



## **Telangana State Renewable Energy Development Corporation Ltd**

Tender Notice. No. TSREDCO/SE/Subsidy/RC/SPV1-10kWp/2020-21

**TENDER Notice:- TSREDCO/SE/Subsidy/RC/SPV1-10kWp/2020-21,Dt: 09 11.2020**

### **(E-Procurement Tender Notice)**

**EMPANELMENT AND IMPLEMENTATION OF 1-10kWp CAPACITY GRID CONNECTED SOLAR  
POWER PLANTS AT VARIOUS LOCATIONS IN TELANGANA STATE THROUGH RATE  
CONTRACT PROGRAMME WITH FIVE YEARS OF COMPREHENSIVE MAINTENANCE  
CONTRACT**

**UNDER**

**PHASE – II OF GCRT SOLAR POWER PLANTS PROGRAMME OF MNRE FOR INDIVIDUAL,  
HOUSE HOLDS / RESIDENTIAL BUILDINGS WITH CENTRAL FINANCIAL ASSISTANCE  
THROUGH TSDISCOMs (TSSPDCL & TSNPDCL)**

**CLOSING DATE: 25.11.2020AT 3.00 PM**



### **TELANGANA STATE RENEWABLE ENERGY DEVELOPMENT CORPORATION LTD (TSREDCO)**

Corporate Office: D. No. 6-2-910, Visvesvaraya Bhavan,  
The Institution of Engineers Building, Khairatabad, Hyderabad - 500 004.  
Telangana State, India

PHONE: 040-23201502, 23201503, FAX : 040-23201504

E-mail : [info@tsredco.telangana.gov.in](mailto:info@tsredco.telangana.gov.in), [se@tsredco.telangana.gov.in](mailto:se@tsredco.telangana.gov.in)

Web site: <https://tsredco.telangana.gov.in>



# **Telangana State Renewable Energy Development Corporation Ltd**

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## **Telangana State Renewable Energy Development Corporation Ltd**

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### **Website advertisement**



#### **TELANGANA STATE RENEWABLE ENERGY DEVELOPMENT CORPORATION LTD - (TSREDCO)**

Corporate Office: D. No. 6-2-910, Visvesvaraya Bhavan, The Institution of Engineers Building,  
Khairatabad, Hyderabad, 500 004. Telangana State PHONE: 040-23201502, 23201503,  
FAX: 040-23201504

Online tenders are hereby invited from interested and eligible bidders for "Design, Supply, Installation, Testing & Commissioning of Various Capacities of Grid Connected 1-10kWp solar power plants at various locations in Telangana state through Rate Contract programme under CAPEX Mode". Interested bidders can download the bids online from 10.11.2020 and submit the same, from 18. 11.2020 to 25.11.2020 till 03:00PM through [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in). For further details please visit our website: [www.tsredco.telangana.gov.in](http://www.tsredco.telangana.gov.in)

Date: 09.11.2020

**VC & MD,  
TS REDCO**



# **Telangana State Renewable Energy Development Corporation Ltd**

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## **SECTION – I**

### **TENDER SCHEDULE**

TSREDCO invites sealed tenders comprising Pre-qualification, technical bid and price bid from the eligible bidders for Design, Supply, Installation, Testing and Commissioning of 1-10kWp Grid Connected Roof top various capacities of Solar Photo Voltaic Power Plants under Net-metering Scheme with Five Years of Comprehensive Maintenance Contract at various locations of Individual House Holds/ Residential Buildings in Telangana State under CAPEX Mode.

#### **Time schedule of various tender related events**

Bid calling date	09.11.2020
Bid Document fee (Non refundable)	Rs.23,600/- (Including GST@18% ) by way of DD from any Scheduled Bank in favour of TSREDCO, payable at Hyderabad
Bid Documents available from	10. 11.2020
Pre Bid Conference	18.11.2020at 3.00 PM at TSREDCO, D. No. 6-2-910, Visvesvaraya Bhavan, The Institution of Engineers Building, Khairatabad, Hyderabad, 500 004. Telangana State, India
Bid Document uploading Date	19.11.2020 from 3.00 PM onwards
Bid Document Downloading End Date	25. 11.2020 till 03.00 PM
Last date for uploading of online documents	25.11.2020 till 03.00 PM
Last date for submission of Hard copies of documents uploaded online	25. 11.2020 till 04.00 PM at D. No. 6-2-910, Visvesvaraya Bhavan, The Institution of Engineers Building, Khairatabad, Hyderabad, 500 004. Telangana State, India
Pre-qualification & Technical Bid opening date/time	26. 11.2020 at 4:30 PM.
Price Bid opening date/time	28.11.2020 at .3:00 PM
Contact person	General Manager, TSREDCO, Hyderabad
Reference No	<b>TSREDCO/SE/Subsidy/RC/SPV1-10kWp/2020-21,Dt.09.11.2020</b>



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### **CLARIFICATIONS:**

- i.** Queries if any, can be made through e-mail only on [se@tsredco.telangana.gov.in](mailto:se@tsredco.telangana.gov.in) on or before **11..2020 up to 05:00 PM**. Queries received via any mode other than e-mail id mentioned above will not be entertained. The queries should only be sent in following format on the official letter head of the company.

<b>S.No.</b>	<b>Page No. (Tender Ref.)</b>	<b>Clause (Tender Ref.)</b>	<b>Description (Tender Ref.)</b>	<b>Query</b>

- ii.** The addendum/corrigendum if any shall be published on TSREDCO's website i.e. <http://tsredco.telangana.gov.in> as well as on e-procurement platform [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in).
- iii.** The Bidders are requested to submit the bids after issue of clarifications duly considering the changes made if any. Bidders are totally responsible for incorporating/complying the changes/ amendments issued if any in their bid.

VC & MD  
TSREDCO



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**PART – I**

**GENERAL DETAILS**



# **Telangana State Renewable Energy Development Corporation Ltd**

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## **TENDER PARTICULARS**

<b>Sl.</b>	<b>Particulars</b>	<b>Details</b>				
1.	Bid Document fee (Non refundable)	Rs. 23,600/- (Including 18% GST )				
2.	Name of the Work	Empanelment for Design, Supply, Installation, Testing & Commissioning of Grid connected Rooftop Solar PV power plants of 1 to 10 kWp capacity with application fee, insurance, five year AMC/CMC each at various locations of Individual House Holds/ Residential Buildings in Telangana State under CAPEX Mode & Net Metering Policy for MNRE Sanctions. 1. F.No.318/63/2019-Grid Connected Rooftop Dated.27.07.2020 – 20MW for TSSPDCL 2. F.No.318/63/2019-Grid Connected Rooftop Dated.27.07.2020 – 5MW for TSNPDCL				
3.	Minimum Eligibility Criteria	Valid Registered SPV Suppliers with TSREDCO with requisite experience of Design, Supply, Installation, Testing and Commissioning of Grid Connected Solar Projects in the last 3 years as given in below table: <table border="1"><thead><tr><th>Project Category</th><th>Minimum Experience</th></tr></thead><tbody><tr><td>1 to 10 kWp</td><td>At least basic experience in the field of Grid Connected Solar PV systems.</td></tr></tbody></table>	Project Category	Minimum Experience	1 to 10 kWp	At least basic experience in the field of Grid Connected Solar PV systems.
Project Category	Minimum Experience					
1 to 10 kWp	At least basic experience in the field of Grid Connected Solar PV systems.					
4.	Period of Contract	Valid for one year from the date of announcement.				
5.	Amount of EMD/Bid Security	A) Rs. 5,00,000/- by way of Demand Draft in favour of TSREDCO, payable at Hyderabad or Rs.10,00,000/- of Bank Guarantee from a nationalized/ scheduled bank. Firms claiming Exemptions for EMD shall submit the valid registration of NSIC/ SSI/MSME B) <b>The empanelled suppliers of SPV 1-500kWp GCRT RC programme during the FY 2019-20 exempted from the EMD</b>				
6.	Period for furnishing Acceptance & Agreement	Within 15 days from date of finalization of L1 Prices.				



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7.	Bid Validity Period	90 days from the date of opening of commercial bid
8.	Security Deposit (SD)	A) Rs. 5,00,000/- by way of Demand Draft drawn in favour of TSREDCO , payable at Hyderabad OR Rs. 10,00,000/- Bank Guarantee on any Nationalized Bank in favour of TSREDCO valid for six years period at the time of entering into rate contract agreement. The amount / BG to be refund after 5years warranty period. B) <b>The empanelled suppliers in GCRT RC programme during the FY 2019-20, who were paid the Rs.5Lakhs SD by way of DD, they need not to pay again and who were submitted Rs.10Lakhs SD by way of BG, they have to be renewed BG for validity of 6 years period from date of Award.</b>

### Note:

1. The Tender document can be downloaded from [www. https://tender.telangana.gov.in](http://www.https://tender.telangana.gov.in) or [https://tsredco.telangana.gov.in](http://www.https://tsredco.telangana.gov.in) and the cost of tender document should be enclosed by way of Demand Draft of Rs. 23,600/- (Including 18% GST) in favour of TSREDCO, payable at Hyderabad and this D.D. is to be inserted in the technical bid of the tender document.
2. In respect of Minimum eligibility criteria (S.No 3 above), relevant attested copies of approvals of MNRE/TSREDCO shall be submitted along with Technical bid.
3. All relevant required documents along with evidences are to be inserted in technical bid, and only quoted rates (as per Format enclosed) is to be inserted in the financial bid.
4. Financial bid will be opened of those bidders who would duly qualify in the technical bid.
5. Industries exempted from payment of EMD shall enclose duly attested Photostat copy of their Registration Certificate showing the **materials (Solar)** they are permitted to manufacture/to do rendering services and the period of validity of the certificate as proof of eligibility for exemption from payment of EMD/Bid Security.

### Definitions:

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

1. "Affiliate" shall mean a company that either directly or indirectly





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a. controls or

b. is controlled by or

c. is under common control with

a Bidding Company (in the case of a single company) and “control” means ownership by one company

2. “MNRE” shall mean Ministry of New & Renewable Energy

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

4. “Bid / Tender” shall mean the Techno Commercial and the Price/Financial Bid submitted by the Bidder along with all documents/credentials/attachments, formats, etc., in response to this Bid Document, in accordance with the terms and conditions hereof.

5. “Bidder / Tenderer” shall mean Bidding Company submitting the Bid. Any reference to the Bidder includes Bidding Company including its successors, executors and permitted assigns jointly and severally, as the context may require”;

6. “Bidding Company” shall refer to such single/consortium company that has submitted the Bid in accordance with the provisions of this Bid;

7. “Bid Deadline” shall mean the last date and time for submission of Bid in response to this Bid as specified in Bid Information Sheet and as specified in ITB of this Bid document including all amendments thereto;

8. “Bid Document” shall mean all Definitions, Sections, Layouts, Drawings, Photographs, Formats & Annexure etc. as provided in this bid including all the terms and conditions hereof.

9. “CAPEX” shall means Capital Expenditure

10. “CFA” Central Financial Assistance (Subsidy)

11. “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

12. “Competent Authority” shall mean Vice Chairman & Managing Director (VC&MD) of TSREDCO himself and/or a person or group of persons nominated by VC&MD for the mentioned purpose herein;

13. “Company” shall mean a body incorporated in India under the Companies Act, 1956;



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14. "Contract" means the agreement entered into between the Employer and the Contractor/successful bidder, as recorded in the Contract Form signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein;
15. "Contract Price / Contract Value" shall mean the sum accepted or the sum calculated in accordance with the prices accepted in Bid and/or the Contract rates as payable to the Contractor for the entire execution and full completion of the Work (Price for Supply, Transportation, installation & Commissioning (including loading, unloading and transfer to Site), Insurance.
16. "Completion of Work" means that the Project/Works have been completed operationally and structurally has been attained as per Technical Specifications.
17. "Contract Document" shall mean collectively the Bid Document, Design, Drawings, and Specifications, Annexures, agreed variations, if any, and such other documents consisting the bid and acceptance thereof;
18. "CMC" means Comprehensive / Annual Maintenance Contract (CMC/ AMC)
19. "Day" means calendar day;
20. "Defect Liability Period" means the period of validity of the warranties given by the Contractor (commencing at Completion of the Project/Works, during which the Contractor is responsible for defects with respect to the Project/Works.
21. "DISCOMS" shall mean Distribution utilities/companies i.e. TS SPDCL & TS NPDCL
22. "EMD" shall mean the unconditional and irrevocable online payment/ banker cheque/ demand draft to be submitted along with the Bid by the Bidder;
22. "Employer" or "TSREDCO" shall mean Telangana State Renewable Energy Development Corporation Limited, Hyderabad.
23. "Effective Date" means the date from which the Time for Completion shall be determined;
24. "GCC" means the General Conditions of Contract contained in this section;
25. "Goods" means permanent plant, equipment, machinery, apparatus, articles and things of all kinds to be provided and incorporated in the Works by the Contractor under the Contract but does not include Contractor's Equipment;.
26. "Guarantee Test(s)" means the test(s) specified in the Technical Specification to be carried out to ascertain whether the Project/Works is able to attain the functional requirements specified in the Technical Specifications.
27. "IEC" shall mean specifications of International Electro-Technical Commission;



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28. "Parent Company" shall mean a company that holds paid-up equity capital directly or indirectly in the Bidding Company, as the case may be;
29. "Price/Financial Bid" shall mean separate Envelope, containing the Bidder's Quoted Price as per the format prescribed (Technical & Special Conditions of Contract) of this BID.
33. "Qualified Bidder" shall mean the Bidder(s) who, after evaluation of their Techno Commercial Bid as per Eligibility Criteria set forth in Section: Technical & Special Conditions of Contract of this BID stand qualified for opening and evaluation of their Price/Financial Bid;
34. "RC" shall mean Rate Contract
35. "SNA" shall mean State Nodal Agency
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;
37. "Services" means those entire services ancillary to the supply of the products, to be provided by the Contractor under the Contract; e.g. transportation (including loading, unloading and transfer to Site) and provision of marine or other similar insurance, inspection, expediting, carrying out guarantee tests, operations, maintenance etc.
38. "Successful Bidder(s) / Contractor(s)" shall mean the Bidder(s) selected by Employer pursuant to this Bid i.e. on whom award is made.
39. "Standards" shall mean the standards mentioned in the technical specification of the goods and equipment utilized for the Work or such other standard which ensure equal or higher quality and such standards shall be latest issued by the MNRE.
40. "Time for Completion" means the time within which Completion of the Project/Works is to be attained as per the respective PO/ LOI/LOA or the relevant provisions of the contract;
41. "TSNPDCL" means Telangana State Northern Power Distribution Company Limited
42. "TSREDCO" means Telangana State Renewable Energy Corporation Limited
43. "TSSPDCL" means Telangana State Southern Power Distribution Company Limited
44. "Work" means the "Goods" to be supplied, as well as all the "Services" to be carried out under the Contract;



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### 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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**PART – II**

**INSTRUCTIONS TO TENDERERS**



## **Telangana State Renewable Energy Development Corporation Ltd**

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### **2.1 INVITATION FOR BIDS (IFB)**

- A) **Name of Work:** Design, Supply, Installation, Testing & Commissioning of Grid connected Rooftop Solar PV power plants of 1 to 10 kWp capacity with **application fee**, insurance, five year AMC/CMC each at various locations of Individual House Holds / Residential Buildings in Telangana State under CAPEX Mode & Net Metering Policy.
- B) **“All the bidders within the price bracket of (L1 + 20% of L1) shall only be empanelled. If total no. of empanelled agencies are found to be less than 5 members in the acceptable band, then the TSREDCO may also include those agencies who fall in L1+(20+5)% of L1, provided they agree to match L1.”**
- C) The beneficiary will have option of installing RTS system through any of these empanelled vendors at net of CFA amount i.e. making payment to the vendors after deducting the eligible CFA amount. The vendor will claim the CFA from the implementing agency. The CFA for residential sector as stated above shall be permissible only if domestic manufactured Solar Panels (using domestic manufactured Solar cells) are used by the beneficiary. However, CFA will be limited up to 20% / 40% (as the case may be) of the benchmark cost of RTS system as defined by MNRE from time to time or the rate discovered through transparent bidding by the implementing agency, whichever is lower.
- D) The Implementing agency or Ministry officials or designated agency may inspect the – on-going installation or installed plants. In case the systems are not as per standards, non-functional on account of poor quality of installation, or non-compliance of AMC, the implementing agency/Ministry reserves the right to blacklist the vendor. Blacklisting may inter-alia include the following: -
- a. The Vendor/Firm will not be eligible to participate in tenders for Government supported projects.
- b. In case, the concerned Director(s) of the firm/company joins another existing or starts/ joins a new firm/company, the company will automatically be blacklisted.

**2.1.2 Background:** As a part of Intended Nationally Determined Contributions (INDCs), India has committed to increase the share of installed capacity of electric power from non-fossil-fuel sources to 40% by 2030. Solar energy is one of the main sources to accomplish the target of 40% of electric power from non-fossil-fuel. Government of India has set the target of achieving 100 GW of solar power capacity in the country by the year 2022 of which 40 GW to be achieved from rooftop solar (RTS).



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Accordingly, The Govt. of Telangana has announced Telangana Solar Power Policy 2015 with provisions for promotion of Grid connected Solar Rooftop systems with net metering/gross metering option to the consumers. The following are the provisions for promotion of grid connected solar rooftop TS. Solar Power Policy 2015

- The Government will promote solar rooftop systems on public buildings, domestic, commercial and industrial establishments.
- The consumers are free to choose either net or gross meter option for sale of power to DISCOM and the applicable tariff for either of the cases shall be equal to average Cost to Service of the DISCOM which will be determined by TSERC every year.
- Permission will be given to the group of persons / society to set up solar power projects and will be treated as collective generation for supply of power to the households of each society / group member.
- Time bound clearance of proposals through online mode.

The DISCOMs have issued the implementation guidelines based on the promotion policy announced by the GoTS.

Government of Telangana through G.O.MS.No.25, Dated. 03.09.2015 nominated Telangana State Renewable Energy Development Corporation Limited as Nodal Agency for implementation of New & Renewable Energy Programmes in the state of Telangana.

**On behalf of TSDISCOMs** under this scheme therein, TSREDCO is inviting e-bids from interested bidders for Design, Supply, Installation, Testing & Commissioning of Grid connected Rooftop Solar PV power plants of 1 to 10 kWp capacity with **application fee**, insurance, five year AMC/CMC each at various locations of Individual House Holds/ Residential Buildings in Telangana State under CAPEX Mode & Net Metering Policy for MNRE Sanctions through Rate Contract programme.

Any amendment(s)/ corrigendum/clarification(s) with respect to this Tender shall be uploaded on the e-Procurement website only. The bidders should keep themselves updated by regularly visiting the Telangana E-Procurement website and TSREDCO website for any amendment/ corrigendum/ clarification in regard to this Tender.

### **2.1.3 OVERVIEW OF THE TENDER BID:-**

The successful Bidder selected by TSREDCO based on this tender bid shall set up of Design, Supply, Installation, Testing & Commissioning of Grid connected Rooftop Solar PV power plants of 1 to 10 kWp capacity with application fee, insurance, five year AMC/CMC each at



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various locations of Individual House Holds/ Residential Buildings in Telangana State under CAPEX Mode & Net Metering Policy for MNRE Sanctions through Rate Contract programme.

### **2.1.4 SELECTION TECHNOLOGY & ELIGIBLE PROJECTS UNDER THIS TENDER BID**

The Projects to be selected under this bid are of 1-10kWp Solar PV Projects Installed at Various Locations of Individual House Holds/ Residential Buildings in Telangana State. The Projects provide for deployment of Solar PV Technology. However, the selection of projects would be technology agnostic within the technology mentioned above. Crystalline Silicon, with or without Trackers can be installed. Only commercially established and operational technologies can be used, to minimize the technology risk and to achieve the timely commissioning of the Projects.

2.1.5 TSREDCO shall conduct negotiations separately for the projects, if required or as per provisions of tender bid document.

2.1.6 TSREDCO reserves the right to cancel/withdraw this invitation for bids without assigning any reason and shall bear no liability whatsoever consequent upon such a decision.

### **DISCLAMIER:**

1. Telangana State Renewable Energy Development Corporation Limited (TSREDCO) reserves the right to modify, amend or supplement this document including all formats and Annexures.

2. While this document has been prepared in good faith, neither TSREDCO nor their employees or advisors make any representation or warranty, express or implied, or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this tender document, even if any loss or damage is caused by any act or omission on their part.

### **2.2 CONTENT OF TENDER DOCUMENT**

2.2.1 The tender procedure and contract terms are prescribed in the tender document. In addition to the invitation of tender, the tender document includes the various other documents as given in the table of particulars of tender.

2.2.2 The tenderer is expected to examine all instructions, terms and conditions, specifications, forms and formats etc as mentioned/ enclosed in the tender document. Failure to furnish all information required in the tender document or submission of a tender not substantially responsive to the tender document in every respect will be at the Tenderer's risk and is likely to result in out-right rejection of the tender.





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### **2.3 INFORMATION REQUIRED WITH THE PROPOSAL**

- 2.3.1 The tender must clearly indicate the name of the manufacturer, the types and model & make of each principal item of equipment proposed to be supplied. The tender may also contain details of specifications and other comprehensive descriptive materials in support of technical specifications.
- 2.3.2 The above information may be provided by the Tenderer in the form of separate sheets, specifications, catalogues etc.
- 2.3.3 Any tender not containing sufficient descriptive material to describe the proposed equipment may be treated as incomplete and hence may be rejected. Such descriptive materials and specifications submitted by the Tenderer will be retained by TSREDCO. Any deviations from these will not be permitted during the execution of contract, without specific written permission of TSREDCO.

### **2.4 CLARIFICATION OF TENDER DOCUMENT**

- 2.4.1 Any prospective tenderer requiring any clarification on the tender document regarding various provisions / requirements/ preparation/ submission of the tender, may contact TSREDCO in writing by letter or fax/ email before **72 hours** of closing time of the tender. Queries received later shall not be entertained.
- 2.4.2 Verbal clarifications and information shall not be entertained in any way.

### **2.5 AMENDMENTS IN TENDER DOCUMENT**

- 2.5.1 At any time prior to the due date for submission of the tender or even prior to the opening of the financial bid, TSREDCO may for any reason, whether at its own initiative or as a result of a request for clarification/ suggestion by a prospective tenderer, amend the tender document by issuing a notice.
- 2.5.2 The amendments will be notified on the website at least **3 days** before the proposed date of submission of the tender. TSREDCO will bear no responsibility or liability arising out of non receipt of the information in time or otherwise. If any amendment is required to be notified within 3 days of the proposed date of submission of the tender, the last date of submission shall be extended for a suitable period of time.
- 2.5.3 In case amendments is notified after submission of the tender (prior to the opening of financial bids), all the tenders received by TSREDCO shall be returned in sealed condition to the concerned Tenderers through registered post or courier, for getting their offer revised according to the amended terms and conditions.



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All the notices related to this tender which are required to be publicized shall be uploaded only on <http://tsredco.telangana.gov.in> & [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in)

### **III. PREPARATION OF TENDER**

#### **3.1 LANGUAGE OF TENDER AND MEASURE**

The tender prepared by the tenderer along with all the related documents shall be in English. Unit measurements shall be metric in accordance with International System. All correspondence between the tenderer and TSREDCO shall also be in English.

#### **3.2 EARNEST AND SECURITY MONEY**

3.2.1 The tenderer shall furnish earnest money of Rs. 5,00,000/- DD or Rs.10,00,000/- BG as mentioned in the "Particulars of Tender" in the shape of DD in favour of, TSREDCO, payable at Hyderabad. Bank guarantee can also be submitted in place of DD towards EMD amount from any Nationalized / scheduled bank in favour of VC & Managing Director, TSREDCO, Hyderabad", as a part of the tender. The bank guarantee should be valid for a period of one year beyond the validity of offer. Tenders without EMD shall be rejected by TSREDCO as being non-responsive. No interest shall be paid by TSREDCO on the amount of earnest money deposit deposition as well as deposition of Security Deposit.

**The empanelled suppliers of GCRT RC programme during the FY 2019-20 under Market Mode subsidy scheme, who were paid DD, they need not to pay EMD and Security Deposit, and who were submitted Rs.10Lakhs SD by way of BG, they have to renew BG for validity of 6 years w.e.f .11.2020**

3.2.2 The earnest money may be forfeited:-

- a) If a Tenderer withdraws his tender during the specified period of validity of offer.
- b) If the successful Tenderer fails to sign the contract agreement within stipulated period.

3.2.3 The earnest money of the successful Tenderer shall be released at the time of signing of the agreement with TSREDCO. At this time, the selected bidder shall have to deposit security money amounting to Rs.5,00,000/- in the form of Demand Draft in favour of "TSREDCO, Hyderabad" OR Rs.10,00,000/- Bank Guarantee on any Nationalized Bank in favour of TSREDCO valid for five years period. No interest shall be paid by TSREDCO on the amount of security money deposit. The amount will be refund after warranty period of last system installed.

3.2.4 The authority reserves the right of awarding the work. The earnest money of such selected Tenderer shall also be released after signing the agreement and submission security money by them.



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After receiving the consent to work, the earnest money of such Tenderer shall be forfeited if they fail to sign the contract agreement within stipulated period.

3.2.5 The earnest money of all unsuccessful bidders shall be released soon after selection of selected bidder(s) against submission of their written intimation regarding acceptance of work and deposition of security deposit amount.

### **3.3 PERIOD OF VALIDITY OF TENDER**

3.3.1 Validity of the offer should be 3 months from the proposed date of opening of the Technical bid. Tenders without this validity will be rejected.

3.3.2 In exceptional circumstances, TSREDCO may solicit the consent of the Tenderers to an extension of the period of validity of offer. The request and the response there of shall be made in writing.

### **3.4 FORMATS AND SIGNING OF TENDER**

3.4.1 The tender must contain the name and places of business of the firm/person/persons participating in the tender and must be signed and sealed by the Tenderer with his usual signature. The name and designation of all persons signing the tender document should be written below every signature. Tender by a partnership firm must be furnished with full name of all partners with a copy of partnership deed.

3.4.2 The original copy of the tender should be typed or written in indelible ink and must be signed with the legal name of the corporation/ company by the President/ Managing Director/ Secretary of the firm or a person duly authorized to bid. In case of authorized person the letter of authorization by written power-of-attorney should be enclosed with the technical bid of the tender. The person or persons signing the tender shall initial all pages of the tender document.

3.4.3 The tender shall contain no interlink actions, erasers or overwriting except as necessary to correct the errors made by the tenderer in the preparation of tender. The person or persons signing the tender shall also sign at all such corrections.

## **IV. SUBMISSION OF TENDER**

### **4.1 METHOD OF SUBMISSION**

Bids shall be submitted online on [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in) Platform. The participating bidders in the tender should register themselves on e-procurement platform in the website [www.tender.telangana.gov.in](http://www.tender.telangana.gov.in)

- a. Bidders can log-in to e-tender platform in secure mode only by signing with the Digital certificates.
- b. The bidders, who are desirous of participating in e- tender, shall submit their technical bids, price bids as per the standard formats available at the e-market place.



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- c. The bidders shall sign on all the statements, documents certificates uploaded by them, owning responsibility for their correctness/authenticity.
- d. The bidders should scan and upload the respective documents in Technical Documentation as per the check list.
- e. After uploading the documents, the copies of the uploaded technical bid documents in hard copy and original Demand Drafts in respect of Bid Security and Bid document fee are to be submitted by the bidder to the "The Vice Chairman and Managing Director, TSREDCO, Hyderabad, Telangana", on or before 04:00PM on .11.2020.
- f. Failure to furnish any of the uploaded documents, certificates, will entitled in rejection of the bid. The Vice Chairman and Managing Director, TS REDCO, Hyderabad shall not hold any risk on account of postal delay. Similarly, if any of the certificates, documents, etc., furnished by the Bidder are found to be false / fabricated / bogus, the bidder will be disqualified, blacklisted, action will be initiated as deemed fit and the Bid Security will be forfeited.
- g. The Vice Chairman and Managing Director, TSREDCO, Hyderabad will not hold any risk and responsibility regulating non-visibility of the scanned and uploaded documents.
- h. In case of consortium, prime bidder has to purchase the bid document. The bid will be filled with user ID of prime bidder only.
- i. The rates should be quoted online only. The tenderer shall have to submit their rates in Indian Rupees only including all latest application fee, taxes & duties of Govt. of Telangana as well as Govt. of India.

### **V. EVALUATION PROCEDURE:**

For short listing of agency the following criteria shall be applied. For this purpose agency shall submit proof documents along with the tender and the agency not confirming to any of these parameters will not qualify for short listing.

- a. The Tenders will be opened as per the schedule by The Vice Chairman and Managing Director, TSREDCO, Hyderabad or his authorized representative in the presence of the bidders or their authorized representative who may be present at that time.
- b. The Technical Bids consisting of the documents related to Eligibility criteria will be opened first. The tenders will be evaluated so as to ascertain the capability of the bidders to provide the services for the period mentioned above and also to assess whether the bidder satisfies the eligibility criteria.
- c. The Financial/Price Bids of only those bidders, who have fulfilled the eligibility criteria above, will be opened online and the Price Bid of the bidders who do not fulfill the eligibility criteria will not be opened and their Tender shall stand rejected.



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- d. Any claims or disputes raised by the unsuccessful bidders in respect of selection process and non-allotment of award will have no legal validity and will not be enforceable against The Vice Chairman and Managing Director, TS REDCO, Hyderabad. No further correspondence will be entertained regarding the disqualification.
- e. The Vice Chairman and Managing Director, TSREDCO, Hyderabad, reserves the right to accept or reject any / or all the tenders without assigning any reasons whatsoever. The Vice Chairman and Managing Director, TS REDCO, Hyderabad also reserves the right to cancel the selection process for award of the contract at any time. The decision of The Vice Chairman and Managing Director, TS REDCO, Hyderabad is final and binding.

### **VI. FINALISATION OF TENDERS**

- 6.1 Tenders will be finalized by the TSREDCO Tender evaluation committee, for the works along with technical bid evaluation for consideration and in accordance with the conditions stipulated in the tender document and in case of any discrepancy or non-adherence to the conditions, the same shall be communicated which will be binding both on the tender concluding authority and tenderer. In case of any ambiguity the decision taken by the VC & Managing Director, TSREDCO on tenders shall be final.
- 6.2 The tenders if received with abnormally high percentage or within the permissible ceiling limits bench mark cost) prescribed, but under collusion due to unethical practices adopted during the tendering process shall be rejected.
- 6.3 The Lowest Feasible Price discovered for each category of Projects shall be communicated to the Tenderers and the Tenderer's are required to provide their acceptance for the same, within One Week from the date of notifying.
- 6.4 The Tenderer who has quoted the Lowest Feasible Price shall have to mandatorily accept the Price or else forfeit their E.M.D. Other Tenderers who accept to abide by the Lowest Feasible Price shall be considered as Successful Tenderers, and the E.M.D of Other Tenderers who do not wish to accept the discovered price shall be returned.
- 6.5 The Successful Tenderer has to sign an agreement with in a period of 15 days from the date of receipt of communication of acceptance of his tender. On failure to do so, his tender will be cancelled, duly forfeiting the E.M.D paid by him without issuing any further notice.
- 6.6 The empanelled suppliers, who promotes the solar installations in various individual House Holds/Residential buildings under Market Mode.
- 6.7 Upon signing of agreement with TSREDCO the E.M.D of Successful Tenderer's and who did not accept the discovered price shall be returned to them within 15 days.



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### **VII. TERMS OF CONTRACT**

#### **7.1 EVALUATION CRITERION**

The whole work shall be on Turnkey basis. The empanelment of tenderer shall be finalized on the basis of total cost of Solar Power Plant system including supply, installation & commissioning as offered by the tenderer in his Financial Bid.

#### **7.2 NOTIFICATION OF ENPANELMENT**

Prior to the expiry of validity period of offer, TSREDCO will notify the successful tenderer by registered Letter/Email/ Fax that he is empanelled as one of the Tenderers accepted to install the solar rooftop power plants under the state net metering policy.

#### **7.3 AWARD OF WORK CONTRACT**

7.3.1 Before empanelment as approved supplier, an agreement shall be signed between TSREDCO and the tenderer. The denial of the lowest bidder to undertake the whole work shall be treated as breach of contract and TSREDCO may forfeit EMD/ Security amount submitted by him.

#### **7.4 RIGHT TO VARY QUANTITIES**

The authority reserves the right of awarding the work in a phased manner. TSREDCO may increase or decrease the quantity mentioned in the tender notice at the time of award of contract.

#### **7.5 RIGHT TO ACCEPT/REJECT ANY OR ALL TENDERS.**

TSREDCO reserves all the right to reject any or all the tenders, accept any tender in total or in part.

#### **7.6 EXPENSES OF AGREEMENT**

The respective suppliers shall pay all the expenses of stamp duties and other requirements for signing the agreement with TSREDCO.

#### **7.7 EXECUTION OF AGREEMENT OF EMPANELMENT**

- a) The Successful Bidder shall execute an agreement of empanelment in the INR 100 non-judicial stamp paper of Telangana Jurisdiction only in the name of the Tenderer, within 15 days from the date of Letter of Intimation about qualification by TSREDCO.
- b) The Successful Bidder shall not assign or make over the empanelment, the benefit or burden thereof to any other person or persons or body corporate for the execution of the contract or any part thereof without the prior written consent of TSREDCO. TSREDCO reserves its right to cancel the empanelment either in part or full, if this condition is violated.



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- c) In case of the successful bidder fails to execute necessary agreements as prescribed, the stipulated period, then his EMD shall be forfeited and his tender held as non responsive.

### **7.8 ISSUE OF LETTER OF EMPANELMENT**

After execution of the Agreement and payment of Security Deposit, the name of successful bidder(s) with price will be displayed in website of TSREDCO and a letter of empanelment will be sent to the qualified tenderer.

### **7.9 INSTALLATION & COMPLETION SCHEDULE**

The entire work involving Supply, Installation and Commissioning of each Grid connected Solar Rooftop power plants shall be completed within 30 to 90 days from the date of issue of work order by the end user or beneficiary or TSREDCO.

### **7.10 SCOPE OF WORK**

- a. Scope of work covers Design, Supply, Installation, Commissioning, Maintenance and Operation of Grid Connected SPV Rooftop Plant under Net Metering as per the technical specification.
- b. Wiring up to Distribution Board from the SPV Rooftop system will be in the scope of the successful bidder(s). The maximum cable length of 25m for every solar power plant installed shall be in the scope of the bidder and supply of excess cable length if required shall be in the scope of purchaser.
- c. Mounting Structure within the scope of this tender is for flat RCC roofs.
- d. Performance testing of the complete system.
- e. The empanelled installer will collect firm work order from the purchasers. A copy of Work Order, Invoice, Project Commissioning report (Part-A, B &C), Statement of Expenditure, Joint Inspection Report, Net Metering Work Completion & Synchronization reports, beneficiary photo, aadhar card, mobile no & Electricity bill and bill of material has to be submitted to TSREDCO for release of CFA of MNRE/State subsidy. After completion of empanelment procedure, the final guidelines & flow chart and any other required procedure will be issued by TSREDCO.
- f. The empanelled installer shall undertake to supply spares free of cost for the maintenance of the offered items during the warranty period.
- g. A leaflet containing the details of the service centres shall be provided to each purchaser as well as to TSREDCO.





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- h. If the operation or use of the system proves to be unsatisfactory during the warranty period, the installer shall replace the faulty ones or carry out necessary repairs as per the warranty terms and conditions.
- i. The Empanelled Installer shall do necessary coordination with concerned agencies like DISCOM and CEIG, as applicable, for procuring necessary approvals on behalf of the Purchasers. However the cost of approvals and bi-directional meter, CT/PT shall be borne by the Purchaser only.

### **7.11 INSPECTION BY TSREDCO**

All the SPV Rooftop systems installed will be inspected by the representative of TSREDCO within 30 days of receipt of Installation & Commissioning Certificate. The eligible subsidy will be released only for the systems installed in compliance to the technical specification of MNRE /TSREDCO /TRANSCO /DISCOMs. During the Inspection, if the system installed is found faulty (or) not in compliance to the technical specification, the cost for re-inspection by TSREDCO after rectification/replacement shall be borne by the Tenderer.

### **7.12 SERVICE CENTRES**

The participant bidder must have minimum **one service centre in Telangana State** for providing the customer services and attending complaints promptly. All the documents related to the establishment of the service center have to be uploaded in the e-tender **(Mandatory)**. Additional service centres shall be opened in different locations in districts based on the installations carried out by them under this empanelment mechanism.

The Installer shall visit the site at least once in a quarter, to attend routine maintenance, during the 5 years warranty period. However, in case of malfunctioning of the system, the tenderer/bidder shall attend for rectification of defects within 2-3 working days from the date of lodging complaint.

### **7.13 WARRANTY**

1. The empanelled supplier shall be used indigenous solar cells & modules only as per MNRE – Phase – II GCRT Operational Guidelines.
  - (a) The SPV panel shall carry a warranty of minimum 25 years.
  - (b) The SPV panel must be warranted for their output peak watt capacity which shall not be less than 90% at the end of 10 years and 80% at the end of 25 years.
  - (c) The PCU/Solar Grid tie Inverter shall carry a warranty of minimum 5 years.
2. The complete SPV rooftop systems installed and commissioned shall be under a warranty against any manufacturing or usage defect for a minimum period of 5 years from the date of Commissioning. The mechanical structures, electrical works including power





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conditioners/inverters/maximum power point tracker units/ distribution boards/digital meters/ switchgear etc. and overall workmanship of the SPV rooftop systems must be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years.

3. The warranty will be against breakages, malfunctions, non-fulfilment of guaranteed performance and breakdowns due to manufacturing defects or defects that may arise due to improper operation of electrical /electronic components of the system but do not include physical damages by the end users.
4. The above warranty shall take effect from the date on which the system is taken over by the purchaser after commissioning Synchronizing.
5. The successful bidder shall be liable to make good the loss by replacing the defective product during the warranty period for the entire system free of cost.
6. The warranty will cover all the materials and goods involved in the installation and commissioning of SPV rooftop systems by the successful Bidder.

### **7.14 PAYMENT TERMS**

#### **A) For Projects Installed by Tenderer on Their Own:**

1. Payment of the project cost, excluding the MNRE / State Subsidy, shall be paid by the Purchaser directly to the empanelled Tenderer after satisfactory TSREDCO Inspection & on submission of invoice to the purchaser. **In the invoice raised the total cost excluding the MNRE / State Subsidy.** The total cost of the system from beneficiary share shall be collected by way of cheque/DD and the details shall be mentioned in the Invoice.
2. Copies of invoices after inspection shall also be submitted to TSREDCO along with two months Energy bills, Inspection Report, photographs and required documents.
3. The eligible Central Financial Assistance (CFA) of MNRE shall be claimed as per MNRE guidelines or the CFA proposals shall be processed through TSREDCO. **TSREDCO may release/reimburse the eligible CFA to empanelled supplier based on MNRE guidelines on sanction of MNRE and availability of funds.**

### **7.15 VALIDITY OF EMPANELMENT**

The validity of Empanelment and the price accepted shall be up to **31.10.2021 or New Benchmark Rate disclosed by MNRE whichever is earlier.**



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**Section - 2**

**GENERAL TECHNICAL SPECIFICATIONS**



**TECHNICAL SPECIFICATIONS**

**1.1 INTRODUCTION**

In grid-connected Solar Photo-Voltaic (SPV) systems, solar energy is fed into the building loads that are connected to the public electricity grid through a service connection with surplus energy being fed into the grid and shortfall being drawn from the grid. Production of surplus energy may happen when solar energy produced exceeds building load energy demand. This surplus is fed into the grid. During the night, or when during the day energy demand in the building exceeds solar energy production, energy is drawn from the grid. Grid connected solar PV systems have no battery storage and will not work during grid failure. For buildings with grid-connected solar PV systems, the service connection meter needs to be of the bidirectional type, whereby import kWh and export kWh are separately recorded.

**1.2 QUALITY AND WORKMANSHIP**

Solar PV modules are designed to last 25 years or more. It is therefore essential that all system components and parts, including the mounting structures, cables, junction boxes, distribution boxes and other parts also have a life cycle of at least 25 years. Therefore all works shall be undertaken with the highest levels of quality and workmanship. During inspection TSREDCO and its representatives will pay special attention to neatness of work execution and conformity with quality and safety norms. Non compliant works will have to be redone at the cost of the Installer.

**1.3 SYSTEM CONFIGURATIONS**

The MNRE will provide CFA has been restructured and higher CFA up to 40 % will be given for RTS systems up to 3 kW capacity. For RTS systems of capacity above 3 kW and up to 10 kW, the CFA of 40% would be applicable only for the first 3 kW capacity and for capacity above 3 kW the CFA would be limited to 20 %. The residential sectors users may install RTS plant of even higher capacity as per their requirement and the respective SERC regulation.

<b>Project Capacity</b>	<b>Category</b>	<b>Coverage of Buildings</b>	<b>Central Financial Assistance(Subsidy)</b>
1 to 3kWp	<b>Residential</b>	All type of residential buildings	40 % of benchmark cost**
3 to 10 kWp	<b>Residential</b>	All type of residential buildings	40 % up to 3 KW Plus 20% for RTS system above 3 kW and up to 10 kW
1 to 500 kWp	<b>Residential</b>	Group Housing Societies/Residential Welfare Associations (GHS/RWA) etc. for common facilities up to 500 kWp (@10kWp per house), with the upper limit being inclusive of individual rooftop plants already installed by individual residents in that GHS/RWA at the time of installation of RTS for common activity	20 % of benchmark cost



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**\*The residential sector users may install RTS plant of even higher capacity as provisioned by respective State electricity regulations; however, the CFA will be limited up to 10 kWp capacity of RTS plant.**

**\*\* Benchmark cost may be different in General Category States/UTs and Special Category States/UTs i.e., North Eastern States including Sikkim, Uttarakhand, Himachal Pradesh, Jammu & Kashmir, Lakshadweep, and Andaman & Nicobar Islands. CFA shall be on benchmark cost of MNRE for the state/ UT or lowest of the costs discovered in the tenders for that state/ UT, whichever is lower.**

### **1.4. 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 lightening protections.
- IR/UV protected PVC Cables, pipes and accessories

### **1.5. SOLAR PHOTOVOLTAIC MODULES:**

1.5.1. Only indigenously manufactured PV cells & modules with RFID and the manufacturer should provide the following minimum information laminated inside the module:

- Made in India (to be subscribed in words)
- Company name / logo
- Module number (it should indicate the voltage and rated wattage of the module)
- Serial number
- Year of make

1.5.2. 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



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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
- b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 250Wp and above wattage. Module capacity less than minimum 250 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. TSREDCO/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.

1.5.3. Modules deployed RF identification tag. The following information to be mentioned in the RFID used on each modules (This has to be inside 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.



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- 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

### 1.5.4. Warranties:

#### a) Material Warranty:

- i. 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.

### 1.6. **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 insulation. 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



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in this regard and submit wind loading calculation sheet to TSREDCO/User. 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  $60 \text{ kg/m}^2$ .
- h) The minimum clearance of the structure from the roof level should be 300 mm.

### **1.7. 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.



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- 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

## **1.8. 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.

## **1.9. 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.
- e) 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.
- 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





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### **1.10. 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.

### **1.11. 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 : -20<sup>0</sup> C to 50<sup>0</sup> 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%
- 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.



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- 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.

### **1.12. 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.

### **1.13. 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.



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- 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.
- vii. 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.
- viii. 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.
- ix. 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.
- xi. 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.



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- xii. 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.
- xiv. 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.
- xvi. 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.
- xviii. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner /TSREDCO 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 [NAME OF THE ORGANISATION] server and portal in future shall be kept.

### **1.14. 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 meters per the statutory requirements of DISCOMs 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 TSREDCO before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

### **1.15. 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



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of tariff is not under the purview of TSREDCO or MNRE. Decisions of appropriate authority like DISCOM, state regulator may be followed.

### **1.16. PROTECTIONS**

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

#### **1.16.1. 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.

#### **1.16.2. SURGE PROTECTION**

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

#### **1.16.3. 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 TSREDCO/User 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.

### **1.17. GRID ISLANDING:**

- 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



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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

### **1.18. CABLES**

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:  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ .
- 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



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Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V ,UV resistant for outdoor installation IS /IEC 69947.

- xi. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%.
- xii. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.

## **1.19. 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	230V-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 LT/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.

## **1.20. 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 for approval of specifications and make from TSREDCO/User.
- 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





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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

### **1.21. 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 TSREDCO/ owner.

### **1.22. FIRE EXTINGUISHERS:**

The fire fighting 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.

### **1.23. 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 TSREDCO/owners before progressing with the installation work

### **1.24. 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 labour. The bidder should submit the array layout drawings along with Shadow Analysis Report to T S R E D C O /Owner for approval.
- ii. TSREDCO 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.





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- iii. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submits three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

### **1.25. 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.
- iv. Itemized bill of material for complete SV plant covering all the components and associated accessories.
- v. Layout of solar Power Array
- vi. Shadow analysis of the roof

### **1.26. 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.

### **1.27. 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.

### **1.28. TEST CERTIFICATES AND REPORTS TO BE FURNISHED**

Test Certificates / Reports from IECQ / NABL accredited laboratory for relevant IEC / equivalent BIS standard for quoted components shall be furnished. Type Test Certificates shall be provided for the solar modules and the solar grid inverter to provide evidence of compliance with standards as specified by Ministry of New and Renewable Energy (MNRE). TSREDCO reserves the right to ask for additional test certificates or (random) tests to establish compliance with the specified standards.

- 1.29. **CONFIRMATION TO MNRE TECHNICAL SPECIFICATIONS AND STANDARDS:** The Tenderer should ensure that all components and systems used under this Scheme shall strictly adhere to the Technical Specifications and Guidelines issued by MNRE, and as amended from time to time.



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**Section - 3**

**BIDDER INFORMATION**



# **Telangana State Renewable Energy Development Corporation Ltd**

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## **BIDDER INFORMATION**

All pages of the Technical Bid shall be organised section-wise, annexed with proof documents, serially numbered and stitched/or spiral bound intact and submitted) Loose pages shall not be accepted.

### **1. GENERAL PARTICULARS OF TENDERER**

<b>SL.</b>	<b>PARTICULARS</b>	<b>TO BE FUNISHED BY THE TENDERER</b>
1	Name of Tenderer/Firm	
2	Postal Address	
3	E-mail address for communication	
4	Telephone/ Fax No.	
5	Name, designation, address, contact number and Email of the representative of the tenderer to whom all references shall be made.	
6	Nature of the firm (Individual/ Partnership/Consortium/ Pvt. Ltd /Public Ltd. Co. /Public Sector, etc.) Attach attested copy of Registration & Partnership deed/ Memorandum of Association	
7	Amount and particulars of the Earnest Money Deposited.	
8	Annual Turnover for last three years i.e 2016 to 2019 (Attach balance sheets from CA in this regard)	
9	Name and address of the Indian/foreign collaboration if any.	
10	PAN NO (Copy of certificate to be enclosed)	
11	GST /TIN/ GRN No. CST No. (copies of certificates to be attached)	
12	Has the Tenderer/firm ever been debarred by any institution for undertaking any work?	



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13	Any other information attached by the Tenderer (Details of Annexure / page no. where its enclosed)	
14	Does Tenderer have any relative Working in TSREDCO? If yes state the Name and designation.	

## **2. DETAILS ABOUT THE COMPONENTS TO BE USED**

S. No	Description	Name of Manufacturer(s)	Manufacturing Plant address
1	Solar PV Cells		
2	Solar PV Modules		
3	Grid Tied Inverter/PCU		

Enclose the Data Sheets of Solar PV Modules and Grid Tied Inverters proposed to be used

## **3. DETAILS OF EXPERIENCE**

Please fill in information about off grid Solar PV Systems installed in the last three years.

Sl. No	Description	FY 2017-18	FY 2018-19	FY 2019-2020
1	Grid Connected Solar PV Plants in kWp			
2	Total Aggregate Project Cost in Rs.			

### **Mandatory Documentary Evidences to be submitted:**

- Work Order Copies along with performance certificates with showing the date of work commissioning / synchronization
- MNRE Project Sanction Letter (either through SNA/SECI/Channel Partner)
- Project Completion Report/Certificate clearly showing the date of commissioning
- CEIG Clearance Certificates (for Projects > 75kWp)



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### **4. DETAILS ABOUT THE BLACKLISTING, IF ANY**

Information on litigation history in which Bidder is involved.

- 1) Whether black listed/ Debarred/Suspended from execution of work.
- 2) Other litigations. If any including Court litigations Arbitrations etc.

Department and concerned officer	Other party (ies)	Case of dispute.	Amount involved.	Remarks showing present status.
1	2	3	4	5

Signature of the authorised person:

Name of the authorised person:

Designation:

Name and Address of Bidder

Stamp of bidder



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**Section - 4**

**FINANCIAL BID**



## **Telangana State Renewable Energy Development Corporation Ltd**

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### **FINANCIAL BID**

The cost of SPV power plants shall include their respective components as per their respective technical specification, including cables, MCBs, switches, fuses etc., as per the site requirement and shall be a lump-sum turnkey price:

<b>Project Category</b>	<b>Turn-key Price of Grid Connected Rooftop Solar PV Power Plant as MNRE/TSREDCO/TRANSCO/DISCOM Specifications under Net Metering Scheme (Rs./Wp)</b>	<b>(Rs./Wp) IN WORDS</b>
<b>1KWp</b>		
<b>&gt;1KWp to 2KWp</b>		
<b>&gt;2KWp to 3KWp</b>		
<b>&gt;3KWp to 10KWp</b>		

Note:

1. The above total costs are inclusive of total system cost and its installation, commissioning, transportation, insurance, five year AMC/CMC, and taxes.
2. Total cost quoted above is without deducting CFA/incentives from MNRE.
3. The price quoted shall be in both figures and words, rounded to one decimal point. Price quoted after first decimal point, if any, shall not be considered.
4. In case of discrepancy in the Price quoted between Words and Figures, the lower of the two shall be considered.
5. The Tenderer may choose one or more category of Projects to quote for based on their eligibility criteria.

Signature of the authorised person:

Name of the authorised person:

Designation:

Name and Address of Bidder and Stamp of bidder



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**Section - 5**

**ANNEXURES**





# **Telangana State Renewable Energy Development Corporation Ltd**

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## **BIDDERS UNDERTAKING COVERING LETTER**

(Letter shall be submitted on Bidder(s) Letter Head)

Ref No:

Date:

**To**

**The V.C & Managing Director**

**Telangana State Renewable Energy Development Corporation Limited (TSREDCO)**

Corporate Office: D.No. 6-2-910, Visvesvaraya Bhavan,

The Institution of Engineers Building, Khairatabad, Hyderabad - 500 004.

Telangana State, India

**Dear Sir,**

**Sub:** Design, Supply, Installation, Commissioning, Maintenance and Operation of Grid connected Rooftop Solar Power plants under State Net Metering Policy- reg.

**Tender Reference:** TSREDCO/SE/Subsidy/RC/SPV1-10kWp/2020-21/Dt. 11.2020

\*\*\*\*

1. We have examined the Tender for Design, Supply, Installation, Testing and Commissioning of 1-10kWp Grid connected Solar Rooftop Power plants as specified in the Tender. We undertake to meet the requirements and services as required and as set out in the Tender document.
2. We attach our Technical Bid and Financial Bid in separate sealed covers as required by the Tender both of which together constitute our proposal, in full conformity with the said Tender.
3. We have read the provisions of Tender and confirm that these are acceptable to us. We further declare that additional conditions, variations, deviations, if any, found in our response shall not be given effect to.
4. We undertake, if our Bid is accepted, to adhere to the requirements as specified in the Tender or such modified plan as may subsequently be agreed.
5. We agree to unconditionally accept all the terms and conditions set out in the Tender document and also agree to abide by this Bid response for a period as mentioned in the Tender from the date fixed for bid opening and it shall remain binding upon us with full force and virtue, until within this period a formal contract is prepared and executed, this Bid response, together with your written acceptance thereof in your notification of empanelment, shall constitute a binding contract between us and TSREDCO.
6. We affirm that the information contained in the Technical Bid or any part thereof, including its schedules, and other documents, etc., delivered or to be delivered to TSREDCO is true, accurate,



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and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead TSREDCO as to any material fact.

7. We also agree that you reserve the right in absolute sense to reject all or any of the products/ service specified in the bid response without assigning any reason whatsoever.

8. It is hereby confirmed that I/We are entitled to act on behalf of our company/ organization and empowered to sign this document as well as such other documents, which may be required in this connection.

9. We agree to use only indigenous PV cells & modules in this project.

10. We also declare that our Company/Organisation is not blacklisted by any of the State or Central Government and organisations of the State or Central Government.

11. We undertake to use the BOS components other than PV Modules and Solar grid tie Inverters as per the standards stipulated.

Signature of the authorised person:

Name of the authorised person:

Designation:

Name and Address of Bidder

Stamp of bidder

**CERTIFICATE AS TO AUTHORISED SIGNATORIES**

I, certify that I am (Name) ..... (Designation) ....., and that (Name)..... who signed the above Bid has been duly authorized to sign the same on behalf of our Organisation.

Date:

Signature:

Seal:



## **Telangana State Renewable Energy Development Corporation Ltd**

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### **DECLARATION**

**(on Rs.100/- non-judicial stamp paper)**

I / WE ..... have gone through carefully all the Tender conditions and solemnly declare that I / we will abide by any penal action such as disqualification or black listing or determination of contract or any other action deemed fit, taken by, the Department against us, if it is found that the statements, documents, certificates produced by us are false / fabricated.

I / WE hereby declare that, I / WE have not been blacklisted / debarred / Suspended / demoted in any Government Department in any State due to any reasons.

**Signature of the Tenderer**



## **Telangana State Renewable Energy Development Corporation Ltd**

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### **DECLARATION BY THE TENDERER**

I/We .....

(Hereinafter referred to as Tenderer) being desirous of tendering for the work, under this tender and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc. as mentioned in the tender document do hereby declare that

1. The tenderer is fully aware of all the requirements of the tender document and agrees with all provisions of the tender document and accepts all risks, responsibilities and obligations directly or indirectly connected with the performance of the tender.
2. The Tenderer is fully aware of all the relevant information for proper execution of the proposed work, with respect to the proposed place of works/ site, its local environment, approach road and connectivity etc. and is well acquainted with actual and other prevailing working conditions, availability of required materials and labour etc. at site.
3. The Tenderer is capable of executing and completing the work as required in the tender and is financially solvent and sound to execute the tendered work. The tenderer is sufficiently experienced and competent to perform the contract to the satisfaction of TSREDCO. The Tenderer gives the assurance to execute the tendered work as per specifications, terms and conditions of the tender on award of work.
4. The Tenderer has no collusion with other Tenderers, any employee of TSREDCO or with any other person or firm in the preparation of the tender.
5. The Tenderer has not been influenced by any statement or promises by TSREDCO or any of its employees but only by the tender document.
6. The Tenderer is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
7. The Tenderer has never been debarred from similar type of work by any Government Undertaking /Department. (An undertaking on Non-Judicial Stamp paper worth of Rs. 100/- in this regard shall be submitted)
8. The Tenderer accepts that the earnest money / security deposit may be absolutely forfeited by TSREDCO if the selected bidder fails to sign the contract or to undertake the work within stipulated time.
9. This offer shall remain valid for acceptance for 3 (Three) months from the proposed date of opening of Tender.
10. All the information and the statements submitted with the tender are true and correct to the best of my knowledge and belief.

**Signature of Tenderer**



**FORMAT FOR BANK GUARANTEE FOR - EARNEST MONEY DEPOSIT**

This deed of Guarantee made on..... day of Month & Year by Name & Address of the bank (hereinafter called the „GUARANTOR“) on the one part, on behalf of M/s Name & address of the Firm (hereinafter called the “Firm“) ) in favour of VC& Managing Director, TSREDCO, Hyderabad on the following terms and conditions.

Whereas the FIRM is submitting its tender for (Name of the work) and this guarantee is being made for the purpose of submission of Earnest money deposit with the tender document.

Know all people by these presents that the GUARANTOR, hereby undertake to indemnify and keep TSREDCO indemnified up to the extent of Rs.....during the validity of this bank guarantee and authorize TSREDCO to recover the same directly from the GUARANTOR. This bank guarantee herein contained shall remain in full force and effect till the expiry of its validity or till any extended period (if extended by the bank on receiving instructions from FIRM.). The liability under the guarantee shall be binding on the GUARANTOR or its successors.

Whereas the GUARANTOR further agrees that their liability under this guarantee shall not be affected by any reason of any change in the offer or its terms and conditions between the FIRM and TSREDCO with or without the consent or knowledge of the GUARANTOR.

Whereas the GUARANTOR further agrees to pay guaranteed amount hereby under or part thereof, on receipt of first written demand whenever placed by TSREDCO during the currency period of this guarantee. The GUARANTOR shall pay TSREDCO immediately without any question, demure, reservation or correspondence.

Whereas the GUARANTOR hereby agrees not to revoke this guarantee bond during its currency period except with the previous consent of TSREDCO in writing.

Notwithstanding anything contained herein

1. Our liability under this bank guarantee shall not exceed Rs. ....



**Telangana State Renewable Energy Development Corporation Ltd**

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2. This Bank guarantee shall be valid up to .....

3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only against the written claim or demand on or before ..... Sealed with the common seal of the bank on this .....day of Month and Year

**Witness :**

1.

2

**(Signature and seal of Bank)**



# **Telangana State Renewable Energy Development Corporation Ltd**

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## **MODEL FORM OF AGREEMENT**

**To be executed on a Rs.200- Non-judicial Stamp paper of Telangana jurisdiction by the Successful Bidder for Supply, Installation and Commissioning of connected Rooftop Systems (NO FIGURES IN NUMERALS OR WORDS SHALL BE FILLED UP IN THIS SAMPLE FORM AT THE TIME OF SUBMISSION OF TENDER)**

### **AGREEMENT**

This Agreement is entered into at Hyderabad on the ..... day of \_\_\_\_\_ 2019 between **Telangana State Renewable Energy Development Corporation Limited**, a state owned Corporation of Government of Telangana, and having its Corporate Office: D.No. 6-2-910, VisvesvarayaBhavan, The Institution of Engineers Building, Khairatabad, Hyderabad - 500 004. Telangana State, India hereinafter referred to as "TSREDCO" (Which term shall mean and include its successors and permitted assigns) and ....., a Company registered under .....and having its Registered office at ..... hereinafter referred to as the "Installer" (Which term shall mean and include its successors and permitted assigns)

Whereas TSREDCO invited a tender vide Tender Ref. No. TSREDCO/SE/Subsidy/RC/SPV1-10kWp/2020-21, Dt. 11.2020 for Design, Supply, Installation, Testing, Commissioning, Maintenance and Operation of 1-10kWp Grid connected SPV Rooftop Systems all over the State of Telangana.

This document on having been signed by both the parties shall constitute a binding contract between the parties and shall remain in force for a period of five years. But in the event of any breach of the Contract at any time on the part of the Installer, the contract shall be terminated by TSREDCO without compensation to the Installer. The contract may also be put to an end at any time by the TSREDCO upon giving seven days notice to the Installer. The Installer/Supplier agrees 1. For Supply, Installation and Commissioning of 1-10kWp Solar PV Rooftop grid connected systems within the in principle / work sanction period. 2. The Installer/Supplier to be installing minimum 200KWp cumulative capacity in this agreement otherwise will be not considered for empanelment of above 100KWp category. 3. If the agencies are not installed any single project in this agreement, they will be de-empanelled with TSREDCO and will not be considered for empanelment for the next one year.

#### **1. Installation & Completion Schedule**

The entire work involving Supply, Installation and Commissioning of SPV Rooftop shall be completed within **30 to 45days** from the date of issue of work order by the purchaser/sanction of In-Principle.

#### **2. Service:**



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Empanelled Installer shall have minimum of one service centre in each district. Additional service centres shall be opened at different locations in districts based on the installations carried out by them under this empanelment mechanism.

The Installer shall visit the site at least once in a quarter, to attend routine maintenance, during the 5 years warranty period. However, in case of malfunctioning of the system, the tenderer/bidder shall attend for rectification of defects within 3 working days from the date of lodging complaint. If he fails to attend the same his firm will be kept under block listing and SD amount will be forfeited.

### 3. Installation and Commissioning locations:

The Grid Connected Solar Rooftop Power Plants shall be installed and commissioned anywhere in Telangana under Net Metering Scheme.

4. The validity of Empanelment and the price accepted will be for 30 months.

5. The following documents shall be deemed to form and be read and constructed as part of this Contract.

- a) Technical Specifications
- b) Tender Terms and Conditions
- c) Amendments issued by TSREDCO for the Tender document
- d) Corrigendum/Clarifications issued by TSREDCO for the Tender document
- e) Detailed final offer of the Successful Bidder
- f) Correspondence made by TSREDCO to the successful Bidder from time to time during the period of the contract.

6. Waiver of any terms and conditions by TSREDCO / Purchaser in writing shall not have the effect of waiving or abandoning other terms and conditions of the contract.

7. (a) Unless otherwise provided in the Contract, any notice, request, consent or other communication given or required to be given hereunder shall be given by mailing the same by registered mail, postage prepaid to TSREDCO at its registered office.

(b) Any notice to the Installer shall be deemed to be sufficiently served, if given or left in writing at their usual or last known place of abode or business. In case of failure by the Installer to commission the solar Rooftop systems within the period specified as per the schedule or in case of installations made by them, not being of the stipulated quality and specifications, TSREDCO shall have the power to reject any such installations.





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8. TSREDCO is no way responsible for any dispute arising between the Installer & Purchaser.

Subject to the above, the Courts at Hyderabad alone only shall have jurisdiction in the matter of empanelment.

In Witness whereof the parties hereto have signed on the day, month and year above written in the presence of

**For and on behalf of  
TSREDCO**

**For and on behalf of  
Installer**

Name  
Designation  
Seal

Name  
Designation  
Seal

**Witnesses:**

**Witnesses:**

1.

2.



# Telangana State Renewable Energy Development Corporation Ltd

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## CHECKLIST TO ACOMPANY THE TENDER

S. No	Description	Submitted in Cover 'A'	Page No. (see Note below)
1	2	3	4
1	Copy of valid Registration certificate with TSREDCO	Yes /No	
2	Demand draft toward requisite Earnest Money Deposit (issued by any Nationalised/Scheduled bank) or exemption document.	Yes /No	
3	Crossed demand draft towards Cost of tender document	Yes /No	
4	Copy of PAN card	Yes /No	
5	Turn Over Certificate from last 3years certified by the CA	Yes /No	
6	Copies of GST Registration Certificate.	Yes /No	
7	Latest GST/VAT/ Sales Tax clearance certificate.	Yes /No	
8	Availability of local service centres/ technical personnel	Yes /No	
9	Information on litigation history in which Bidder is involved.	Yes/No	
10	Any other documents/certificate as specified in tender conditions	Yes /No	
11	Experience Certificate	Yes /No	
12	Tender document duly signed and stamped in token of accepted all terms and conditions of the tender schedule	Yes /No	
13	Declarations as per the formats	Yes /No	
14	Indigenous Solar Cells & Module Manufactures <b>Test Reports (Mandatory)</b>	Yes /No	
15	Firm Reg. certificate	Yes /No	
16	Power of Attorney (if applicable)	Yes /No	

Notes:



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1. All the statements copies of the certificates, documents etc., enclosed to the Technical bid shall be given page numbers on the right corner of each certificate, which will be indicated in column (4) against each item. The statements furnished shall be in the formats appended to the tender document.

2) The information shall be filled-in by the Tenderer in the check list, as applicable and shall be enclosed to the Technical bid for the purposes of verification as well as evaluation of the Tenderer's Compliance to the qualification criteria as provided in the Tender document.

The bidder shall on all the statements, documents, certificates by him, owning responsibility for their correctness/authenticity.

All the pages of the bid documents must be serially numbered and signed