings
  - (8) Bill of quantities and
  - (9) Any other document listed in the Contract Data as forming part of the Contract.

## **3. Law governing contract**

- 3.1 The law governing the Contract is the Laws of India supplanted by the Karnataka Local Acts.

## **4. Employer's decisions**

- 4.1 Except where otherwise specifically stated, the Employer will decide contractual matters between the Employer and the Contractor.

## **5. Delegation**

- 5.1 The Employer may delegate any of his duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

## **6. Communications**

- 6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

## **7. Subcontracting**

- 7.1 The Contractor may sub-contractor with the approval of the employer but may not assign the contract without the approval of the employer in writing. Sub-contracting does not alter the contractors obligations- **Deleted**

## **8. Other Contractors**

- 8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer.

## **9. Personnel**

- 9.1 The Contractor shall employ the technical personnel (of number and qualifications) as may be stipulated by GOK from time to time during the execution of the work. The technical staff so employed shall be available at site as may be stipulated by the Employer.
- 9.2 If the Employer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

## **10. Employer's and Contractor's risks**

- 10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

## **11. Employer's risks**

- 11.1 The Employer is responsible for the excepted risks which are:
- (a) rebellion, riot commotion or disorder unless solely restricted to employees of the Contractor or his Sub-Contractors arising from the conduct of the Works; or
  - (b) a cause due solely to the design of the Works, other than the Contractor's design; or
  - (c) any operation of the forces of nature (in so far as it occurs on the Site) which an experienced contractor:
    - (i) could not have reasonably foreseen; or
    - (ii) could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures;
      - (A) prevent loss or damage to physical property from occurring by taking appropriate measures or
      - (B) insure against such loss or damage

## **12. Contractor's risks**

- 12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

## **13. Insurance:**

- 13.1 The Contractor shall prior to commencing the works, effect and thereafter maintain insurances, in the joint names of the Employer and the Contractor, (cover from the first working day after the Start Date to the end of Defects Liability Period), in the amounts stated in the Contract Data :
- (a) for loss of or damage to the Works, Plants and Materials and the Contractor's equipment;
  - (b) for liability of both Parties for loss, damage, death and injury to third parties or their property arising out of the Contractor's performance of the Contract including the Contractor's liability for damage to the Employer's property other than the Works and
  - (c) for liability of both Parties and of any Employer's representative for death and injury to the Contractor's personnel except to the extent that liability arises from the negligence of the Employer, any Employer's representative or their Employees.
- 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Employer for his approval before the Start Date. All such insurance shall provide for compensation to be payable to rectify the loss or damage incurred. All payments received from insurers relating to loss or damage shall be held jointly by the Parties and used for the repair of the loss or damage or as compensation for loss or damage that is not to be repaired.



- 13.3 If the Contractor fails to effect or keep in force any of the insurances referred to in the previous sub-clauses or fails to provide satisfactory evidence, policies or receipts, the Employer may without prejudice to any other right or remedy, effect insurance for the cover relevant to such default and pay the premiums due and recover the same as a deduction from any other monies due to the Contractor. If no payments is due, the payment of the premiums shall be a debt due.
- 13.4 Alterations to the terms of an insurance shall not be made without the approval of the Employer.
- 13.5 Both Parties shall comply with any conditions of the insurance policies.

**14. Site Investigation Reports:**

- 14.1 The Contractor, in preparing the tender, shall rely on any site investigation reports referred to in the Contract data, supplemented by any information available to the Tenderer.

**15. Queries about the Contract Data**

- 15.1 The Employer will clarify queries on the Contract Data.

**16. Contractor to construct the Works**

- 16.1 The Contractor shall construct the Works in accordance with the Specification and Drawings.

**17. The Works to be completed by the Intended Completion Date**

- 17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Employer, and complete them by the Intended Completion Date.

**18. Approval by the Employer:**

- 18.1 The Contractor shall submit Specification and drawings showing the proposed Temporary Works to the Employer, who is to approve them if they comply with the Specifications and Drawings.
- 18.2 The Contractor shall be responsible for the design of Temporary Works
- 18.3 The Employer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 18.4 The Contractor shall obtain approval of third parties to the design of third parties to the design of the temporary Works where required.
- 18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Employer before their use.

**19. Safety**

- 19.1 The Contractor shall be responsible for the safety of all activities on the Site.

**20. Discoveries**

- 20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Employer of such discoveries and

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carry out the Employer's instructions for dealing with them.

## **21. Possession of the Site**

21.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

## **22. Access to the Site**

22.1 The Contractor shall allow the Employer and any person authorized by the Employer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured / fabricated / assembled for the works.

## **23. Instructions**

23.1 The Contractor shall carry out all instructions of the Employer which comply with the applicable laws where the Site is located.

## **24. Procedure for resolution of Disputes:**

24.1 If the Contractor is not satisfied with the decision taken by the Employer, the dispute shall be referred by either party to Arbitration within 30 days of the notification of the Employer's decision.  
24.2 If neither party refers the dispute to Arbitration within the above 30 days, the Employer's decision will be final and binding.  
24.3 The Arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

## **B. Time Control**

### **25. Program**

25.1 Within the time stated in the Contract Data the Contractor shall submit to the Employer for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works.  
25.2 The Employer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Employer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

### **26. Extension of the Intended Completion Date**

26.1 The Employer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date.  
26.2 The Employer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Employer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information.

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## **27. Delays ordered by the Employer**

27.1 The Employer may instruct the Contractor to delay the start or progress of any activity within the Works.

## **28. Management meetings**

28.1 The Employer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the progress achieved and the plans for remaining work.

28.2 The responsibility of the parties for actions to be taken is to be decided by the Employer either at the management meeting or after the management meeting and stated in writing to be distributed to all who attended the meeting.

## **C. Quality Control**

### **29. Identifying defects**

29.1 The Employer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Employer may instruct the Contractor to search for a Defect and to uncover and test any work that the Employer considers may have a Defect.

### **30. Tests**

30.1 If the Employer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

### **31. Correction of defects**

31.1 The Employer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

31.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Employer's notice.

### **32. Uncorrected defects**

32.1 If the Contractor has not corrected a Defect within the time specified in the Employer's notice, the Employer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

## **3.7.1 Cost Control**

### **33. Bill of Quantities (BOQ)**

33.1 The BOQ shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.

33.2 The BOQ is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the BOQ for each item

### **34. Variations**

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- 34.1 The Employer shall have power to order the Contractor to do any or all of the following as considered necessary or advisable during the progress of the work by him
- (a) Increase or decrease of any item of work included in the Bill of Quantities (BOQ);
  - (b) Omit any item of work;
  - (c) Change the character or quality or kind of any item of work;
  - (d) Change the levels, lines, positions and dimensions of any part of the work;
  - (e) Execute additional items of work of any kind necessary for the completion of the works; and
  - (f) Change in any specified sequence, methods or timing of construction of any part of the work.
- 34.2 The Contractor shall be bound to carry out the work in accordance with any instructions in this connection, which may be given to him in writing by the Employer and such alteration shall not vitiate or invalidate the contract.
- 34.3 Variations shall not be made by the Contractor without an order in writing by the Employer, provided that no order in writing shall be required for increase or decrease in the quantity of an item appearing in the BOQ so long as the work executed conforms to the approved drawings.
- 34.4 **The Contractor shall promptly request in writing the Employer to confirm verbal orders and if no such confirmation is received within 30 days failing which the work shall be carried out as though there is no variation. In case variation is approved it shall be accompanied by BOQ, failing which the contractor shall be responsible for deviation if any. Further approval of Govt. has to be obtained for the variation exceeding 5%.**

### **35. Payments for Variations**

- 31.1 Payment for increase in the quantities of an item in the BOQ up to 25% of that provided in the Bill of Quantities shall be made at the rates quoted by the Contractor.
- 31.2 For quantities in excess of 125% of the tendered quantity of an item as given in the BOQ, the Contractor shall be paid at the rate entered in or derived from in the Schedule of Rates (applicable for the area of the work and current at the time of award of contract) plus or minus the overall percentage of the original tendered rates over the current Schedule of Rates prevalent at the time of award of contract.
- 35.3 If there is no rate for the additional, substituted or altered item of the work in the BOQ, efforts would be made to derive the rates from those given in the BOQ or the Schedule of Rates (applicable for the area of the work and current at the time of award of contract) and if found feasible the payment would be made at the derived rate for the item plus or minus the overall percentage of the original tendered rates over the current Schedule of Rates prevalent at the time of award of contract
- 35.4 If the rates for additional, substituted or altered item of work cannot be determined either as at 35.1 or 35.2 or 35.3 above, the Contractor shall be requested to submit his quotation for the items supported by analysis of the rate or rates claimed, within 7 days.
- 35.5 If the Contractor's quotation is determined unreasonable, the Employer may order the Variation and make a change to the Contract Price which shall be based on Employer's own forecast of the effects of the Variation on the Contractor's costs.
- 35.6 If the Employer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 35.7 Under no circumstances the Contractor shall suspend the work on the plea of non-settlement of rates for items falling under this Clause.

### **36. Submission of bills for payment**

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- 36.1 The Contractor shall submit to the Employer monthly bills of the value of the work completed less the cumulative amount paid previously.
- 36.2 The Employer shall check the Contractor's bill and determine the value of the work executed which shall comprise of (i) value of the quantities of the items in the BOQ completed and (ii) valuation of Variations and Compensation Events.
- 36.3 The Employer may exclude any item paid in a previous bill or reduce the proportion of any item previously paid in the light of later information.

### **37. Payments**

- 37.1 Payments shall be adjusted for deductions, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor within 60 days of submission of bill. The contractor shall be liable to pay liquidated damages for short fall in progress.

For progress beyond the agreed programme payment is subject to availability of the grants.

- 37.2 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract

### **38. Compensation events**

- 38.1 The following are Compensation events unless they are caused by the Contractor:
- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.
  - (b) The Employer orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.
  - (c) The Employer instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.
  - (d) The Employer gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
  - (e) The effect on the Contractor of any of the Employer's Risks.
  - (f) The Employer unreasonably delays issuing a Certificate of Completion.
  - (g) Other Compensation Events listed in the Contract Data or mentioned in the Contract.
- 38.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date is extended. The Employer shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.
- 38.3 As soon as information demonstrating the effect of each Compensation event upon the Contractor's forecast cost has been provided by the Contractor, it is to be assessed by the Employer and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Employer shall adjust the Contract Price based on Employer's own forecast. The Employer will assume that the Contractor will react competently and promptly to the event.
- 38.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Employer.

### **39. Tax**

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39.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

40 **40. Price Adjustment: <sup>1</sup>Not applicable**  
**Provision for price Adjustment is not applicable for this work as per GO no. FD 3 PCL 2008, Bangalore, dated : 21-11-2008 & GO No:791 EXP-12/2015,Bangalore Dated:26.02.2016**

40.1 Contract price shall be adjusted for increase or decrease in rates and prices of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formulae given in the Contract Data.

- a) The price Adjustment shall apply for the work done from the date of commencement up to the end of original period of completion or extensions granted by the Employer and shall not apply to work carried out beyond the stipulated period of completion for reasons attributable to the Contractor;
- b) Price Adjustment shall be admissible from the date of opening of tenders (original or extended)
- c) The price adjustment shall be determined during each quarter from the formulae given in Contract Data.
- d) Following expressions and meanings are assigned to the work done during the quarter:

R = Total value of work done during the quarter. It will exclude value for works executed under variations for which price adjustment (if any) will be worked out separately based on the terms mutually agreed.

40.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other Clauses in the Contract, the unit rates included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

#### **41. Liquidated damages**

41.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the Contract Data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

41.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Employer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment of bill.

42. Advance Payments: - **Deleted**

42.1 The Employer shall make payment to the Contractor of the amounts stated in the Contract Data by the date stated in the Contract Data, against provision by the Contractor of an unconditional bank guarantee in a form acceptable to the Employer issued by a Nationalized/Scheduled Bank in amounts equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee

shall be progressively reduced by the amounts repaid by the Contractor. Interest will not be charged on the advance payment.

- 42.2 The Contractor is to use the advance payment only to pay for Mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Employer.
- 42.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuation of the work done, variations, price adjustments, compensation events or liquidated damages.

#### **43. Securities:**

- 43.1 The Security deposit (including additional security for unbalanced tenders) shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and type of instrument acceptable to the Employer. The Security deposit shall be valid until a date 30 days from the date of expiry of Defects Liability Period and the additional security for unbalanced tenders shall be valid until a date 30 days from the date of issue of the certificate of completion.

#### **44. Cost of Repairs:**

- 44.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

### **E. Finishing the Contract**

#### **45. Completion**

- 45.1 The Contractor shall request the Employer to issue a Certificate of Completion of the Works and the Employer will do so upon deciding that the Work is completed.

#### **46. Taking over**

- 46.1 The Employer shall take over the Site and the Works within seven days of issuing a certificate of Completion.

#### **47. Final account**

- 47.1 The Contractor shall supply to the Employer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Employer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 90 days of receiving the Contractor's account if it is correct and complete. If it is not, the Employer shall issue within 90 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Employer shall decide on the amount payable to the Contractor and make payment within 60 days of receiving the Contractor's revised account.

#### **48. As built drawings**

- 48.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.

48.2 If the Contractor does not supply the Drawings by the dates stated in the Contract Data, or they do not receive the Employer's approval, the Employer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

#### **49. Termination**

49.1 The Employer may terminate the Contract if the other party causes a fundamental breach of the Contract.

49.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Contractor stops work for 45 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Employer;
- (b) the Employer instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 60 days.
- (c) The Contractor becomes bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment due to the Contractor is not paid by the Employer within 90 days of the date of the submission of the Bill by Contractor.
- (e) the Employer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Employer;
- (f) the Contractor does not maintain a security which is required;
- (g) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (h) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.

For the purpose of this paragraph : "corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition."

49.3 When either party to the Contract gives notice of a breach of contract to the Employer for a cause other than those listed under Sub Clause 42.2 above, the Employer shall decide whether the breach is fundamental or not.

49.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

49.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

#### **50. Payment upon Termination**

50.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Employer shall prepare bill for the value of the work done less advance payments received up to the date of the bill, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.

50.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Employer shall prepare bill for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and

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securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract, and less taxes due to be deducted at source as per applicable law and make payment accordingly.

**51. Property**

51.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

**52. Release from performance**

52.1 If the Contract is frustrated by any event entirely outside the control of either the Employer or the Contractor the Employer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made

**F. Special Conditions of Contract**

**1. The Tenderer shall have MAF (Manufacturer's Authorisation Form) from reputed registered manufactures of solar panels & invertors.**

**2. Labour :**

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Employer, deliver to the Employer a return in detail, in such form and at such intervals as the Employer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Employer may require.

**3. Compliance with labour regulations :**

During continuance of the contract, the Contractor and his sub contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, Employer shall have the right to deduct any money due to the Contractor including his amount of security deposit. The Employer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

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The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

**4a. Protection of Environment:**

The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

4. Arbitration (Clause 24)

4.1 The procedure for arbitration shall be as follows :

- (a) As per Circular of G.O. No. LAW 273 LAC 2012(p) Dated : 10-01-2014 "Any dispute or Difference or claim arising out of or in connection with or relating to the present contract or the breach, termination or invalidity there of shall be referred and settled under the Arbitration Centre – Karnataka (Domestic & International) Rules 2012, by one or more arbitration appointed in accordance with its rules".
- (b) The cost and expenses of arbitration proceedings will be paid as determined by the Arbitrator.

However the expenses incurred by each party in connection with the preparation, presentation, etc., shall be borne by each party itself.

- (c) Performance under the contract shall continue during the arbitration proceedings and payments due the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.

5. **For clause 3.2(b) & 3.5 of ITT** :Updated to the FY in which the tenders are invited. The value of the completed works shall be given a weight of 10% per year to bring them to the price level of the FY in which the tenders are invited.

**For clause 3.2(a) of ITT:** Updated to the FY in which the tenders are invited. Financial turnover of previous years shall be given a weight of 10% per year to bring them to the price level of the FY in which the tenders are invited.

6. Royalty Charges shall be recovered as per the prevailing rates issued by the department of Mines and Geology.
7. As per G.O. No. LD 300/LET/2006 Dt: 18-01-2007 1% will be deducted from each and every bill as per Labour Welfare tax Act.
8. All the works are to be carried out as per the standard specifications issued form time to time by IRC & as per the relevant IS codes.
9. Price adjustment is as per G.O. No. 791 Exp-12/2015, Bangalore Dated : 26-02-2016 for this work.
10. In the case of the death of a contractor after executing the agreement / commencement of the work, his legal heir, if an eligible registered contractor and willing can execute and complete the work at the accepted tender rates irrespective of the cost of the work.

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11. The contractor should employ only registered labours as per Govt. Circular No. PWD/198/BMS/2009/ Dated: 24-06-2009.
12. The contractor along with his financial bid shall furnish a detailed rate analysis for such of the items where he has quoted lesser rates than the estimated rates. The rate analysis must indicate break up of rates for various components such as materials, labour, machinery and other relevant components. He shall also explain & substantiate how such lesser quoted rates would work out for him from the point of view of doing quality work. He shall also give undertaking that the "rates quoted by me are workable to execute quality work as per specification and to the fullest satisfaction of the department" Any failure on the part of the contractor in not fulfilling the above said information along with his Financial bid in e-proc is liable for rejection of his Financial Bid.
13. Existing Commitments work details (B-Value) should be furnished duly a attested by the concerned Executive Engineer as per Standard Tender Documents
14. FSD & Difference Cost will be released after the completion of maintenance period, as per C.E. (C&B) south, Bangalore vide Ltr. No.CE/CBS/CAO/2013-14 Dated:20-02-2013

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## SECTION 6: CONTRACT DATA

Items marked "N/A" do not apply in this Contract.

The following documents are also part of the Contract:

### Clause Reference

- The Schedule of Operating and Maintenance Manuals [48]
- The Methodology and Program of Construction [25]
- Site Investigation Reports [14]
- The Schedule of Key and Critical Equipment to be deployed on the work as per agreed program of construction. [25]

The Employer is :

Name: **The Registrar,** [1.1]

**Address: VTU, Jnana Sangama, Belagavi - 590018,**

**Name of authorized Representative: Resident Engineer, VTU, Belagavi.**

The name and identification number of the Contract is:

**Setting up roof top 100 KWp solar power plant at Post Graduate Centre, Muddenahalli**

**Dates: Please refer e-procurement portal**

The Work consists of : Solar power panels, Invertors, AC/DC Distribution boards, Copper & Aluminium cables, electrical panel boards, earthing, lighting arrestor, etc complete etc.,

The start date shall be the **Dt:** - [1.1]

The Intended Completion Date for the whole of the Works is **8** Months with the following milestones [17, 26]

Milestone dates	Physical works to be completed	Period from the date of issue of Notice to proceed with the work
4	50 % work value	
2 to 4 months	100 % work value	

The Site Possession Date is: with in 10 Days from the date of award of contract [21]

**The Site is located at Chickballapur Dist.** [1.1]  
and is defined in drawings nos. \_\_\_\_\_

The Defects Liability Period is 5 years. [31]

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Insurance requirements are as under:

[13]

	Type of Cover	Minimum cover for Insurance
(i)	Works and of Plant and materials	The sum stated in the Agreement plus 20%
(ii)	Loss or damage to equipment	Full replacement cost
(iii)	Loss or damage to property of Third Party	Full replacement cost
(iv)	Personal injury or death insurance (a) for Third Party	
	(b) for Contractor's employees or labour	In accordance with the statutory requirements applicable to Karnataka

15. Price Adjustment Formula; Price adjustment is as per G.O. No. FD3 PCL 2008, Bangalore Dated : 21-11-2008 .

[40]

R= Value of work as defined in Clause 40.1 of Conditions of Contract.

Adjustment for labour component:

- (i) Price adjustment for increase or decrease in the cost due to labour shall be paid in accordance with the following formula:

$$V_L = 0.85 \times P_L / 100 \times R \times (L_i - L_o) / L_o \text{ Where,}$$

$V_L$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in rates for local labour;

$L_o$  = The average consumer price index for industrial workers for ..... Centre for the quarter preceding the date of opening of tenders as published by the Labour Bureau, Ministry of Labour, Government of India;

$L_i$  = The average consumer price index for industrial workers for ..... Centre for the quarter under consideration as published by Labour Bureau, Ministry of Labour, Government of India

$P_L$  = Percentage of labour component of the work

- (ii) Price adjustment for increase or decrease in the cost of cement component procured by the contractor shall be paid in accordance with the following formula.

$$V_C = 0.85 \times P_C / 100 \times R \times (C_i - C_o) / C_o \text{ , Where,}$$

$V_C$  = Increase or decrease in the cost of the work during the quarter under consideration due to changes in the rates for cement;

$C_o$  = The all India average wholesale price index for cement (Ordinary Portland Cement) for the quarter preceding the date of opening of the tenders as published

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by the Office of Economic Advisor, Ministry of Commerce and Industry, Government of India , New Delhi;

$C_i$  = The all India average wholesale price index for cement (Ordinary Portland Cement) for the quarter under consideration as published by the Office of Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi

$P_C$  = Percentage of cement component of the work

**Note: For the application of this clause index of Ordinary Portland Cement has been chosen to represent Cement Group Adjustment for steel component:**

- (iii) Price adjustment for increase or decrease in the cost of steel procured by the contractor shall be paid in accordance with the following formula.

$$V_S = 0.85 \times P_S / 100 \times R \times (S_i - S_o) / S_o \text{ where,}$$

$V_S$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for steel;

$S_o$  = The all India average wholesale price index for steel (M.S.Bars and rods) for the quarter preceding the date of opening of Bids as published by the Office of Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi

$S_i$  = The all India average wholesale price index for steel (M.S. Bars and Rods) for the quarter under consideration as published by the Office of Economic Advisor, Ministry of Commerce and Industry, New Delhi

$P_S$  = Percentage of steel component of the work

**Note: For the application of this clause, index of M.S. Bars and Rods has been chosen to represent steel group.**

Adjustment of Bitumen Component:

- (iv) Price adjustment for increase or decrease in the cost of bitumen shall be paid in accordance with the following formula:

$$V_B = 0.85 \times P_B / 100 \times R \times (B_i - B_o) / B_o, \text{ Where}$$

$V_B$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rate for bitumen.

$B_o$  = The official retail price of bitumen at the IOC /HPCL/BPL or any other depot at ..... on the day 30 days prior to the date of opening of Bids.

$B_i$  = The official retail price of bitumen at the IOC/HPCL/BPL or any other depot at ..... for the 15<sup>th</sup> day of the middle calendar month of the quarter under consideration.

$P_B$  = Percentage of bitumen component of the work.

Adjustment of Fuel and Lubricant component:

- (v) Price adjustment for increase or decrease in cost of Fuel and Lubricants shall be paid in accordance with the following formula:

$$V_F = 0.85 \times P_F / 100 \times R \times (F_i - F_o) / F_o, \text{ Where,}$$

$V_F$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for Fuel and Lubricants.

$F_o$  = The official retail price of High Speed Diesel (HSD) at the IOC/HPCL/BPL or other consumer pump at ..... on the day 30 days prior to the date of opening of Bids.

$F_i$  = The official retail price of HSD at the IOC/HPCL/BPL or other consumer pump at ..... for the 15<sup>th</sup> day of the middle calendar month of the quarter under consideration.

$P_F$  = Percentage of Fuel and Lubricant component of the work.

**Note: For the application of this Clause the price of HSD has been chosen to represent Fuel and Lubricant Group**

Adjustment for Plant and Machinery Spares Component:

- (vi) Price adjustment for increase or decrease in the cost of plant and machinery spares procured by the contractor shall be paid in accordance with the following formula:

$$V_P = 0.85 \times P_P/100 \times R \times (P_i - P_o)/P_o, \text{ Where}$$

$V_P$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for plant and machinery spares.

$P_o$  = The all India average wholesale price index for Heavy machinery and parts for the quarter preceding the date of opening of bids, as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi

$P_i$  = The all India average wholesale price index for Heavy machinery and parts for the quarter under consideration as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi

$P_B$  = Percentage of Plant and Machinery Spares component of the work.

**Note: For the application of this Clause index of Heavy Machinery and Parts has been chosen to represent the Plant and Machinery Spares Group.**

Adjustment for Other materials.:

- (vii) Price adjustment for increase or decrease in the cost of other materials other than cement, steel, bitumen and Fuel and Lubricants, procured by the contractor shall be paid in accordance with the following formula:

$$V_M = 0.85 \times P_M/100 \times R \times (M_i - M_o)/M_o, \text{ Where}$$

$V_M$  = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for local materials other than cement, steel, bitumen and Fuel and Lubricants.

$M_o$  = The all India average wholesale price index for all commodities for the quarter preceding the date of opening of bids, as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi

$M_i$  = The all India average wholesale price index for all commodities for the quarter under consideration as published by the Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India, New Delhi

$P_M$  = Percentage of other material component (Other than cement, steel, bitumen and Fuel and Lubricants) of the work.

The liquidated damages for the whole of the works are  
**Rs. 0.1% of the contract price per day** and that for the milestones are as under:

For Milestone 1: Rs. --- per day [41]  
For Milestone 2: Rs. ----per day  
For Milestone 3: Rs. ---- Per day

The maximum amount of liquidated damages for the whole of the works is ten percent of final contract price. [41]

The amounts of the advance payment are: **NA** [42]

<u>Nature of Advance</u>	<u>Amount (Rs.)</u>	<u>Conditions to be fulfilled</u>
1. Mobilization	5% of the Contract price	On submission of un-conditional Bank Guarantee. (to be drawn before end of 20% of Contract period)

(The advance payment will be paid to the Contractor no later than 30 days after fulfillment of the above conditions). – **Deleted**

Repayment of advance payment for mobilization  
[42]

The advance loan shall be repaid with percentage deductions from the interim payments certified by the Engineer under the Contract. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached not less than 15 percent of the Contract Price or months from the date of payment of first installment of advance, whichever period concludes earlier, and shall be made at the rate of 7.5% percent of the amounts of all Interim Payment Certificates until such time as the loan has been repaid, always provided that the loan shall be completely repaid prior to the expiry of the original time for completion pursuant to Clauses 17 and 26.- **Deleted**

The date by which "as-built" drawings (in scale ...) in 2 sets are required is within 30 days of issue

of certificate of completion of Whole or Section of the Work as the case may be. [48]  
The date by which Operating and Maintenance Manuals are required is within 30 days of issue of certificate of completion of Whole or Section of the Work as the case may be.

The amount to be withheld for failing to supply "as built" drawings or supply of Operation and Maintenance Manuals by the date required is Rs.**200000.00** [48]

The following events shall also be fundamental breach of the contract : [49.2]

1. The contractor has contravened Sub-clause 7.1 and Clause 9 of CC.

The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be 30 percent. [50.1]

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**SECTION 7: SPECIFICATIONS**

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**Refer section – 9- B.O.Q.**

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**SECTION 8: DRAWINGS**

**Enclosed Separately in e-procurement Portal**

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## SECTION 9: BILL OF QUANTITIES

Enclosed Separately in e-procurement Portal

## SECTION 10: FORMAT OF BANK GUARANTEE FOR SECURITY DEPOSIT

To:  
The Registrar,  
VTU, Jnanna Sangama, Machhe ,  
Belagavi.

WHEREAS \_\_\_\_\_ (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute

### **Setting up roof top solar power plant at VTU, Jnana Sangama, Belagavi.**

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Rs. \_\_\_\_\_ Rupees \_\_\_\_\_, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 30 days from the date of expiry of the Defects Liability Period.

Signature and seal of the guarantor \_\_\_\_\_

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and Signature

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Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

Contractor With Seal  
and Signature

Registrar  
V.T.U., Belagavi

**SECTION 11: FORMAT OF BANK GUARANTEE FOR EARNEST MONEY DEPOSIT**

**BID SECURITY (BANK GUARANTEE)**

WHEREAS, \_\_\_\_\_ [*name of Bidder*] (hereinafter called "the Bidder") has submitted his Bid dated \_\_\_\_\_ [*date*] for the construction of \_\_\_\_\_ [*name of Contract*] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that We \_\_\_\_\_ [*name of bank*] of \_\_\_\_\_ [*name of country*] having our registered office at \_\_\_\_\_ (hereinafter called "the Bank") are bound unto \_\_\_\_\_ [*name of Employer*] (hereinafter called "the Employer") in the sum of \_\_\_\_\_<sup>1</sup> for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_\_.

THE CONDITIONS of this obligation are:

- (1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid;
- or
- (2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid validity:
  - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
  - (b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders; or
  - (c) does not accept the correction of the Bid Price pursuant to Clause 27;

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the three conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date \_\_\_\_\_<sup>2</sup> days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_

WITNESS \_\_\_\_\_ SEAL \_\_\_\_\_

\_\_\_\_\_  
[signature, name, and address]

Contractor With Seal  
and Signature

Registrar  
V.T.U., Belagavi

- 1 The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.
- 2 45 days after the end of the validity period of the Bid.

Ref..... Bank Guarantee No: .....  
 Date: .....  
 To: \_\_\_\_\_ [name of Employer]  
 \_\_\_\_\_ [address of Employer]

WHEREAS \_\_\_\_\_ [name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of **Indent** No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ [name of **tender** and brief description of Works]

AND WHEREAS it has been stipulated by you in the said **tender** that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as **EMD** for compliance with his obligations in accordance with the **conditions of Tender**;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Rs. \_\_\_\_\_ [amount of guarantee]  
<sup>2</sup> Rupees \_\_\_\_\_ [in words], and we undertake to pay you, upon **Contractor** written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ [amount of guarantee]<sup>3</sup> as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the **terms and conditions of the tender** or of the Works to be performed there under or of any of the **tender** documents.

This guarantee shall be irrevocable and valid until 45 days from the date of expiry of the **Tender Validity Period i.e.135 days from the date of opening the tender**. If any further extension of this guarantee is required, the same shall be extended to such required period (not extending 1 year) on receiving instructions from M/s..... on whose behalf this guarantee is issued.

Witness,  
 ..... (Signature) Signature and seal of the guarantor \_\_\_\_\_  
 ..... (Name) Name of Bank \_\_\_\_\_  
 ..... (Official address) Address \_\_\_\_\_  
 \_\_\_\_\_  
 Date \_\_\_\_\_

<sup>2</sup> An amount shall be inserted by the Guarantor, representing the percentage of the EMD amount specified in the Contract

<sup>3</sup> An amount shall be inserted by the Guarantor, representing the percentage of the EMD amount specified in the Contract

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## **DEFINITIONS & ABBREVIATIONS**

In this "Bid / RFS Document" the following words and expression will have the meaning as herein defined where the context so admits:

1.1. "Affiliate" shall mean a company that either directly or indirectly a. controls or b. is controlled by or c. is under common control with a Bidding Company and "control" means ownership by one company of at least twenty six percent (26%) of the voting rights of the other company.

1.2. "B.I.S" shall mean specifications of Bureau of Indian Standards (BIS);

1.3. "Bid" shall mean the Techno Commercial and Price Bid submitted by the Bidder along with all documents/credentials/attachments annexure etc., in response to this RFS, in accordance with the terms and conditions hereof.

1.4. "Bidder/Bidding Company" shall mean Bidding Company submitting the Bid. Any reference to the Bidder includes Bidding Company / including its successors, executors and permitted assigns as the context may require;

1.5. "Bid Bond" shall mean the unconditional and irrevocable bank guarantee to be submitted along with the Bid by the Bidder under Clause 3.15 of this RFS, in the prescribed Format- 3;

1.6. "Bid Deadline" shall mean the last date and time for submission of Bid in response to this RFS as specified in Bid information Sheet;

1.7. "Bid Capacity" shall means capacity offered by the bidder in his Bid under invitation. 1.8. "CEA" shall mean Central Electricity Authority.

1.9. "Chartered Accountant" shall mean a person practicing in India or a firm whereof all the partners practicing in India as a Chartered Accountant(s) within the meaning of the Chartered Accountants Act, 1949;

1.10. "Competent Authority" shall mean (Designation of Competent Authority) of VISVESVARAYA TECHNOLOGICAL UNIVERSITY himself and/or a person or group of persons nominated by MD for the mentioned purpose herein;

1.11. "Commissioning" means Successful operation of the Project / Works by the Contractor, for the purpose of carrying out Performance Test(s) as defined in RFS.

1.12. "Company" shall mean a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto;

1.13. "Capacity Utilization Factor" (CUF) shall mean the ratio of actual energy generated by SPV project over the year to the equivalent energy output at its rated capacity over the yearly period.  $CUF = \frac{\text{actual annual energy generated from the plant in kWh}}{(\text{installed plant capacity in kW} * 365 * 24)}$ .

1.14. "Eligibility Criteria" shall mean the Eligibility Criteria as set forth in Clause 3.6 of this RFS;

1.15. "Financially Evaluated Entity" shall mean the company which has been evaluated for the satisfaction of the Financial Eligibility Criteria set forth in Clause 3.6.3 hereof;

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- 1.16. "IEC" shall mean specifications of International Electro-technical Commission;
- 1.17. "kWp" shall mean kilo-Watt Peak;
- 1.18. "kWh" shall mean kilo-Watt-hour;
- 1.19. "MNRE" shall mean Ministry of New and Renewable Energy, Government of India;
- 1.20. "Minimum Bid Capacity" shall mean\_\_\_\_\_ MWp which is the minimum capacity for which the Bidder can submit its Bid. Bidder(s) quoting less the minimum bid capacity shall be outrightly rejected;
- 1.21. "Maximum Bid Capacity" shall mean\_\_\_\_\_ MWp which is the maximum capacity for which the Bidder can submit its Bid. ;
- 1.22. "O&M" shall mean Operation & Maintenance of Rooftop Solar PV system for 5 years;
- 1.23. "Owner of the project" shall mean anyone who has ownership (including lease ownership also) of the roof and is the legal owner of all equipments of the project. Owner of the project can enter into a PPA with the consumer (s) of power for supply of solar power for at least 25 years from the date of Commissioning of project.
- 1.24. "Project Cost / Project Price" shall mean the price offered by the Bidder for the Scope of work as per RFS document for a State.
- 1.25. "Part-A" Projects size which are from 10kWp to 500kWp capacity for identified locations of concerned Urban Local Bodies / DISCOMs, etc.
- 1.26. "Part-B" Projects size which are less than 10kWp for Residential /Household sectors
- 1.27. "Project capacity" means Capacity in kWp offered by the Bidder for each State consisting of single or multiple roof tops. The project capacity specified is on "DC" output Side only.
- 1.28. "Performance Ratio" (PR) means "Performance Ratio" (PR) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured.  $PR = (\text{Measured output in kW} / \text{Installed Plant capacity in kW} * (1000 \text{ W/m}^2 / \text{Measured radiation intensity in W/m}^2))$ .
- 1.29. "Parent" shall mean a company, which holds more than 51% equity either directly or indirectly in the Bidding Company or Project Company or a Member in a Consortium developing the Project
- 1.30. "Project Company" shall mean Company incorporated by the bidder as per Indian Laws in accordance with Clause no 3.7.
- 1.31. "Price Bid" shall mean Envelope III of the Bid, containing the Bidder's quoted Price as per the Section- IV of this RFS;
- 1.32. "Qualified Bidder" shall mean the Bidder(s) who, after evaluation of their Techno Commercial Bid as per Clause 3.1 stand qualified for opening and evaluation of their Price Bid;
- 1.33. "RFS" shall mean Request for Selection (RFS)/Bid document/Tender document.
- 1.34. "RESCO" shall mean Renewable Energy Service Companies;

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1.35. "RESCO model" shall mean where the bidders intend to take a roof top owned by some other entity on mutually agreed terms and conditions from the roof top owner(s) and enters into the PPA with rooftop owner / DISCOM / others for supply of Solar power for 25 years from the date of Commissioning of project.

1.36. "Statutory Auditor" shall mean the auditor of a Company appointed under the provisions of the Companies Act, 1956 or under the provisions of any other applicable governing law;

1.37. "Successful Bidder(s) /Contractor/Project Developers(s)" shall mean the Bidder(s) selected by VISVESVARAYA TECHNOLOGICAL UNIVERSITY pursuant to this RFS for Implementation of Grid Connected Roof Top Solar PV System as per the terms of the RFS Documents, and to whom an Allocation Letter has been issued;

1.38. "[Name of the Organization]" shall mean VISVESVARAYA TECHNOLOGICAL UNIVERSITY (VTU)

1.39. "SNA" shall mean State Nodal Agency.

1.40. "Tendered Capacity" shall mean the Total aggregate capacity in MW as indicated in table of against each State, proposed to be allocated by VISVESVARAYA TECHNOLOGICAL UNIVERSITY to the Successful Bidder through this bidding process as per terms and conditions specified therein;

1.41. "Ultimate Parent" shall mean a company, which owns at least more than fifty percent (51%) equity either directly or indirectly in the Parent and Affiliates.

1.42. "Wp" shall mean Watt Peak.

1.43. 1MWp for the purpose of conversion in kWp shall be considered as 1000kWp.

## **INTERPRETATIONS**

1. Words comprising the singular shall include the plural & vice versa
2. An applicable law shall be construed as reference to such applicable law including its amendments or re-enactments from time to time.
3. A time of day shall save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
4. Different parts of this contract are to be taken as mutually explanatory and supplementary to each other and if there is any differentiation between or among the parts of this contract, they shall be interpreted in a harmonious manner so as to give effect to each part.
5. The table of contents and any headings or sub headings in the contract has been inserted for case of reference only & shall not affect the interpretation of this agreement.

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## **ELIGIBILITY CRITERIA**

### **GENERAL**

(a) The Bidder should be either a body incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto and engaged in the business of Solar Power. A copy of certificate of incorporation shall be furnished along with the bid in support of above.

### **BID SUBMISSION BY THE BIDDER**

The information and/or documents shall be submitted by the Bidder as per the formats specified in document.

Strict adherence to the formats wherever specified, is required. Wherever, information has been sought in specified formats, the Bidder shall refrain from referring to brochures /pamphlets. Non-adherence to formats and / or submission of incomplete information may be a ground for declaring the Bid as non-responsive. Each format has to be duly signed and stamped by the authorized signatory of the Bidder.

The Bidder shall furnish documentary evidence in support of meeting Eligibility Criteria as indicated in above to the satisfaction of VISVESVARAYA TECHNOLOGICAL UNIVERSITY and shall also furnish unconsolidated/consolidated audited annual accounts in support of meeting financial requirement, which shall consist of balance sheet, profit and loss account, profit appropriation account, auditors report, etc., as the case may be of Bidding Company or Financially Evaluated Entity for any of the last three(3) financial years immediately preceding the Bid Deadline which are used by the bidder for the purpose of calculation of Annual Turnover or of last Financial Year in case of Net Worth.

In case the annual accounts for the latest financial year are not audited and therefore the bidder cannot make it available, the applicant shall give certificate to this effect from their directors. In such a case, the Applicant shall provide the Audited Annual Reports for 3 (Three) years preceding the year or from the date of incorporation if less than 3 years for which the Audited Annual Report is not being provided.

### **BID SUBMITTED BY A BIDDING COMPANY :**

The Bidding Company should designate one person to represent the Bidding Company in its dealings with VISVESVARAYA TECHNOLOGICAL UNIVERSITY. The person should be authorized to perform all tasks including, but not limited to providing information, responding to enquires, signing of Bid etc. The Bidding Company should submit, along with Bid, a Power of Attorney in original (as per Format), authorizing the signatory of the Bid.

### **CLARIFICATIONS AND PRE-BID MEETING:**

The VISVESVARAYA TECHNOLOGICAL UNIVERSITY will not enter into any correspondence with the Bidders, except to furnish clarifications on RFS Documents, if necessary. The Bidders may seek

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clarifications or suggest amendments to RFS in writing, through a letter or by fax (and also soft copy by e-mail) to reach VISVESVARAYA TECHNOLOGICAL UNIVERSITY at the address, date and time mentioned in Bid information sheet.

The Bidder(s) or their authorized representative(s) is /are invited to attend pre-bid meeting(s), which will take place on date(s) as specified in Bid information sheet, or any such other date as notified by VISVESVARAYA TECHNOLOGICAL UNIVERSITY.

The purpose of the pre-bid meeting will be to clarify any issues regarding the RFS including in particular, issues raised in writing and submitted by the Bidders. VISVESVARAYA TECHNOLOGICAL UNIVERSITY is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

### **AMENDMENTS TO RFS**

At any time prior to the deadline for submission of Bids, the VISVESVARAYA TECHNOLOGICAL UNIVERSITY may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFS document by issuing clarification(s) and/or amendment(s).

The clarification(s) / amendment(s) (if any) may be notified on VISVESVARAYA TECHNOLOGICAL UNIVERSITY website [www.vtu.ac.in](http://www.vtu.ac.in) & <https://eproc.karnataka.gov.in/> at least Two (2) days before the proposed date of submission of the Bid. If any amendment is required to be notified within Two (2) days of the proposed date of submission of the Bid, the Bid Deadline may be extended for a suitable period of time.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY will not bear any responsibility or liability arising out of non-receipt of the information regarding Amendments in time or otherwise. Bidders must check the website for any such amendment before submitting their Bid.

In case any amendment is notified after submission of the Bid (prior to the opening of Techno-Commercial Bid. Bids received by VISVESVARAYA TECHNOLOGICAL UNIVERSITY shall be returned to the concerned Bidders on their request through registered post or courier and it will be for the Bidders to submit fresh Bids as the date notified by the VISVESVARAYA TECHNOLOGICAL UNIVERSITY for the purpose.

All the notices related to this Bid which are required to be publicized shall be uploaded on websites [www.vtu.ac.in](http://www.vtu.ac.in) & <https://eproc.karnataka.gov.in/>.

### **VALIDITY OF BID**

The bid and the Price Schedule included shall remain valid for a period of 06 months from the date of techno-commercial bid opening, with bidder having no right to withdraw, revoke or cancel his offer or unilaterally vary the offer submitted or any terms thereof. In case of the bidder revoking or cancelling his offer or varying any term & conditions in regard thereof or not accepting letter of

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allocation, VISVESVARAYA TECHNOLOGICAL UNIVERSITY shall forfeit the Bid Bond furnished by him. Confirmation regarding the Bid offer validity shall be clearly mentioned in the covering letter. In exceptional circumstances when letter of allocation is not issued, the VISVESVARAYA TECHNOLOGICAL UNIVERSITY may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The Bid Bond provided under shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Bond. A Bidder granting the request will neither be required nor permitted to modify its Bid in any manner.

#### **METHOD OF BID SUBMISSION**

Bids are required to be submitted on the e-procurement portal Govt of Karnataka (<https://eproc.karnataka.gov.in/>). **This tender is through e-Procurement only and the clauses pertaining to manual tendering if any will be changed accordingly. Payment for BOQ & EMD, submission of tenders is through e-Procurement (online) only. No hard copy of the BID shall be received at VTU, Belagavi.**

#### **COST OF BIDDING**

The bidder shall bear all the costs associated with the preparation and submission of his offer, and the company will in no case be responsible or liable for those costs, under any conditions. The Bidder shall not be entitled to claim any costs, charges and expenses of and incidental to or incurred by him through or in connection with his submission of bid even though VISVESVARAYA TECHNOLOGICAL UNIVERSITY may elect to modify/withdraw the invitation of Bid.

#### **BID BOND**

The Bidder shall furnish the Interest free Bid Bond @ Rs. \_\_\_\_\_ Lakhs (Rupees \_\_\_\_\_ Lakhs only) per MWp in the form of Bank Guarantee (BG) / Demand Draft drawn in favour of "[FINANCE OFFICER, VISVESVARAYA TECHNOLOGICAL UNIVERSITY]", payable at Belagavi. The initial validity of Bid Bond shall be for a period of \_\_\_\_\_ (Number of months ) months from the Bid Deadline, which shall be extended by the bidder as per the bid validity. If the bidder fails to extend the bid bond validity as per above on request by VISVESVARAYA TECHNOLOGICAL UNIVERSITY then entire Bid bond may be forfeited. The Bid Bond of unsuccessful bidders shall be returned within 30 days from the date of issue of Letter of Allocation(s) to successful bidders. Separate Bid Bond shall be furnished for each.

Bidders submitting Bid Bond Amount less than that required amount for the tendered capacity" under CAPEX than Bid for that location/state shall not be considered.

The formula applicable to calculate the Bid Bond amount under CAPEX will be: a) Bid Bond amount = (Rs. \_\_\_\_\_ Lakh) X Bid Capacity in MWp

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Example: Participating for 1.5 MWp, the bidder has to submit Bid Bond of Rs.\_\_\_\_Lakh x 1.5 MWp = Rs. \_\_\_\_ Lakh (Rupees \_\_\_\_\_Only).

The Bid Bond shall be denominated in Indian Rupees and shall:

- i. at the Bidder's option, be in the form of either a demand draft, or a bank guarantee from a List of banks as given in Annexure-B
- ii. be confirmed for payment by the branch of the bank giving the bank guarantee at New Delhi. iii. be submitted in its original form; copies will not be accepted; and remain valid for a minimum period of \_\_\_\_\_ months from the date of Techno Commercial bid opening, or beyond any period of extension subsequently requested under Clause 3.13.2. 3.12.2 the Successful Bidder shall sign and stamp the Allocation Letter and return the duplicate copy of the same to VISVESVARAYA TECHNOLOGICAL UNIVERSITY within 30 days from the date of its issue.

The Bid Bond shall be forfeited without prejudice to the Bidder being liable for any further consequential loss or damage incurred to VISVESVARAYA TECHNOLOGICAL UNIVERSITY under following circumstances:

- a. Hundred percent (100%) of Bid Bond amount, if a Bidder withdraws/revokes or cancels or unilaterally varies his bid in any manner during the period of Bid Validity specified in the RFS document and in accordance with the
  - b. Hundred percent (100%) of the Bid Bond amount, if the Successful Bidder fails to unconditionally accept the Allocation letter within 15 days from the date of its issue. c. Hundred percent (100%) of the Bid Bond amount, if the Successful Bidder fails to furnish the "Performance Security" as per the Clause

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## **PERFORMANCE SECURITY / PERFORMANCE BANK GUARANTEE (PBG)**

Within 30 days from the date of issue of Allocation letter, Successful Bidder shall furnish the Performance Security for the amount of Rs \_\_\_\_Lakhs/MWp. PBG shall be submitted separately for each location/State for Part-A and Part-B under CAPEX model. The formula applicable to calculate the PBG amount will be: PBG amount for allocation in a State = (Rs. \_\_\_\_\_ Lakh) X Allocated Capacity in MWp in a State="A"

Example: Allocating for 500kWp in State Rajasthan, the bidder has to submit PBG of Rs. \_\_\_\_ Lakh X 500/1000 MWp = Rs. \_\_\_\_ Lakh (Rupees \_\_\_\_\_Only).

The Performance Security shall be denominated in Indian Rupees and shall be in one of the following forms: a. a demand draft, or a bank guarantee from the List of banks as given in Annexure-B b. be confirmed for payment by the branch of the bank giving the bank guarantee at New Delhi. 3.13.3 The PBG shall be forfeited as follows without prejudice to the Bidder being liable for any further consequential loss or damage incurred to VISVESVARAYA TECHNOLOGICAL UNIVERSITY]. a. If the Successful Bidder is not able to commission the projects to the satisfaction of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, PBG amount, pro-rata to the capacity not commissioned by the Successful Bidder. However, Hundred percent (100%) PBG amount furnished for the Sanctioned Capacity for the VISVESVARAYA TECHNOLOGICAL UNIVERSITY identified locations, if the Successful Bidder fails to Commission the Projects(s) to the satisfaction of VISVESVARAYA TECHNOLOGICAL UNIVERSITY.

In all the above cases corresponding unidentified/non-commissioned capacity shall stand cancelled.

The Performance Security shall be valid for a minimum period of 61 months from the date of issue of Allocation letter(s) and shall be renewed / extended if required.

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## **CONDITIONS OF CONTRACT**

### **SCOPE OF WORK:**

The scope of work for the bidder includes setting up of rooftop of buildings for 25 years, Obtaining No Objection Certificate (NOC)" from BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED (BESCOM) for grid connectivity, design as per VTU requirement, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of the grid connected rooftop solar PV project including operation and maintenance (O&M) of the project for a minimum period of five years after commissioning. The bidder shall ensure that proper water treatment on the rooftops of buildings is provided at the time of installation of structure for mounting PV solar panels on roof tops. Further, if there are any water leakages in future during the warranty period (i.e. 5 years) in any of the buildings where the roof top solar panels are installed, then the bidder shall dismantle the roof top solar panels for water proofing and reinstall the solar panel once the water proofing work is done satisfactorily. The bidder shall bear the cost towards both dismantling and reinstallation of the solar panels in these buildings in such case. Further, if the water leakage in the rooftop is due to the installation of solar panels, then the water proofing cost shall also be borne by the bidder only. The bidder has identified only such buildings where future expansion is not present. However, due to unavoidable circumstance in future if the VISVESVARYA TECHNOLOGICAL UNIVERSITY, BELAGAVI intends to expand/construct other floor in the warranty period, then the bidder shall dismantle the solar panels in such buildings and reinstall the same in any other location shown by VTU or reinstall on top of the new roof top of the same building as a cost agreed by both parties.

### **PROJECT COST /LEVELLIZED TARIFF**

The Project cost/Levellized tariff shall include all the costs related to above Scope of Work. Bidder shall quote for the entire facilities on a "single responsibility" basis such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of Design, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance for a period of 5 years (under CAPEX Model), goods and services including spares required if any during O&M period. The Bidder has to take all permits, approvals and licenses, Insurance etc., provide training and such other items and services required to complete the scope of work mentioned above.

The project cost/levellized tariff quoted is on lump sum turnkey basis and the bidder is responsible for the total Scope of Work described above.

The project cost/levellized tariff shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work for payment of subsidy amount irrespective of his actual cost of execution of the project. No escalation will be granted on any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.

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The project cost/levellized tariff shall be inclusive of all duties and taxes, insurance etc .The prices quoted by the firm shall be complete in all respect and no price variation /adjustment shall be payable.

The operation & maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and replacement of defective modules, invertors / Power Conditioning Unit (PCU), spares, consumables & other parts for a period of 5 years under CAPEX model.

The project cost/levellized tariff shall be specified in sanction letter based on Successful Bidder's quote for each state. The project cost shall be in accordance with all terms, conditions, specifications and other conditions of the Contract as accepted by the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI and incorporated into the sanction letter.

The Bidder shall complete the Price Bid for CAPEX as per (Format-B) furnished in the RFS Documents. VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI SERVICE CHARGES (If Applicable)

## **INSURANCE**

The Bidder shall be responsible and take an Insurance Policy for transit-cumstorage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance during O&M period. The Bidder shall also take insurance for Third Party Liability covering loss of human life, engineers and workmen and also covering the risks of damage to the third party/material/equipment/properties during execution of the Contract. Before commencement of the work, the Bidder will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of bidder.

## **WARRANTEES AND GUARANTEES**

The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide system warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 5 years from the date of commissioning. The successful bidder has to transfer all the Guarantees /Warrantees of the different components to the Owner of the project. The responsibility of operation of Warrantee and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint

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responsibility of the Successful bidder and the owner of the project and VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI will not be responsible in any way for any claims whatsoever on account of the above.

### **TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP**

The Design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/Indian Standards as detailed in the Section- III (Technical specifications) of the bid document. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE shall be used.

The specifications of the components should meet the technical specifications mentioned in Section III.

Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.

### **OPERATION & MAINTENANCE (O&M)**

The bidder shall be responsible for Operation and Maintenance of the Roof top Solar PV system of capacity above 10kWp for a period of 5 years, during which VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI will monitor the project for effective performance in line with conditions specified elsewhere in the bid document and for project having capacity upto 10kWp (Part-B consumers) project should have warranty for 5 years only. During this period, the bidder shall be responsible for supply of all spare parts as required from time to time for scheduled and preventive maintenance, major overhauling of the plant, replacement of defective modules, inverters, PCU's etc and maintaining log sheets for operation detail, deployment of staff for continuous operations and qualified engineer for supervision of O&M work, complaint logging & its attending.

### **METERING AND GRID CONNECTIVITY:**

Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the concerned DISCOM and / or CEA (if available by the time of implementation). VISVESVARAYA TECHNOLOGICAL

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UNIVERSITY/SNA could facilitate connectivity; however the entire responsibility lies with bidder only.

**PLANT PERFORMANCE EVALUATION:**

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the O&M period. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance to qualify for release of 10% subsidy and as per Clause 6.9 of Section-II. Minimum CUF of 15% should be maintained for a period of 5years. The bidder should send the periodic plant output details to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions.

PROGRESS REPORT The bidder shall submit the progress report monthly to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI in Prescribed Proforma. VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI will have the right to depute his/their representatives to ascertain the progress of contract at the premises of works of the bidder.

**PROJECT INSPECTION.**

The project above 10kWp progress will be monitored by VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI and the projects will be inspected for quality at any time during commissioning or after the completion of the project either by officer(s) from VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI or any authorized agency/ experts identified by VTU.

Project(s) below 10kWp shall be inspected by the bidder from the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI list of empanelled experts as per the checklist requirement of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI for release of subsidy, if required by VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI. All the expenses for inspection in this regard shall be borne by the Bidder only. 3.28.1.1 VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI reserves the right to do sample inspection checks for the projects commissioned by the Bidder.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI may also depute a technical person(s) from its list of empanelled experts for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufactures facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required.

**APPLICABLE LAW**

The Contract shall be interpreted in accordance with the laws of the Union of India.

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### **SETTLEMENT OF DISPUTE**

If any dispute of any kind whatsoever arises between VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI and Successful bidder in connection with or arising out of the contract including without prejudice to the generality of the foregoing, any question regarding the existence, validity or termination, the parties shall seek to resolve any such dispute or difference by mutual consent.

If the parties fail to resolve, such a dispute or difference by mutual consent, within 45 days of its arising, then the dispute shall be referred by either party by giving notice to the other party in writing of its intention to refer to arbitration as hereafter provided regarding matter under dispute. No arbitration proceedings will commence unless such notice is given. Any dispute in respect of which a notice of intention to commence arbitration has been given in accordance with Sub Clause 3.31.2, shall be finally settled by arbitration.

### **IN CASE THE CONTRACTOR IS A PUBLIC SECTOR ENTERPRISE OR A GOVERNMENT DEPARTMENT.**

In case the Contractor is a Public Sector Enterprise or a Government Department, the dispute shall be referred for resolution in Permanent Machinery for Arbitration (PMA) of the Department of Public Enterprise, Government of India. Such dispute or difference shall be referred by either party for Arbitration to the sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary / Additional Secretary, when so authorized by the Law Secretary, whose decision shall bind the Parties finally and conclusive. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

### **IN CASE THE CONTRACTOR IS NOT A PUBLIC SECTOR ENTERPRISE OR A GOVERNMENT DEPARTMENT.**

In all other cases, any dispute submitted by a party to arbitration shall be heard by an arbitration panel composed of three arbitrators, in accordance with the provisions set forth below.

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The VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI and the Contractor shall each appoint one arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the two arbitrators do not succeed in appointing a third arbitrator within Thirty (30) days after the latter of the two arbitrators has been appointed, the third arbitrator shall, at the request of either party, be appointed by the Appointing Authority for third arbitrator which shall be the President, Institution of Engineers.

If one party fails to appoint its arbitrator within thirty (30) days after the other party has named its arbitrator, the party which has named an arbitrator may request the Appointing Authority to appoint the second arbitrator.

If for any reason an arbitrator is unable to perform its function, the mandate of the Arbitrator shall terminate in accordance with the provisions of applicable laws as mentioned in Clause 3.34 (Applicable Law) and a substitute shall be appointed in the same manner as the original arbitrator. Arbitration proceedings shall be conducted with The Arbitration and Conciliation Act, 1996. The venue or arbitration shall be New Delhi.

The decision of a majority of the arbitrators (or of the third arbitrator chairing the arbitration panel, if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction as decree of the court. The parties thereby waive any objections to or claims of immunity from such enforcement.

The arbitrator(s) shall give reasoned award.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the agreement unless they otherwise agree.

Cost of arbitration shall be equally shared between the Successful bidder or Contractor and VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI.

#### **FORCE MAJEURE:**

Notwithstanding the provisions of clauses contained in this RFS document; the contractor shall not be liable to forfeit (a) Security deposit for delay and (b) termination of contract; if he is unable to fulfill his obligation under this contract due to force majeure conditions. 3.32.2 For purpose of this clause, "Force Majeure" means an event beyond the control of the contractor and not involving the contractor's fault or negligence and not foreseeable, either in its sovereign or contractual capacity. Such events may include but are not restricted to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restrictions and fright embargoes etc. Whether a "Force majeure" situation exists or not, P a g e 33 | 91 shall be decided by VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI and its decision shall be final and binding on the contractor and all other concerned. 3.32.3 In the event that the contractor is not able to perform his obligations under this contract on account of force majeure, he will be relieved of his obligations during the force majeure period. In

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the event that such force majeure extends beyond six months, VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI has the right to terminate the contract in which case, the security deposit shall be refunded to him. 3.32.4 If a force majeure situation arises, the contractor shall notify VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI in writing promptly, not later than 14 days from the date such situation arises. The contractor shall notify VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI not later than 3 days of cessation of force majeure conditions. After examining the cases, VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI shall decide and grant suitable additional time for the completion of the work, if required.

**LANGUAGE:**

All documents, drawings, instructions, design data, calculations, operation, maintenance and safety manuals, reports, labels and any other data shall be in English Language. The contract agreement and all correspondence between the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI and the bidder shall be in English language.

**OTHER CONDITIONS:**

The Successful bidder shall not transfer, assign or sublet the work under this contract or any substantial part thereof to any other party. The work has to be completed by the entrusted agency only.

The Successful bidder shall not display the photographs of the work and not take advantage through publicity of the work without written permission of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI i.e. owner of the Rooftop.

The Successful bidder shall not make any other use of any of the documents or information of this contract, except for the purposes of performing the contract.

**SUCCESSORS AND ASSIGNS:**

In case the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI or Successful bidder may undergo any merger or amalgamation or a scheme of arrangement or similar re-organization & this contract is assigned to any entity (ies) partly or wholly, the contract shall be binding mutatis mutandis upon the successor entities & shall continue to remain valid with respect to obligation of the successor entities.

**SEVERABILITY:**

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It is stated that each paragraph, clause, sub-clause, schedule or annexure of this contract shall be deemed severable & in the event of the unenforceability of any paragraph, clause sub-clause, schedule or the remaining part of the paragraph, clause, sub-clause, schedule annexure & rest of the contract shall continue to be in full force & effect. 3.34.6 COUNTERPARTS: This contract may be executed in one or more counterparts, each of which shall be deemed an original & all of which collectively shall be deemed one of the same instrument. 3.34.7 RIGHTS & REMEDIES UNDER THE CONTRACT ONLY FOR THE PARTIES: This contract is not intended & shall not be construed to confer on any person other than the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI & Successful bidder hereto, any rights and / or remedies herein. 3.34.8 PRICE PREFERENCE FOR M.S.M.E All benefits are available to MSMEs subject to compliance of provision of MSMED Act,2006 and its amendment thereof.

**CORRESPONDENCE:**

Bidder requiring any clarification on bid documents may contact in writing or by Fax /E Mail. Sl. No Name Contact Number Email id 1. 2.

**EVALUATION CRITERIA AND SUBSIDY DISBURSEMENT:**

BID EVALUATION AND SUBSIDY DISBURSEMENT i.

1. BID EVALUATION:

The evaluation process comprises the following four steps:

Step I - Responsiveness check of Techno Commercial Bid

Step II -Evaluation of Bidder's fulfilment of Eligibility Criteria as per Clause 3.3 of Section-I

Step III -Evaluation of Price Bid

Step IV -Successful Bidders(s) selection i.2. RESPONSIVENESS CHECK OF TECHNO COMMERCIAL BID The Techno Commercial Bid submitted by Bidders shall be scrutinized to establish responsiveness to the requirements laid down in the RFS subject to related clauses.

Any of the following may cause the Bid to be considered "Non-responsive", at the sole discretion of VISVESVARAYA TECHNOLOGICAL UNIVERSITY:

- a. Bids that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, power of attorney supported by a board resolution, applicable undertakings, format for disclosure, valid Bid Bond, etc.;
- b. Bid not signed by authorized signatory and /or stamped in the manner indicated in this RFS;
- c. Material inconsistencies in the information /documents submitted by the Bidder, affecting the Eligibility Criteria;
- d. Information not submitted in the formats specified in this RFS;
- e. Bid being conditional in nature;
- f. Bid not received by the Bid Deadline;

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- g. Bid having Conflict of Interest;
- h. More than one Member of a Bidding Company using the credentials of the same Parent Company /Affiliate;
- i. Bidder delaying in submission of additional information or clarifications sought by VISVESVARAYA TECHNOLOGICAL UNIVERSITY as applicable;
- j. Bidder makes any misrepresentation.

Each Bid shall be checked for compliance with the submission requirements set forth in this RFS before the evaluation of Bidder's fulfilment of Eligibility Criteria is taken up.

Clause 3.3 shall be used to check whether each Bidder meets the stipulated requirement.

#### **PRELIMINARY EXAMINATION:**

The VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and stamped and whether the Bids are otherwise in order.

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total Amount that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total amount shall be corrected. If there is a discrepancy between words and figures, the lowest of the two will prevail.

#### **EVALUATION OF BIDDER'S FULFILMENT OF ELIGIBILITY CRITERIA:**

Evaluation of Bidder's Eligibility will be carried out based on the information furnished by the Bidder as per the prescribed Formats and related documentary evidence in support of meeting the Eligibility Criteria as specified in Clause 3.3. Non-availability of information and related documentary evidence for the satisfaction of Eligibility Criteria may cause the Bid to be nonresponsive.

#### **EVALUATION OF PRICE BID:**

Price Bid of the Qualified Bidders shall only be opened on the e-procurement portal. The Price Bid submitted by the Bidders shall be scrutinized to ensure conformity with the RFS. Any Bid not meeting any of the requirements of this RFS may cause the Bid to be considered "Non-responsive" at the sole decision of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI. The Price bids for the for each State shall be evaluated separately for CAPEX (Part-A and Part-B) CAPEX (Part-A and Part-B).

The Price bids for the for each State shall be evaluated separately as follows; a. The Price bids for each State shall be evaluated separately on project cost basis quoted for Part-A capacity and Part-B capacity separately. b. Since the maximum allowable project cost is Rs \_\_\_\_ /Wp, so bidder submitting bid above the maximum allowable project cost for Part-B and/or Part-A capacity as per the price bid shall be rejected.

Bids qualifying in Clause 3.6 shall only be evaluated in this stage. 6.3.2. The Project Cost/Levellized Tariff requirement for Part-A capacity as well as for Part-B capacity(only for CAPEX model projects) quoted in all Price Bids of Qualified Bidders shall be ranked from the lowest to the highest for each location/State separately under CAPEX.

Based on the price bid quoted by the bidders for Part-A capacity, VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI shall arrange the bids in the ascending order i.e. L1, L2, L3, \_ \_ \_ (L1 being the lowest project cost for Part-A capacity). Similar process as per clause 6.3.2.1 will be adopted for Part-B capacity separately. 6.3.2.2. For all the states and for Part-B and Part-A capacity, lowest bidder will be declared as the successful bidder. For further allocation, the L2 bidder will be asked to match the price quoted by the L1 bidder. In case the L2 bidder refuses to match the L1 price then L3 bidder shall be offered to match L1 price. The process will continue till the next bidder matches the L1 price. The bidder who matches the L1 price will P a g e 38 | 91 also be declared Successful bidder for that state. The intent is to have two bidders in a State for Part-A and Part-B capacity .However, VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI at its own discretion may relax the condition. Similar process as per clause 6.3.2 will be adopted for all the States separately and also separately for CAPEX.

All the qualified bidders of a State and empanelled companies of the State except the L1 bidder will be given 10 days from the date of notification of L1 price on VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI website to give their consent to execute the work at L1 price failing which it will be assumed that they are not interested to match L1 price. In case of more than one such response is received expressing their consent to match the L1 price and to execute the capacity in the State then the preference shall be given in the ascending order of the bid quoted by the bidder. i.e. first preference will be given to L2 then L3 and so on until entire capacity is allocated.

Letter(s) of Acceptance (LOA): The Letter(s) of Acceptance (LOA) shall be issued to all such Successful Bidders(s) selected as per the provisions. Each Successful Bidder shall acknowledge the LOA and return duplicate copy with signature & stamp of the authorized signatory of the Successful Bidder to the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI within Thirty (30) days of issue of LOA.

If the Successful Bidder, to whom the Letter of Allocation has been issued does not fulfil any of the conditions specified in Bid document, the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI reserves the right to annul/cancel the award of the Letter of Allocation of such Successful Bidder and forfeit the PBG/Bid Bond.

The REGISTRAR, VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI at its own discretion, has the right to reject any or all the Bids without assigning any reason whatsoever, at its sole discretion.

There shall be no negotiation on the quoted Project cost or Subsidy requirement between the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI and the Bidder(s), during the process of evaluation.

For Part-A and Part-B The intent has been to have more than one bidder in a State at L1 rate .So apart from the procedure adopted under clause of RFS, following methodology shall be adopted to allocate the remaining capacity, if none of the qualified bidder of the State matches the L1 price in a State: In such cases, the details of the remaining capacity under each State and the L1 price of that State will be notified through VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI website for information to all the qualified bidders. All qualified bidders on State-India basis within 10 days from the date of notification on VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI website or against individual intimation shall give their consent along with the Bid bond of equivalent amount to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI for execution of the remaining capacity at L1 rate of the State they are interested.

In case of more than one such response is received expressing their consent to execute the capacity in the State they are interested then the preference shall be given in the alphabetical order of their names. INCREASE/DECREASE OF BIDDER ALLOCATED CAPACITY IN A STATE VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI reserves the right to increase upto twenty five percent (25%) of the Bidder Allocated Capacity at its sole discretion and at the request of the Bidder at L1 price of the State only.

In case bidder has requested for reduction in Allocated capacity, then upto 25% reduction of allocated capacity in a State for Part-A capacity only can be accepted by VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI without forfeiture of PBG at VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI sole discretion subject to the condition that bidder has received at least sanction of 75% of allocated capacity for Part-A capacity for that state.

In case capacity is modified by VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI as per Clause 6.4.1 & 6.4.2 above, Successful bidder shall submit the equivalent amount of PBG/Amended PBG to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI within 30 days from the date of issue of allocation letter /sanction letter.

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**TRANSFER OF CAPACITY:**

No transfer of allocated capacity in full or part.

**NOTIFICATION TO SUCCESSFUL BIDDERS:**

6.6.1. The name of Successful Bidders shall be notified indicating the allocated capacity and the awarded project price in a state on VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI website and also shall be notified individually through letter of allocation.

**PROJECT ALLOCATION AND SANCTION:**

1.The identification of the projects (roof tops) is as identified by the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI. The Bidders, however, in their own interest are advised to make a preliminary survey of availability of roof tops in the campus at Belagavi for which they intend to Bid, as well as issue of Grid connectivity, as non-availability of roof tops and non-completion of other formalities after allocation of project will result in forfeiture of Bid Bond/PBG amount submitted by them.

The Successful Bidders selected as described in Clause 6.3 above shall be issued Letter of Allocation (LOA) indicating the allocated capacity for Part-B and Part-A under CAPEX & Levellized tariff for Part-A etc.

The bidders who have been notified as Successful Bidders, shall be given 4 months from the date of issue of Letter of Allocation for commissioning of the allocated capacity in which roofs identification is also in the bidders scope.

Preference should be given to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI identified roofs first. In the event of offer given by VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI to the Bidder to execute the project in the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI identified roof, the time for submission of project sanction documents by the bidder to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI will be 30 days from the date of issue of allocation letter which can be extended depending upon the merit of the case. Failure of noncompliance of same shall lead to forfeiture of PBG for that State in proportion to the capacity allocated in the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI identified location.

**SUBSIDY DISBURSEMENT:**

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI will provide 15% of the L1 Project Cost awarded to the Successful Bidder in Price Bid for that State as subsidy. 6.9.2. The Project cost awarded to the bidder through letter of allocation shall be considered as the Project Cost

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for this purpose. Total liability of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI under this contract shall be limited to release of this 15% subsidy on the L1 Project awarded to the Bidder through letter of allocation. 6.9.3. The subsidy of Part-A /Part-B projects above 10kWp will be disbursed as follows. a) 100 %Subsidy will be released after the issuance of Commissioning/ completion certificate and acceptance of project as per Clause 12.1.1 If any extra facilities are agreed between the Successful Bidder and the owner beyond the scope of this allocation letter/ RFS document than extra payment shall be made by the Owner on mutually decided (Owner & Successful Bidder) terms and conditions. In any case, VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI shall neither interfere in their business affairs nor shall be liable for extra claim by Successful Bidder or Owner. 6.9.4. VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI may consider to release as case to case basis depending on the actions taken by the Successful Bidder and the progress achieved in the process, the subsidy amount indicated at Clause 6.9.3 (a) above in case Grid connectivity of the Project has not been done although the Project is otherwise ready for the commissioning. However, the PBG shall not be released till the project is connected with the Grid. No "NOC" from DISCOM is required for the grid connectivity for the Part-B projects (below 10kWp). However, this does not exempt the project requirement for grid connectivity. For avoidance of doubts on grid connectivity respective SERC and DISCOM norms must be followed. In case the Successful Bidder/ Project Developer is not the Owner of the Project, subsidy shall be released to Successful Bidder/ Project Developer after written consent of Owner only.

**OTHER CONDITIONS:**

Bidder or owner of the building has to obtain all the necessary approvals/Consents/Clearances required for Erection, Testing, Commissioning and O&M of the project including Grid connectivity. VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI shall not have any responsibility in this regard.

**Bid bond and Processing fee submission:** Bid bond shall be submitted separately for each State for the offered capacity in a separate envelop (along with Processing fee) superscripted with name of State for which Bid is being quoted & other details .However, Processing fee for all the States for which the bid are being submitted may be consolidated and a single DD may be furnished.

**TAX EXEMPTIONS:** Price bids are invited inclusive of Taxes and duties. However, Tax exemptions including certificates of any sort, if available may be dealt with the concerned Dep't

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of Govt. of India by the bidder. VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI in no case will be responsible for providing any tax exemptions to the bidder.

**ELIGIBILITY OF STANDALONE SYSTEM:**

Standalone system is not allowed under this scheme. The system should be grid connected.

**REQUIREMENT OF APPROVALS ON MAKES OF THE COMPONENTS:**

The modules should be manufactured in India only. Rest of the components can be procured from any source. However these items should meet the Technical specification and standards mentioned in RFS.

**OPERATION OF THE SYSTEM DURING WEEKENDS AND GENERAL HOLIDAYS AND CALCULATION OF CUF:**

During grid failure, the SPV system stops generating. Any instances of grid failure need to be mentioned in the monthly report and those instances need to be authorised by local DISCOM. Then the period will be excluded in calculation of CUF.

Taxes and duties shall be paid extra by the bidder as applicable on the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI service charges and the bid processing fee.

**PENALTY FOR DELAY IN PROJECT IMPLEMENTATION:**

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI will issue the sanction letter(s) for the Project (s) indicating the subsidy amount(s) which will be disbursed in line with the provisions of the RFS document. The Bidder shall complete the project identification, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within 4 months from the date of issue of allocation letter.

If the bidder fails to commission the allocated capacity within 4 months from date of issue of allocation letter, Penalty on per day basis calculated for the Performance Security on a 6 months period would be levied. After 6 months allocated capacity will get cancelled and the PBG amount pro-rata to noncommissioned capacity would be forfeited. Example: If a project of 500 kW is delayed by 36 days then the LD will be levied as given below. PENALTY = ((Performance Security)/180 days)\*delayed days = (7, 50,000 /180)\*36 = Rs.1,50, 000.

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**TIME OF COMPLETION OF ALLOCATED CAPACITY:**

Project completion shall be 4 months from the date of issue of allocation letter. Failure of non-compliance of same shall lead to forfeiture of PBG for that State in proportion to the capacity not identified.

For any additional capacity, bidder shall complete/commission the capacity within 4 months from the date of issue of allocation letter/sanction letter. This will include submission of project sanction documents to the satisfaction of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI.

The period of construction given in Time Schedule includes the time required for mobilisation as well as testing, rectifications if any, retesting and completion in all respects to the entire satisfaction of the Engineer-in-Charge.

A joint programme of execution of the Work will be prepared by the Engineer-in-Charge or its representative nominated for the purpose and Successful bidders based on priority requirement of this project. This programme will take into account the time of completion mentioned in clause 9.1 above and the time allowed for the priority Works by the Engineer-in-Charge. 9.5 Monthly/Weekly implementation programme will; be drawn up by the Engineer-in-Charge jointly with the Successful bidder, based on availability of Work fronts as per Clause 9.4 above. Successful bidder shall scrupulously adhere to these targets /programmes by deploying adequate personnel, tools and tackles and he shall also supply himself all materials of his scope of supply in good time to achieve the targets/programmes. In all matters concerning the extent of targets set out in the weekly and monthly programmes and the degree of achievements, the decision of the Engineer-in-Charge will be final and binding. 10. USER ID FOR UPDATING THE PROJECT PROGRESS ON BI-WEEKLY BASIS Successful bidder authorised representative in whose name PoA has been executed and submitted along with the bid shall be provided Password and User id for updating the project progress on monthly basis in the sanction letter/Allocation letter for the State. Successful bidder should update the info as per the requirement of the software tool .Non updating of the progress shall be considered as no progress and shall attract punitive actions as per the relevant provision of the Contract. However, the decision of Engineer -in -charge shall be final in this regard.

**INSPECTION AND AUDIT BY THE GOVERNMENT:**

The Successful bidder shall permit the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI to inspect the Successful bidder's site, accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI, if so required by the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI any time.

**COMMISSIONING /COMPLETION CERTIFICATE:**

Application for completion/commissioning certificate: When the Successful bidder fulfils his obligation under the Contract, he shall be eligible to apply for Completion Certificate. The Engineer-in-Charge shall normally issue to the Successful bidder the Completion Certificate within one month after receiving any application therefore from the Successful bidder after verifying from the completion documents and satisfying himself that the Work has been completed in accordance with and as set out in Contract documents. The Successful bidder, after obtaining the Completion Certificate, is eligible to avail the subsidy as per the Clause 6.9

**DOCUMENT SUBMISSION FOR ISSUE COMMISSINONG/ COMPLETION CERTIFICATE:**

For the purpose of Clause 12.1 above the following documents will be deemed to form the completion documents: a. Checklist for inspection of Roof top SPV power plants as per VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI format.

b. Project completion report from successful bidder as per VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI format

c. Project completion/satisfaction certificate from roof top owners/project developers.

**FINAL DECISION AND FINAL CERTIFICATE:**

Upon completion of 5 years of O&M and subject to the Engineer-in Charge being satisfied, the Engineer-in-Charge shall (without prejudice to the rights of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI to retain the provisions of relevant Clause hereof) otherwise give a certificate herein referred to as the Final Certificate to that effect and the Successful bidder shall not be considered to have fulfilled the whole of his obligations under Contract until Final Certificate shall have been given by the Engineer-in Charge notwithstanding any previous entry upon the Work and taking possession, working or using of the same or any part thereof by the Owner of Roof/VISVESVARAYA TECHNOLOGICAL UNIVERSITY.

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**DEDUCTIONS FROM THE CONTRACT PRICE:**

All costs, damages or expenses which VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI may have paid or incurred, which under the provisions of the Contract, the Successful bidder is liable/will be liable, will be claimed by the VISVESVARAYA TECHNOLOGICAL UNIVERSITY. All such claims shall be billed by the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI to the Contractor within 15 (fifteen) days of the receipt of the payment request and if not paid by the Successful bidder within the said period, the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI may, then, deduct the amount from any moneys due i.e., Performance Security or becoming due to the contractor or Successful bidder under the contract or may be recovered by actions of law or otherwise, if the Successful bidder fails to satisfy the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI of such claims.

**CORRUPT OR FRAUDULENT PRACTICES:**

The VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI requires that Successful Bidders/ Contractors should follow the highest standard of ethics during the execution of contract. In pursuance of this policy, the VISVESVARAYA TECHNOLOGICAL UNIVERSITY: defines, for the purposes of this provision, the terms set forth as follows: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the bid process or in contract execution; and "fraudulent practice" means a misrepresentation of facts in order to influence a bid process or the execution of a contract to the detriment of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY/Govt scheme, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI of the benefits of free and open competition; will declare a firm ineligible/debarred, either indefinitely or for a specific period of time, a GOVT contract if at any time it is found that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government/ VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI schemes.

**DEBARRED FROM PARTICIPATING IN VISVESVARAYA TECHNOLOGICAL UNIVERSITY'S ROOF TOP TENDER:**

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI reserves the right to carry out the performance review of each Bidder from the time of submission of Bid onwards. In case it is

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observed that a bidder has not fulfilled its obligations in meeting the various timelines envisaged, in addition to the other provisions of the RFS, such Bidders may be debarred from participating in VISVESVARAYA TECHNOLOGICAL UNIVERSITY's any future tender for a period as decided by the competent authority of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI.

13.2. The Successful bidder must ensure that the ROOF TOP SOLAR PV subsidy is available for newly commissioned projects i.e. for the projects whose construction/despatch of equipment's have been started only after the issue of sanction letter/allocation letter .Any roofs on which projects has been installed or commissioned before the issue of allocation letter/sanction letter shall be construed as fraudulent activity in which case Successful bidder(s) may be debarred from participating in VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI's future tender for a period as decided by the Competent authority. However, such locations may be used for installation of additional capacity with the prior approval of competent authority.

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## **TECHNICAL SPECIFICATIONS**

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to cancelation of subsidy in full or part as decided VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI & Competent Authority's decision will be final and binding on the bidder.

### **DEFINITION:**

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. Solar PV system shall consist of following equipments/components.

- Solar PV modules consisting of required number of Crystalline PV modules.
- Grid interactive Power Conditioning Unit with Remote Monitoring System.
- Mounting structures
- Junction Boxes.
- Earthing and lightning protections.
- IR/UV protected PVC Cables, pipes and accessories

### **SOLAR PHOTOVOLTAIC MODULES:**

- The PV modules used should be made/manufactured in India only.
- The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-2- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

a) For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701

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- b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 330 Wp and above wattage. Module capacity less than minimum 330 watts should not be accepted
- c) Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
- d) PV modules must be tested and approved by one of the IEC authorized test centers.
- e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum.
- f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY/owners shall allow only minor changes at the time of execution.

g) Other general requirement for the PV modules and subsystems shall be the Following:

I. The rated output power of any supplied module shall have tolerance of +/- 3%. II. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

III. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.

IV. IV curves at STC should be provided by bidder.

Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each modules (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

- a) Name of the manufacturer of the PV module
- b) Name of the manufacturer of Solar Cells.
- c) Month & year of the manufacture (separate for solar cells and modules)
- d) Country of origin (separately for solar cells and module)
- e) I-V curve for the module Wattage,  $I_m$ ,  $V_m$  and FF for the module
- f) Unique Serial No and Model No of the module
- g) Date and year of obtaining IEC PV module qualification certificate.
- h) Name of the test lab issuing IEC certificate.
- i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

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**Warranties:**

a) Material Warranty: Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than five (05) years from the date of sale to the original customer ("Customer") ii. Defects and/or failures due to manufacturing iii. Defects and/or failures due to quality of materials iv. Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option

b) Performance Warranty: i. The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the 25 year period and not more than 10% after ten years period of the full rated original output. 15. ARRAY STRUCTURE a) Hot dip galvanized MS mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.

b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (like Delhi-wind speed of 150 km/ hour). It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to VISVESVARAYA TECHNOLOGICAL UNIVERSITY. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.

c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.

d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.

e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels

f) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.

g) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m<sup>2</sup> .

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h) The minimum clearance of the structure from the roof level should be 300 mm.

**JUNCTION BOXES (JBs):**

a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.

b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.

c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.

d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification

**DC DISTRIBUTION BOARD:**

a) DC Distribution panel to receive the DC output from the array field.

b) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

**AC DISTRIBUTION PANEL BOARD:**

a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.

b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.

c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.

d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz. The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.

f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.

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g) Should conform to Indian Electricity Act and rules (till last amendment).

h) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions Variation in supply voltage +/- 10 % Variation in supply frequency +/- 3 Hz.

#### **PCU/ARRAY SIZE RATIO:**

a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.

b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

#### **PCU/ Inverter:**

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

- Switching devices : IGBT/MOSFET
- Control : Microprocessor /DSP
- Nominal AC output voltage and frequency : 415V, 3 Phase, 50 Hz
- (In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.) Output frequency : 50 Hz
- Grid Frequency Synchronization range : + 3 Hz or more
- Ambient temperature considered : -20o C to 50o C
- Humidity : 95 % Non-condensing
- Protection of Enclosure : IP-20(Minimum) for indoor.
- IP-65(Minimum) for outdoor.\ Grid Frequency Tolerance range : + 3 or more• Grid Voltage tolerance : - 20%
- & + 15 % No-load losses : Less than 1% of rated power
- Inverter efficiency (minimum) : >93% ( In case of 10kW or above )
- Inverter efficiency (minimum) : > 90% (In case of less than 10 kW)
- THD : < 3%

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- PF : > 0.9
- a) Three phase PCU/ inverter shall be used with each power plant system (10kW and/or above) but In case of less than 10kW single phase inverter can be used.
- b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- d) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- e) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068- 2(1,2,14,30) /Equivalent BIS Std.
- f) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
- g) The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

#### **INTEGRATION OF PV POWER WITH GRID:**

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

#### **DATA ACQUISITION SYSTEM / PLANT MONITORING:**

- i. Data Acquisition System shall be provided for each of the solar PV plant.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided.



- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system
- v. The following parameters are accessible via the operating interface display in real time separately for solar power plant:
  - a. AC Voltage.
  - b. AC Output current.
  - c. Output Power
  - d. Power factor.
  - e. DC Input Voltage.
  - f. DC Input Current.
  - g. Time Active.
  - h. Time disabled.
  - i. Time Idle.
  - j. Power produced
  - k. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage).
- vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
- vi. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.
  - vii. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
  - viii. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored. x. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.

- ix. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- x. All instantaneous data shall be shown on the computer screen. xiii. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- xi. Provision for Internet monitoring and download of data shall be also incorporated. xv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
- xii. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis. xvii. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- xiii. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner /VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI server and portal in future shall be kept.

**TRANSFORMER "IF REQUIRED" & METERING:**

- a) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work.
- b) The bidirectional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy.
- c) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

**POWER CONSUMPTION:**

- a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not under the purview of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI or MNRE. Decisions of appropriate authority like DISCOM, state regulator may be followed.

**PROTECTIONS:**

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:

**LIGHTNING PROTECTION:**

The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

**SURGE PROTECTION:**

Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement)

**EARTHING PROTECTION:**

- i. Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Department/VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.
- ii. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

**GRID ISLANDING:**

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- i. In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.
- ii. A manual disconnect 4pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel 26. 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: -10oC to +80oC.
  - 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 copper 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 1100V, 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 %.

### **CONNECTIVITY:**

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers. Plant Capacity Connecting voltage Up to 10 kW 240V-single phase or 415V-three phase at the option of the consumer Above 10kW and up to 100 kW 415V – three phase Above 100kW At HT/EHT level (11kV/33kV/66kV) as per DISCOM rules

- i. The maximum permissible capacity for rooftop shall be 1 MW for a single net metering point.
- ii. Utilities may have voltage levels other than above, DISCOMS may be consulted before finalization of the voltage level and specification be made accordingly.
- iii. For large PV system (Above 100 kW) for commercial installation having large load, the solar power can be generated at low voltage levels and stepped up to 11 kV level through the step up transformer. The transformers and associated switchgear would require to be provided by the SPV bidders.

### **TOOLS & TACKLES AND SPARES:**

- i. After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder 1 for approval of specifications and make from VISVESVARAYA TECHNOLOGICAL UNIVERSITY/ owner.
- ii. A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished

**DANGER BOARDS AND SIGNAGES:**

Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with VISVESVARAYA TECHNOLOGICAL UNIVERSITY/ owner.

**FIRE EXTINGUISHERS:** The firefighting system for the proposed power plant for fire protection shall be consisting of:

- a) Portable fire extinguishers in the control room for fire caused by electrical short circuits
- b) Sand buckets in the control room
- c) The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

**DRAWINGS & MANUALS:**

- i. Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.
- ii. Approved ISI and reputed makes for equipment be used.
- iii. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to VISVESVARAYA TECHNOLOGICAL UNIVERSITY/owners before progressing with the installation work

**PLANNING AND DESIGNING:**

- i. The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Page 60 | 91 Shadow Analysis Report to VISVESVARAYA TECHNOLOGICAL UNIVERSITY/Owner for approval.
- ii. VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.
- iii. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

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**DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT:**

- i. The Contractor shall furnish the following drawings Award/Intent and obtain approval
- ii. General arrangement and dimensioned layout
- iii. Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- iv. Structural drawing along with foundation details for the structure.
- v. Itemized bill of material for complete SV plant covering all the components and associated accessories.
- vi. Layout of solar Power Array
- vii. Shadow analysis of the roof

**SOLAR PV SYSTEM ON THE ROOFTOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT:**

The Solar PV system on the rooftop of the selected buildings will be installed for meeting upto 90% of the annual energy requirements depending upon the area of rooftop available and the remaining energy requirement of the office buildings will be met by drawing power from grid at commercial tariff of DISCOMs.

**SAFETY MEASURES:**

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.

**DETAILS TO BE PROVIDED BY THE BIDDER FOR SETTING UP 100 KW ROOF TOP GRID CONNECTED SOLAR POWER PLANT AT POST GRADUATE CENTRE, MUDDENAHALLI.**

**Name of Bidder:**

<b>S.No</b>	<b>Description</b>	<b>Technical Specification</b>	<b>Make &amp; Model No.</b>	<b>Unit</b>	<b>Qty</b>
1	Solar PV Module				
2	Aggregate Solar Capacity (kWp)				
3	Grid Tie Inverter (Type and capacity)				
4	Aggregate Inverter capacity				
5	Module mounting structure design details				
6	Array Junction Boxes				
7	AC Distribution Board				
8	UG Cables				
9	UV Cables				
10	Maintenance free earthing				
11	Lightening Arrestor (Early Streamer Emission)				
12	LT AC panels GA drawings				
13	Meters				
14	GSM based Online Monitoring system				
15	Expected Output/Annum				

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## PROJECT SITE DETAILS

PROJECT DETAILS		
1	<b>NAME OF PROJECT</b>	<i>SETTING UP 100 KW GRID CONNECTED ROOF TOP SOLAR POWER PLANT AT POST GRADUATE CENTRE, MUDDENAHALLI</i>
2	<b>ADDRESS OF SITE</b>	VTU POST GRADUATE CENTRE, MUDDENAHALLI, CHICKABALLAPUR
3	<b>NAME OF CONTACT PERSON</b>	SURENDRANATH K
4	<b>CONTACT PHONE NO.</b>	9449873469
5	<b>E MAIL ID</b>	<a href="mailto:surendranath_vtu@yahoo.com">surendranath_vtu@yahoo.com</a>
SITE DETAILS		
1	<b>CAPACITY OF SOLAR PLANT REQUIRED</b>	100 KW, ROOF TOP GRID CONNECTED.
2	<b>TYPE OF ROOF</b>	RCC ROOF TOP
3	<b>ROOF AREA AVAILABLE</b>	2700 SQ. MTRS.
ENERGY DETAILS		
1	<b>SANCTION LOAD</b>	160 KW/200KVA
2	<b>CONSUMER CATEGORY</b>	HT
3	<b>INTERNAL SUPPLY VOLTAGE</b>	415 VOLT, 3 PHASE, 50 HZ
4	<b>AVG. MONTHLY GRID CONSUMPTION</b>	15000 Units
5	<b>MINIMUM DAY TIME GRID COMSUMPTION (WINTER)</b>	400 Units
6	<b>MINIMUM DAY TIME GRID CONSUMPTION (SUMMER)</b>	500 Units
7	<b>DG BACK UP CAPACITY AVILABLE @ VTU</b>	125 KVA (125 KVA X 1)

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