

(e-Procurement Tender Notice)

Tender Schedule

For

Design, Supply, Installation & Commissioning of 300Wp Capacity Stand Alone Off-Grid Solar PV Power Packs at PVTG Habitations of ITDA (Chenchu) Mannanur & Utnoor in Telangana State, including the CMC for a period of 5 Years

Under

Off - Grid and Decentralized Solar PV Applications Programme

In Phase - III for FY 2018-19 and 2019-20

Of JNNSM, MNRE, GOI.

Tender Notice No:- TSREDCO/SE/SPV/300Wp/STSDF/2019/ Dated. 26.06.2019

CLOSING DATE : 15.07.2019 AT 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, se@tsredco.telangana.gov.in

Web site: tsredco.telangana.gov.in

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Website advertisement

Tender Notice



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 & Commissioning of 300Wp Capacity Stand Alone Off-Grid Solar PV Power Packs at PVTG Habitations of ITDA (Chenchu) Mannanur & Utnoor in Telangana State, including the CMC for a period of 5 Years**”. Interested bidders can download the bids online from **27.06.2019** and submit the same, from **27.06.2019 to 15.07.2019** till 03:00PM through www.tender.telangana.gov.in. For further details please visit our website: <https://tsredco.telangana.gov.in>

Date:26.06.2019

VC & MD,
TS REDCO

SECTION - A: INVITATION FOR BIDS (IFB)

Name of Work: Design, Supply, Installation & Commissioning of 300Wp Capacity Stand Alone Off-Grid Solar PV Power Packs at PVTG Habitations of ITDA (Chenchu) Mannanur & Utnoor in Telangana State, including the CMC for a period of 5 Years.

Bid Document No: TSREDCO/SE/SPV/300Wp/STSDF/2019/ Dated. 26.06.2019

Background:

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.

Accordingly, TSREDCO is inviting e-bids from interested bidders for Design, Supply, Installation & Commissioning of 300Wp Capacity **Stand Alone** Off-Grid Solar PV Power Packs at PVTG Habitations of ITDA Mannanur & Utnoor in Telangana State, including the CMC for a period of 5 Years, through e-tendering. For details about the IFB, please refer to the below details.

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.

DISCLAIMER:

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.

Bid Information Sheet

Bid Document No.	TSREDCO/SE/SPV/300Wp/STSDF/2019/ Dated. 26.06.2019
Bid Document fee (Non refundable)	Rs. 29,500/- incl. 18% GST (By way of DD from any Scheduled Bank in favour of TS REDCO, payable at Hyderabad)
EMD / Bid Security Deposit	Bid Bond (EMD) for Rs.6,00,000.00 (Six lakhs) by way of Demand Draft in favor of TSREDCO. Firms claiming Exemptions for EMD shall submit letter from NSIC/ MSME for this work specifically.
Performance security value	The performance security is to be paid at the time of work ward and amount will be 10% on work value. The amount is in form of Demand Draft drawn in favour of TSREDCO, payable at Hyderabad OR Bank Guarantee on any Nationalized Bank in favour of TSREDCO valid for 66months (5.5Years) period at the time of LOI. The amount / BG to be refund after 5years warranty period.
Minimum Eligibility Criteria	<p>1. Valid Registered SPV Suppliers/ Manufacturers/ System Integrators empanelled with TSREDCO with requisite experience of Supply, Installation and Commissioning of Grid Connected Solar Projects least minimum 200KWp cumulative capacity in field of Off Grid OR Grid Connected Solar PV systems (with Mandatory of 50KW off-grid experience) in any one (1) year from the last 3 Years (i.e. FY 2016-17, 2017-18 and 2018-19)</p> <p>2. Bidder should have annual turnover of Rs.3.00 Cr. In any one (1) Financial Year during the last three financial years i.e. 2016-17, 2017-18 and 2018-19 (Certificate from CA is to be furnished).</p>
Bid Documents Downloading Start date	27.06.2019
Bid Document Downloading End Date	15.07.2019 till 03.30 PM
Pre-Bid Meeting	29.06.2019 at 11.00 AM, at TSREDCO Head office, Hyd
Last date for uploading of online documents	15.07.2019 till 03.30 PM
Last date for submission of Hard copies of documents uploaded online	15.07.2019 till 05.00 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	16.07.2019 at 11:00 AM.
Price Bid opening date/time	22.07.2019 at 04:00 PM
Contact person	General Manager / Project Director (Solar), TSREDCO, Hyderabad
Eol to be addressed to	Vice Chairman & Managing Director Telangana State Renewable Energy Development Corporation Ltd (TSREDCO), D.No. 6-2-910, Visvesvaraya Bhavan, 2 nd floor The Institution of Engineers Building, Khairatabad, Hyderabad - 500 004. Telangana State, India Ph: 040 - 23201502, 23201503./ Fax: 040 - 23201504 Email: se@tsredco.telangana.gov.in

Important Note:

Bidder shall submit bid proposal along with Bid Document fee and EMD, complete in all respect as per the Bid Information Sheet. Technical bids will be opened in presence of authorized representatives of bidders who wish to be present.

TSREDCO have right to reject the bidding process at any stage or right to cancel the tender without mentioning any reason. In the event of any date indicated above is a declared Holiday, the next working day shall become operative for the respective purpose mentioned herein.

Bid documents which include Eligibility criteria, "Technical Specifications", various conditions of contract, formats, etc. can be downloaded from Telangana e-procurement website <https://tender.telangana.gov.in/>.

Any amendment(s)/corrigendum/clarifications with respect to this Bid will be uploaded on <https://tender.telangana.gov.in/> website and TSREDCO website tsredco.telangana.gov.in only. The Bidder should regularly follow up for any Amendment/Corrigendum/Clarification on the above website. No separate notifications will be issued for such notices/ amendments/ clarification etc. in the print media or individually.

1. Bids not accompanying the Bidding Document Cost and EMD, or those accompanied by these instruments of inadequate value, shall not be entertained and in such cases, the bids shall not be opened.

The Bidding Document Cost has to be necessarily submitted in the form of Online payment mode of e tender portal or Demand Draft (DD)/Banker's Cheque in favour of "Telangana State Renewable Energy Development Corporation Ltd (TSREDCO)", issued by any scheduled/nationalised bank and payable at Hyderabad.

The EMD should be in the form of Online payment mode of e tender portal or Banker's Cheque/DD in favour of "Telangana State Renewable Energy Development Corporation Ltd (TSREDCO)," payable at Hyderabad. The validity of the EMD shall be as per the Bid information sheet.

The details of the instruments of Bidding Document Cost and the EMD (Online/DD/Cheque as applicable) have to be entered online in relevant fields/columns of the module while submitting the e-bid. It must be ensured by the bidder that the original instruments towards Bidding Document Cost and EMD are received by TSREDCO before opening time of the Technical bids for verification of the details of the same as given online by the bidder. Failure to comply with this would render the bid liable for rejection and the bid will not be opened online. TSREDCO will not be responsible for any delay, loss or non-receipt of Bidding Document Cost or EMD sent by post/courier. Any relaxation/exemption sought by bidders shall only be considered in accordance with relevant clauses Section-2 (ITB) regarding submission/payment of EMD and Bidding Document Cost and shall be subject to fulfilment of conditions defined in the said clauses. Since all the conditions explained in the said clauses for seeking exemption from submission of Bidding Document Cost and EMD are self-explanatory, bidders should ascertain about their fulfilment of all conditions and submit their bid accordingly. If at any stage, it is found that false information is furnished or non-compliance of any of the conditions defined at the said clauses, the bid/offer shall be considered as non-responsive and would not be considered for further evaluation. Bidder seeking exemption from submission of the Bidding Document Cost and the EMD has to mandatorily submit/upload the scanned copy of their valid original registration certificate(s) as asked for in the relevant, clause along with other relevant documents as part of their online bid.

2. TSREDCO reserves the right to cancel / withdraw the tender without assigning any reason whatsoever and in such a case, no bidder / intending bidder shall have any claim arising out of such action.

3. The subject procurement will be done through e-tendering. The Bid document is available on Telangana e-tender website <https://tender.telangana.gov.in/> or on TSREDCO website's Home Page tsredco.telangana.gov.in. The Tender submission, Tender closing and opening will be done electronically and online.

SECTION - B
Instructions to the Bidder (ITB) and General Conditions

A. The Bidding Documents

The bidding documents include the following

Section-A	Invitation for Bids (IFB)
Section-B	Instructions to Bidders & General Conditions
Section-C	Technical Specification
Section-D	Tender Schedule
Section -E	Bidder Information
Section -F	Price/Financial Bid format.

The bidder is expected to examine all the instructions, forms, terms, specifications and other information in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the bidder's risk and may result in rejection of bid.

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
 - 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. "EMD" shall mean the unconditional and irrevocable online payment/ banker cheque/ demand draft to be submitted along with the Bid by the Bidder under ITB Clause 2.4 of this Bid;
7. "Bidding Company" shall refer to such single/consortium company that has submitted the Bid in accordance with the provisions of this Bid;

8. "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;
9. "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.
10. "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
11. "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;
12. "Company" shall mean a body incorporated in India under the Companies Act, 1956;
13. "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;
14. "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.
15. "Completion of Work" means that the Project/Works have been completed operationally and structurally has been attained as per Technical Specifications.
16. "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;
17. "CMC" means Comprehensive Maintenance Contract (CMC)
18. "Day" means calendar day;
19. "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.
20. "Employer" or "TSREDCO" shall mean Telangana State Renewable Energy Development Corporation Limited, Hyderabad.
21. "Eligibility Criteria" shall mean the Eligibility Criteria as set forth in Section C: Technical & Special Conditions of Contract of this BID;
22. "Effective Date" means the date from which the Time for Completion shall be determined;
23. "GCC" means the General Conditions of Contract contained in this section;

24. "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;
25. "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.
26. "IEC" shall mean specifications of International Electro-Technical Commission;
27. "IFB" Shall mean Information For Bidder
28. "ITB" shall mean Instructions To Bidder
29. "ITDA" means Integrated Tribal Development Agency (ITDA)
30. "NIT" Shall means Notice Inviting Tender
31. "Parent Company" shall mean a company that holds paid-up equity capital directly or indirectly in the Bidding Company, as the case may be;
32. "Price/Financial Bid" shall mean separate Envelope, containing the Bidder's Quoted Price as per the format prescribed in Section-C (Technical & Special Conditions of Contract) of this BID.
33. "PVTG" means Particularly Vulnerable Tribal Groups (PVTG)
34. "Qualified Bidder" shall mean the Bidder(s) who, after evaluation of their Techno Commercial Bid as per Eligibility Criteria set forth in Section C: Technical& Special Conditions of Contract of this BID stand qualified for opening and evaluation of their Price/Financial Bid;
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 all those 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. "TSREDCO" means Telangana State Renewable Energy Corporation Limited
42. "Work" means the "Goods" to be supplied, as well as all the "Services" to be carried out under the Contract;

1.1 Interpretations:

Words comprising the singular shall include the plural & vice versa

1. An applicable law shall be construed as reference to such applicable law including its amendments or re-enactments from time to time.
2. A time of day shall save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
3. 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.
4. 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.

1.2 Clarification on Bidding Documents

A prospective Bidder requiring any clarification to the bidding documents may notify the TSREDCO in writing or by post or by telefax) at the TSREDCO mailing address indicated below. The TSREDCO will respond in writing to any request for clarification or modification of the bidding documents that it receives no later than ten (10) days prior to the deadline for submission of bids prescribed by the TSREDCO. Written copies of the TSREDCO's response (including an explanation of the query but not identification of its source) will be sent to those prospective Bidders that requires clarification.

The address of TSREDCO, for communication:

Vice Chairman & Managing Director

Telangana State Renewable Energy Development Corporation Ltd (TSREDCO),
D.No. 6-2-910, Visvesvaraya Bhavan, II floor
The Institution of Engineers Building, Khairatabad, Hyderabad - 500 004.
Telangana State, India
Ph: 040 - 23201502, 23201503.
Fax: 040 - 23201504
Email: se@tsredco.telangana.gov.in , yc@tsredco.telangana.gov.in

1.3 Amendment to bidding documents

At any time prior to the deadline for submission of bids, the TSREDCO may, for any reason, whether at its own initiative, or in response to a clarification requested by a prospective Bidder, amend the bidding documents.

The amendment will be notified in writing or by cable to all prospective bidders who have purchased the bidding documents and will be binding on them. Bidders are required to immediately acknowledge receipt of any such amendment, and it will be assumed that the information contained therein have been taken into account by the Bidder in its bid.

In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their bid, the TSREDCO may, at its discretion, extend the deadline for the submission of bids.

B. Preparation of Bids

2.1 Procedure for Submission of Bid/EoI

The Bidder shall seal the proposal in one outer and three inner envelopes labeled as Envelope-I, Envelope-II and Envelope-III. Three Envelopes should contain the details of the offer as follows:

Envelope-I i.e., Technical Bid should contain (This envelope appear ONLINE in dynamic form in e-tenders portal).

- i. Bid document fee/cost of tender document as mentioned in Bid Information Sheet. (online receipt or DD as mentioned in Bid Information Sheet).
- ii. Earnest Money Deposit as mentioned in Bid Information Sheet (online receipt or DD or exemption certificate (Scan Copy) as mentioned in Bid Information Sheet).
- iii. Complete filled & signed tender document along with related support documents properly stitched/ spiral bound intact shall be submitted.
- iv. All the documents of section-D shall be placed in this envelope on bidder's company letter head.

Envelope-II should contain Price/ Financial Bid, to be submitted in a separate inner sealed envelope, shall comprise of blank Price/Financial bid as per Annexure C.

The above two separately sealed envelopes will then be placed in one outer envelope, sealed and marked properly and submitted to the TSREDCO office on or before the deadline for submission of the bid. Every envelope (2 inner and 1 outer) should be superscripted with Name of the tender, Bid/NIT number along with date, content of envelope i.e. Technical bid OR Price/ Financial bid (inner envelopes).

Copy of Bid Document/EoI should be a complete document and should be bound as a volume separately. The document should be page numbered and appropriately flagged and contain the list of contents with page numbers. The deficiency in documentation may result in the rejection of the Bid. All pages of the bid are to be signed by the authorized signatory (authorized through power of attorney) and must be having official seal of the bidder.

Bids not accompanied by cost of tender documents/ EMD etc. shall be out-rightly rejected and treated as non-responsive, unless exempted from payment/submission of tender document

cost/EMD, in which case, the documents asked for towards exemption need to be enclosed in the bid. Further, their Price/ Financial bid will be not being opened.

2.2 Cost of Bid/ Eol Preparation

The Bidder shall bear all costs associated with the preparation and submission of its Bid/Eol, including cost of presentation for the purposes of clarification of the bid, if so desired by the TSREDCO. TSREDCO will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

2.3 Language of Bids

The proposal prepared by the bidders and all correspondence and documents relating to the Bid exchanged by the bidder and TSREDCO, shall be written in English language, provided that any printed literature furnished by the bidder may be written in another language so long the same is accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

2.4 Earnest Money Deposit (EMD)

The bidder shall submit the EMD as mentioned in the Bid information sheet. If there is any extension in bid validity period, then TSREDCO may ask the bidder to extend the validity of EMD. The EMD of unsuccessful bidders will be returned as promptly as possible after the award is made to lowest evaluated technically acceptable bidder.

The EMD of the successful bidder will be returned when the bidder has signed the contract agreement, and has submitted the required Contract performance guarantee/ security deposit as mentioned in the Bid Information Sheet.

No interest shall be paid by TSREDCO on the amount of earnest money deposit deposition as well as deposition of Contract Performance Security.

Please note that:

I. Vendors registered with NSIC/MSME under single point registration scheme certificate may be given exemption from EMD for all tenders of TSREDCO subject to following conditions:

- a. An exclusive NSIC certificate for this tender mentioning the tender document name and number along with date
- b. NSIC Certificate must be valid for 3 months from the date of Bid-Opening, However tender fee is not exempted.

The EMD may be forfeited if:

- a. If the bidder withdraws its bid during the period of bid validity as specified in the bid.

- b. If the bidder does not accept computational/arithmetical error correction made by TSREDCO and as explained in “Financial Evaluation” section of the Bid document.
- c. If the bidder does not accept assumptions, estimations etc. used for evaluation of bids as specified by TSREDCO in tender documents and revision of his bid accordingly, in case other assumptions are used. If the bidder does not accept the sharing as specified in the bid.
- d. In the case of successful bidder, if the bidder fails within the specified time limit:
 - To sign the contract agreement within 15 days of placement of Lol/Award letter.
 - To furnish the required performance guarantee, in accordance with the tender document.

2.5 Power of Attorney

A power of attorney duly authorized by a notary public, indicating that the person(s) signing the bid has/have the authority to sign the bid and thus the bid is binding upon the bidder during the full period of its validity in accordance with ITB clause 2.9. However, TSREDCO shall have right to accept the authorization of the persons ensuring genuinity based on the supporting documents.

2.6 Certificate Regarding Acceptance of Important Conditions

Certificate Regarding Acceptance of Important Conditions as attachment 3 is to be submitted in first envelope.

2.7 Bid prices

Unless otherwise specified in the technical specifications, bidders shall quote for the entire facilities on a “single responsibility” basis such that the total bid price covers all the contractor’s obligations mentioned in or to be reasonably inferred from the bidding documents in respect of the design, manufacture, including procurement (if any), supply of mandatory spares or spares to be supplied during warranty (if any). This includes all requirements under the bidder’s responsibilities for testing, where so required by the bidding documents, the acquisition of all permits, approvals and licenses, etc.; the other services as may be specified in the bidding documents, all in accordance with the requirements of the Section C. Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding documents.

2.8 Price Basis

Price mentioned in the quotation must be firm. Hence prices in Letter of Award shall be firm and not subject to escalation till the execution of the complete order and its subsequent amendments accepted by the bidder even though the completion / execution of the order may take longer time than the delivery period specified and accepted in the Letter of Award.

Statutory variation in applicable taxes & duties shall only be on account of Employer in case bidder has shown the rates of present taxes in their bid and other prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. Even in case prices asked in Bid price Schedule are quoted as inclusive of taxes, tax rates shall be shown separately. Bidders shall quote all prices in Indian Rupees only. TSREDCO has full rights to call for negotiations for further decreasing the prices or going for reverse bidding.

2.9 Period of Validity of Bid

Bids shall remain valid for complete bid document period validity as mentioned in Bid Information Sheet. In exceptional circumstances, the TSREDCO may solicit the bidder's consent to an extension of the bid validity period. The request and response thereto shall be made in writing thro' letters/ e-mails. If the bidder accepts to prolong the period of validity, the EMD shall also be suitably extended. A bidder may refuse the request for Bid Validity Extension without forfeiting its EMD. A bidder granting the request will not be required nor permitted to modify its bid.

2.10 Format and Signing of Bid

The original copy of the bid, consisting of the documents listed in ITB sub-clause 1.1 shall be typed or written in indelible ink and shall be signed by the bidder or a person or persons duly authorized to bind the bidder to the contract. The authorization shall be indicated by written power of attorney accompanying the bid and submitted as Attachment 2 to the bid under ITB sub-clause 2.5. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.

Any interlineations, erasures or overwriting shall only be valid if they are initiated by the signatory to the bid.

2.11 Contents of the EoI/Bid

The Bidder is expected to examine all instructions, forms, terms & conditions and scope of work in the EoI/bid documents. Failure to furnish all information required or submission of an EoI/bid document not substantially responsive to the bid document in every respect will be at the bidder's risk and may result in the rejection of the EoI/bid.

2.12 Disclaimer

TSREDCO and/or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information, forecasts, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in

connection with any omission, negligence, default, lack of care or misrepresentation on the part of TSREDCO and/or any of its officers, employees.

2.13 Removal of Rejected Goods and Replacement

If upon delivery, whether inspected and approved earlier or otherwise, the material/equipment is not in conformity with the specification, the same shall be rejected by TSREDCO or duly authorized representative and notification to this effect will be issued to the bidder normally within 7 days from the date of receipt of the material at the work/site/office.

The bidder shall arrange removal of the rejected items within 15 days from the date of notification. In the event, the bidder fails to lift the materials within the said 15 days, TSREDCO shall be at liberty to dispose off such rejected items in any manner as it may deemed fit. All expenses incurred on storage, disposal etc. shall be recoverable from the bidders submitted performance guarantee.

2.14 Access to Bidders Premises

TSREDCO and/or its authorized representative shall be provided access to bidder and/or his sub- bidder's premises, at any time during the pendency of the Order, for expediting, inspection, checking, etc. of work, if it is felt by TSREDCO.

2.15 Taxes, Levies and Duties

Prices of items shall be quoted as per instructions contained in SCC. However, in general, prices shall be inclusive of sales tax, GST, transportation, insurance, levies, service tax and any other duties etc., (wherever applicable) on F.O.R. destination/site basis. All taxes and duties shall be clearly indicated. Bidder is to arrange on its own to deliver the material at site. Waybill will be provided by TSREDCO.

2.16 Terms of Payment

The payment will be made by TSREDCO to the bidder in accordance with the terms and conditions specified in section 3 of special conditions of contract of tender document/agreed upon during negotiation and reproduced in Letter of Award.

2.17 Delivery Schedule

Time will be the essence of order and no variation shall be permitted in the delivery time/delivery schedule mentioned in the order unless agreed by TSREDCO without levy of LD. Delivery of the equipment/material described shall be deemed to constitute acceptance of this order and terms and conditions by the bidder at the price specified.

2.18 Force Majeure

Bidder shall not be considered in default if delay in delivery occurs due to causes beyond his control such as acts of God, natural calamities, civil wars, strikes, fire, frost, floods, riot. Only those causes which have duration of more than 7 days shall be considered cause of force/ calendar majeure. A notification to this effect duly certified by local chamber of commerce/ statutory authorities shall be given by the bidder to TSREDCO by registered/speed post letter/by hand/email. In the event of delay due to such causes, the delivery schedule will be extended for a length of time equal to the period of force majeure or at the option of TSREDCO, the order may be cancelled. Such cancellation, would be without any liability whatsoever on the part of TSREDCO. In the event of such cancellation, the bidder shall refund any amount advanced or paid to the bidder by TSREDCO and deliver back any materials issued to him by the Purchaser and release facilities, if any provided by the Purchaser.

2.19 QUALITY, WARRANTY/ GUARANTEE AND COMPREHENSIVE MAINTENANCE:

The contractor shall warrant the Solar PV Power Plant as per applicable standards of quality (MNRE Specs). Anything to be furnished shall be new, free from all defects and faults in material and workmanship. The manufacture shall be in accordance with the specified technical parameters and should be of the highest grade and consistent with established and generally accepted standards for material. It shall be in full conformity with the drawing or samples if any and shall operate properly if operable.

After installation of the Solar PV Power Pack at site, the contractor shall ensure satisfactory performance of the equipment for a period of time as specified in the scope of work.

The contractor shall rectify defects developed in the Systems within CMC period promptly. In case the contractor does not rectify the defects within one week of the receipt of complaint, TSREDCO may restore the System in working condition on contractor's expenses.

Frequent and unjustified delays in rectifying defects may lead to cancellation of the contract, recovery of losses and imposing of additional penalty. In such circumstance TSREDCO shall have the full liberty to recover the losses/penalty from the contractor pending claims, security deposit or in other law full manner. The amount of losses/penalty shall be decided by VC & Managing Director, TSREDCO and will be binding on the contractor.

2.20 STANDARDS

The goods supplied and works executed under this contract shall confirm to the standards mentioned in the technical specification and where no applicable standard is mentioned, the

latest version of Indian Standard Institution or Bureau of Indian Specification shall be applicable.

TSREDCO or its duly authorized representatives shall have the right to inspect and /or to test the goods to confirm their quality according to the contract and shall have access to the contractor's works premises and the power to inspect and examine the materials and workmanship of the Solar PV Power Plant at all reasonable times during their manufacture.

The contractor shall inform TSREDCO through a written notice regarding any material being ready for testing at least 05days in advance. The conditions of contract and/or the technical specifications shall specify what inspections and tests shall be conducted by TSREDCO. All the arrangements of necessary equipments and expenses for such tests shall be on the contractor's account excluding the expenses of the inspector.

TSREDCO's Inspector, unless the witnessing of the tests is virtually waived off, will inspect and attend such test within 3 days from the date on which the equipments are notified as being ready for test /inspection.

TSREDCO shall within 3 days, give written notice to the contractor, about any objection regarding the quality of the system. The contractor shall either make necessary modifications to remove the cause of such objection or shall clarify the objections in writing if modifications are not necessary to comply with the contract.

After satisfactory testing of the systems during inspection, TSREDCO's Inspector shall issue dispatch clearance for the supply of material at site.

2.21. SPARE PARTS

The contractor shall make arrangement to maintain a sufficient stock of essential spares and consumable spare parts to ensure proper maintenance of the system promptly.

2.22 PACKING FORWARDING

Contractors, wherever applicable shall properly pack and crate all materials in such a manner as to protect them from deterioration and damage during transportation. The contractor shall be responsible for all damage due to improper packing.

The contractor shall inform the Project Director (SE), TSREDCO, HO and Project site officer regarding the probable date of each shipment of materials from his works.

2.23 TRANSPORTATION

The contractor is required to deliver the goods at location as defined in the scope of work.

DEMURRAGE WHARFAGE, ETC

All demurrage, wharf age and other expenses incurred due to delayed clearance of the material or any other reason shall be on the account of the contractor.

2.24 INSURANCE: The goods supplied under the contract shall be fully insured against loss or damage incidental to manufacture or acquisition; transportation and the expenses shall be borne by the contractor.

The contractor shall arrange security & storage of their materials to avoid any theft or losses during execution of work. TSREDCO will, in no case, shall be responsible for providing any security/storage for the materials & equipments lying at site during execution of work. Under the contract contractor shall be responsible for any loss or damage until the systems/ supplies are taken over.

Any injures and accidents during erection to Technician, Labour, Erection crew, Students, Teacher or any other persons during the time of execution will be liability and responsibility of contractor and they shall make necessary preventive measures.

2.25 LIABILITY FOR ACCIDENTS AND DAMAGES: During the Warrantee period, the contractor shall assume all responsibilities for direct damages covering all type of accident, injury or property damage caused by manufacturing defects or faulty installation on the systems.

3. Submission of Bids:

3.1 Sealing and Marking of Bids: The Bidder shall seal the original copy of the bid in envelope duly marking the envelopes as "ORIGINAL BID". All envelopes must be super-scribed with name of work, NIT No., envelope no., content of envelope and date and bid opening date. The envelopes shall then the sealed in an outer envelope which should also be super scribed with name of work, NIT/ bid document no./ package no. and date and bid opening date.

3.2 Deadline for submission of bids: Bids must be received by the TSREDCO at the address specified as under and the bids will be opened at the same address as per timings stated in Bid Information Sheet.

The TSREDCO may, at its discretion, extend this deadline for submission of bids by amending the bidding documents in accordance with ITB Sub-Clause 1.3, in which case all rights and obligations of TSREDCO and bidders will thereafter be subject to the deadline as extended.

No bid may be withdrawn in the interval between the bid submission deadline and the expiration of the bid validity period specified in ITB Clause 2.9. Withdrawal of a bid during this interval may result in the bidder's forfeiture of its EMD, pursuant to ITB Sub-Clause 2.4.

4. Bid Opening and Evaluation

4.1 Bid Opening Process

The TSREDCO will open all bids in the presence of bidders' or its representatives who choose to attend the opening at the time, on the date and at the place specified in the NIT. Bidders' or its representatives shall sign a format as proof of their attendance. In the event of the specified date for the opening of bids being declared a holiday for the TSREDCO, the bids will be opened at the appointed time on the next working day.

Bidders' names, bid prices, discounts, the presence or absence of requisite bid security and other such details as the TSREDCO, at its discretion, may consider appropriate, will be announced at the opening.

4.2 Clarification on Bids

During bid evaluation, the TSREDCO may, at its discretion, ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid shall be sought, offered or permitted. The address for communication will be same as ITB clause 1.2.

4.3 Preliminary Examination of Bids.

The TSREDCO will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, whether the bids are generally in order and properly uploaded in the e-tender portal.

4.4 Arithmetical errors rectification process

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between sub totals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept the correction of errors, its bid will be rejected and the EMD will be forfeited in accordance with ITB Sub-Clause 2.4.

4.5 Preliminary Evaluation

Prior to the detailed evaluation, the TSREDCO will determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the bidding

documents. For purposes of this determination, a substantially responsive bid is one that confirms to all the terms, conditions and specifications of the bidding documents without material deviations, objections, conditionality's or reservations. (i) that affects in any substantial way the scope, quality or performance of the contract; (ii) that limits in any substantial way, inconsistent with the bidding documents, the TSREDCO's rights or the successful bidder's obligations under the contract; or (iii) whose rectification would unfairly affect the competitive position of other bidders who are presenting substantially responsive bids.

4.6 Technical Evaluation

The TSREDCO will carry out a detailed evaluation of the bids previously determined to be substantially responsive in order to determine whether the technical aspects are in accordance with the requirements set forth in the bidding documents. In order to reach such a determination, the TSREDCO will examine and compare the technical aspects of the bids on the basis of the information supplied by the bidders, taking into account the following factors:

a) Overall completeness and compliance with the technical specifications and drawings; suitability of the facilities offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the bid. The bid that does not meet minimum acceptable standards of completeness, consistency and detail will be rejected for non- responsiveness.

b) Achievement of specified performance criteria by the facilities as per scope of work.

c) Type, quantity and long-term availability warranty spare parts and also mandatory and recommended spare parts and maintenance services.

d) Any other relevant factors, if any, listed in the tender document, or that the TSREDCO deems necessary or prudent to take into consideration

4.7 Commercial Evaluation

The comparison shall be of the FOR site price of domestically manufactured plant and equipment including test (lab) charges, if any and mandatory spares, warranty spares plus applicable sales tax & duties as well duties and taxes paid/payable on components and raw materials incorporated or to be incorporated in the plant and equipment including mandatory spares/warranty spares plus the cost of loading, unloading, local transportation, insurance covers, installation and commissioning, civil work other services required under the contract including service tax and surcharge, annual maintenance cost, any services as per scope of work, administrative charges and statutory agencies cost including service tax and surcharge, if any.

4.8 Contacting the Employer

No Bidder shall contact the Employer on any matter relating to its bid, from the time of the opening of bids to the time the contract is awarded.

Information relating to the examination, evaluation and comparison of bids and recommendations for the award of contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder's bid.

5. Award of Contract

5.1 Post qualification: In the absence of pre-qualification, the TSREDCO will determine to its satisfaction whether the bidder selected as having submitted the lowest evaluated responsive bid/or bidder giving highest return to TSREDCO, as the case may be, as mentioned in special condition of contract is qualified to satisfactorily perform the contract in terms of the qualifying requirements stipulated in IFB/NIT.

The determination will take into account the bidder's financial, technical and production capabilities, in particular its contract, work in hand, future commitments and current litigation. It will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder in Eol forms in section IV to the bid, as well as such other information as the TSREDCO deems necessary and appropriate.

An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid, in which event the TSREDCO will proceed to the next lowest evaluated bid/next bid giving highest return to TSREDCO to make a similar determination of that bidder's capabilities to perform satisfactorily.

5.2 Award criteria

i. Subject to ITB Clause 5.6, the TSREDCO will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and to be the lowest evaluated technically acceptable bid or bid offering highest return to TSREDCO as the case may be as per tender documents and special conditions of contract, further provided that the Bidder is determined to be qualified to perform the contract satisfactorily.

ii. Allocation of Work:

a) Priority will be given to L1 bidder for minimum 40% capacity

b) L2 to L4 Bidders matching with L1 Quoted Price will be given min. 20% capacity each

5.3 Letter of Intent / Letter of Award

Prior to the expiration of the period of bid validity, the TSREDCO will notify the successful bidder in writing by issuing Letter of Intent or Letter of Award either through telefax/ scanned e-mail or through registered/speed post/couriered letter, that its bid has been accepted. The letter of award will constitute the formation of the contract. In case, bidder does not return the duplicate copy of LOA with duly signed and acceptance within 10 days, then the LOA will be deemed to be accepted by the successful bidder, on whom award is made.

The bidder shall return duplicate copy of the Lol/LoA/contract and the other enclosed documents duly signed as a token of acceptance, within 10 days from the date of receipt of this order. Bidder is to make two original copies of contract containing Work/Contract agreement at top, and then Letter of award, techno commercial offer, copy of price/ financial bid and copy of all tender documents are to be placed.

Upon the successful bidder's furnishing of the performance security pursuant to ITB Clause 5.10, the TSREDCO will promptly notify each unsuccessful bidder and will discharge its EMD.

5.4 Cancellation

TSREDCO reserves the rights to cancel the order in the part or in full by giving one-week advance notice thereby if-

- The bidder fails to comply with any of the terms of the order.
- The bidder becomes bankrupt or goes in to liquidation
- The bidder makes general assignment for the benefit of the creditors and any receiver is appointed for the property owned by the bidder.

5.5 Performance security/ Contract Performance Guarantee

Within fifteen (15) days after receipt of the letter of award, the successful bidder shall furnish the performance security for ten percent (10%) of the contract price or as specified in tender documents and in the form provided in the section "Forms and Procedures" of the bidding documents or in another form acceptable to the TSREDCO.

5.6 PATENT RIGHT AND ROYALTIES: The contractor shall indemnify TSREDCO against all third party claims of infringement of patent, royalties, trademark or industrial design rights arising from use of the goods supplied/ installed by the contractor or any part thereof.

5.7. RIGHT TO VARY QUANTITIES: TSREDCO reserves all the rights to increase or decrease the quantity of goods mentioned in the contract, at the time of placement of orders without any change in price or other terms and conditions.

5.8. LOCAL CONDITIONS: It will be imperative on contractor to have full information of all local conditions and factors which may have any effect on the execution of the works. The contractor shall be deemed to have collected all the relevant information regarding the proposed place of works/ site, its local environment, approach road and connectivity etc. and be well acquainted with actual working and other prevailing conditions.

5.9. TOOLS & TACKLES: The contractor shall provide all necessary tools & tackles for proper execution of work and operation/ maintenance of systems after installation. TSREDCO shall in no way, responsible for supply of any tools & tackles.

5.10. TERMINATION FOR DEFAULT: TSREDCO without prejudice to any other remedy for violate of contract, by written notice of default sent to the contractor, may terminate the contract in whole or in part. If the contractor fails to perform any other obligation(s) under the contract. However in the event of termination of the contract in part, the contractor shall continue performance of the contract to the extent not terminated.

5.11. TERMINATION FOR INSOLVENCY: TSREDCO may at any time terminate the contract by giving written notice to the contractor without compensation to the contractor if he becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to TSREDCO.

5.12. TERMINATION FOR CONVENIENCE: TSREDCO may vide a written notice sent to the supplier; terminate the contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the purchasers convenience in the interest of TSREDCO.

6. COMPLETION OF PROJECT: On completion of the project, the contractor shall submit 3 sets of "Project completion report in MNRE format" along with copies of Invoice, Audited statement of expenditure, photographs etc., to TSREDCO which will include photographs, drawings of various systems containing details of installation from the point of view of future maintenance of the installed systems. This report must also contain all Technical Details, Detailed Circuit Diagram of the Electronic/ Electrical components of all the system. The report shall include satisfactory performance report from appropriate authority for each site along with photograph of representative of the authority and the party. However Supply of Solar Power Pack System. It is maintain to then such the system power as per rate fix by TSREDCO.

7. OTHERS CONDITIONS: The contractor shall not transfer, assign or sublet the work under this contract or any substantial part thereof to any other party without the prior consent of TSREDCO in writing.

7.1 TSREDCO may at any time either stop the work all together or reduce or cut it down by sending notice in writing to the contractor. If the work is stopped all together, the contractor will only be paid for work done and expenses distinctly incurred by him as on preparation or the execution of the work up to the date on which such notice is received by him. The decision of TSREDCO regarding assessment of such expenses shall be final and binding on the contractor. If the work is cut down, the contractor will not be paid any compensation what to ever for the loss of profit which he might have made if he had been allowed to complete all the work awarded to him.

7.2 Fulfillment of various requirements, not particularly mentioned in the specifications or drawings but necessary for satisfactory and proper completion of the work shall be the contractor's responsibility within the prices offered by him. But additional works beyond the scope and essence of this contract shall be carried out by the contractor as extra items. For such works the rates shall be decided by TSREDCO and shall be binding on the contractor.

7.3 The contractor shall not display the photographs of the work and not take advantage through publicity of the work without written permission of TSREDCO.

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

7.5 TSREDCO will not be bound by any Power of Attorney granted/ issued by the contractor or by any change in the composition of the firm made during or subsequent to the execution of the contract. However recognition to such Power of Attorney and change (if any) may be given by TSREDCO after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.

8. Safety Measures:

a) The contractor shall take necessary precautions for safety of the workers and preserving their health while working in such jobs, which require special protection and precautions. The following are some of the measures listed but they are not exhaustive and contractor shall add to and augment these precautions on his own initiative where necessary and shall comply.

b) Supply work men with proper belts, ropes etc., when working in precarious slopes etc.

c) Avoiding naked electrical wire etc., as they would electrocute the works.

d) Taking necessary steps towards training the workers concerned on the machinery before they are allowed to handle them independently and taking all necessary precautions in around the areas where machines hoists and similar units are working.

9. STATUTORY ACTS: All legal formalities/clearances are to be obtained by the contractor regarding the execution of the said work.

In respect of all labour directly or indirectly employed on the work by the contractor, the contractor shall comply with all the provisions of hiring the contract labour and rules of State/ Central Government or any other authority framed from time to time. The rules and other statutory obligations in this regard will be deemed to be the part of this contract.

The contractor shall comply with all the Acts & rules and regulations, laws and bylaws framed by State/ Central Government/ Organization in whose premises the work has to be done. TSREDCO shall have no liabilities in this regard.

10. APPLICABLE LAW: The contract shall only be interpreted under Indian laws. The station of TSREDCO, Hyderabad , shall have exclusive jurisdiction in all matters arising under this contract.

11. RESOLUTION OF DISPUTES / ARBITRATION: Any disputes arises regarding this tender will be settled under area of jurisdiction of TSREDCO, Hyderabad.

12. NOTICES:

12.1 Any notice to be given by one party to the other, pursuant to the contract shall be sent in writing. A notice shall be effective when delivered or from the effective date mentioned in the notice, whichever is later.

12.2 Notices, statements and other communications sent by TSREDCO to the contractor at his specified addresses through registered post/ email/ fax shall be deemed to be delivered to the contractor.

13. APPLICATION: These general conditions shall apply to the extent that provisions in other parts of the contract do not supersede them.

14. PAYMENT TERMS: Payment will be settled as per the below:

- i. 70% of purchase order value will be settled on installation, commissioning and handing over of the systems to Concern beneficiary after joint inspection of TSREDCO, beneficiary and supplier

- ii. Contractor shall submit the performance and Warranty Certificates for a period of 5 Years for Inverter, batteries & other components and performance guaranty, warranty of SPV modules as per MNRE guidelines.

- iii. 30% will be paid after 90 days of Successful performance and after joint inspection of **TSREDCO HO officials**, supplier along with beneficiary, basing on satisfactory report of inspecting officer.
- iv. The following deductions will be made at time release of payment:
 - a) **TSREDCO service charges @ 5% and 18% GST as applicable will be deducted.**
 - b) Any other applicable taxes

Note:

1. No price escalation due to any reason (including any change in the applicable taxes, duties etc.) shall be considered by TSREDCO during the validity/ extended validity of the work/contract agreement.

2. All the bank guarantees should be made from nationalized/ scheduled bank approved by RBI for a period of 5.5 years from the date of issue of LOI.

SECTION - C
(Technical specifications)

I. Technical specifications

1. INTRODUCTION

- ❖ The suppliers have to follow all the conditions as per MNRE norms as follows.
 - The Technical specifications/ guidelines are as per the terms and conditions stipulated in Administrative approval of the MNRE Vide Lr. dated 26.05.2014 and F. No. 32/648/2017-SPY Division, Dt.07.08.2018 and as amended time to time.
 - Lr. No. 41/06/2015-16/PVSE, Dt.31.07.2017
 - Lr. No. 41/06/2015-16/PVSE, Dt.19.04.2017
 - Lr. No. 41/06/2015-16/PVSE, Dt.02.01.2017
 - Lr. No. 5/23/2009 -P&C Part-III), Dt.18.11.2014 for capacity of battery backup.
 - Lr. No. 318/38/2018-GCRT, Date: 15 June 2018
 - **The suppliers have to use MNRE empanelled inverters & Batteries only as per MNRE Specifications.**
 - The suppliers have to submit the MNRE approved the above product test reports and On completion of the work, the contractor shall submit all documents in formats of MNRE as per Lr. No. 32/648/2017-SPV Division, Dated: 08 October 2018 along with any necessary documents in 3 sets to TSREDCO.(The formats are available in MNRE web site).
- ❖ The suppliers have to follow all the above conditions and maintain minimum system configurations for the 300Wp SPV off grid systems as per MNRE norms as follows.

I. System Configurations: Bidders has to quote for the following system configuration:

Power Pack Capacity at each Location	Location	Minimum Size of the PV array.
300Wp Capacity	<p>Design, Supply, Installation & Commissioning of Stand Alone SPV Power Plant of capacity of 300wp with following specifications</p> <p>a) SPV Modules: Any standard make with Indigenous, IEC certification and RFID tag pasted inside as per MNRE specifications and of $\geq 300\text{Wp}$ capacity to be provided.</p> <p>b) Invertors : MNRE empanelled inverters, MPPT type of minimum 24V, 600VA capacity to be installed</p> <p>c) Batteries : MNRE empanelled batteries of Tubular VRLA Gel Type of capacity 12V, 100AH -2Nos to be provided</p> <p>d) Structure& other BOS : MS Galvanized Ground Mounted Single Pole structure with minimum height 2Mtrs above the ground as per MNRE specs to be used.</p> <p>e) Cables: Reputed brand having IEC 60189 IS 694/ IS 1554 of 4Sqmm on DC side and 2.5sqmm on AC side must be used Energy Meter, ACDB, DCDB has to be provided. Battery backup including the AMC for a period of 5 Years.</p> <p>f) Civil Works: Coping of 1/6th height of pole to be buried in ground and filled with 1:3:6 CCM, Inclusive of separate earthing pits to be provided.</p> <p>g) Wiring: The (AC & DC) Internal and Electrical output wiring, installation and connection to the loads or any in the scope of supplier only as per requirement of beneficiary and Standards/ Specifications of MNRE / IEC / BIS</p>	PV array should be of $\geq 300\text{Wp}$ with 72cells SPV modules only

1. PV MODULES:

- a) Indigenously manufactured PV modules should be used
- b) The PV modules should be made up of crystalline silicon solar cells and must have a certificate of testing conforming to IEC 61215 Edition II / BIS 14286 from an NABL or IECQ accredited Laboratory.
- c) The module efficiency should not be less than 14%.
- d) The terminal box on the module should have a provision for opening, for replacing the cable, if required.
- e) There should be a Name Plate fixed inside the module which will give:
 - i. Name of the Manufacturer or Distinctive Logo.
 - ii. Model Number

iii. Serial Number

iv. Year of manufacture

v. TSREDCO Logo with text (300Wp Project)

e) A distinctive serial number starting with NSM will be engraved on the frame of the module or screen printed on the tedlar sheet of the module.

1. The Potential Induced Degradation (PID) test for solar modules will be mandatory from 1st April 2017. In order to simulate the Indian operating conditions, it was decided that during PID test of the module, it will be subjected to conditioning for 3rounds at 85°C and 85% RH for a period of 96 hours. In case the degradation is more than 5% after the test, the module will be treated as failed the PID test. The system voltage details of the module to be provided by the module manufacturer.

2. The test centers to stop the OEM and co-certification testing of modules with immediate effect. The modules of the manufacturers who are having OEM and co-certification will not be considered as qualified modules under MNRE programmes.

3. The latest version of IEC 61215 has been published and all the test labs should upgrade themselves for the same. The latest version will become mandatory from 1st June 2017.

4. It was decided that instead of RFID tag, 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

2. A) BATTERY

i. The battery should be Tubular Gel battery'

ii. 75 % of the rated capacity of the battery should be between fully charged & load cut off conditions.

iii. Battery should conform to the latest BIS/ International standards

B). INVERTER

The inverters should be tested as per IEC standards. The following criteria should be followed:

i. The benchmarking efficiency criteria for Grid Tied (string inverters) inverter

- At nominal voltage and full load is $\geq 95\%$.
- For load $\geq 25\%$ is $\geq 92\%$.

ii. In case of standalone / grid interactive inverter the bench marking efficiency criteria

- At full load is 85%
- For the load $\geq 25\%$ is 80%
- iii. No load losses should not be more than 5%.

The following tests are to be conducted on the inverters

- a) Efficiency measurement as per IS/IEC 61683 (for system with no MPPT)
- b) Overall efficiency for Grid Tied inverter as per EN50530
- c) Islanding Prevention test as per IS 16169/IEC 62116
- d) PV system characteristics of utility interface as per IEC 61727 (the system should meet all the clauses as per the standard except the clause 5.2.2 of IEC 61727. In case of clause 5.2.2 it should withstand the over /under frequency in the range of 47 to 52Hz)
- e) Overall charge controller efficiency should be $\geq 85\%$ at $\geq 10\%$ load and $\geq 92\%$ at full load. With battery voltage at $\leq 2V/Cell$
- f) System should have IP 65 certification for outdoor use IP 21 & 22 for indoor use.
- g) Environmental testing as per IEC 60068-2-(1,2,14&30)
- iv). All the test laboratories should provide a clear cut verdict in the end of the test report regarding conformity / non conformity of the system against the standard / specifications for which it has been tested. Any discrepancy in the specifications of sample submitted, the test labs should specify the same in the report.
- v). From 1st July' 2017 all test laboratories should start the data logging of all the test parameters during testing and soft copy of the same will be maintained for a period of 5years.
- vi). The TSREDCO will cross check the test reports submitted by the companies for the systems to be supplied under various projects/systems with concerned testing laboratories.

3. ELECTRONICS

- i. Electronics should operate at 12 V and should have adequate temperature compensation arrangement for proper charging of the battery throughout the year.
- ii. Inverter should be with "THD" less than 5% and Efficiency more than 90 %
- iii. Necessary lengths of wires / cables, switches and fuses should be provided.
- iv. The system should have separate ports for connecting each load along with a charging port for mobile and laptop.
- v. The idle current i.e. when there is no load (& inverter is switched OFF, in case of A.C. Systems) and no display, it should be less than 150 mA.
- vi. The voltage drop from module terminals to the battery terminals should not exceed 1.0 volts including the drop-age across the diode and the cable when measured at maximum charging current.

- vii. The PCB containing the electronics should be capable of solder free installation and replacement.
- viii. Necessary lengths of wires/cables, switches suitable for DC use and fuses should be provided.
- ix. The inverter output AC voltage should not change with the decreased battery voltage in the operating voltage range of the battery

4. ELECTRONIC PROTECTIONS

- I. Adequate protection is to be incorporated under “No Load” condition, e.g. when the lamps and other loads are removed and the system is switched ON.
- II. The system should have protection against battery overcharge, deep discharge condition.
- III. Load reconnect should be provided at 90 % of the battery capacity status.
- IV. Adequate protection should be provided against battery reverse polarity.
- V. Fuses should be provided to protect against short circuit conditions.
- VI. Protection for reverse flow of current through the PV module(s) should be provided.

5. MECHANICAL COMPONENTS

- i. Corrosion resistant frame structure should be provided to hold the SPV module.
 - (ii) The frame structure should have provision to adjust its angle of inclination to the horizontal, so that it can be installed at the specified tilt angle.
 - (iii) Light source should be either for wall mounted or ceiling mounted or can be hung from the ceiling in a stable manner, as per site requirements.
 - (iv) A vented plastic/ wooden/ metallic box with acid proof corrosion resistant paint for housing the storage battery indoors should be provided

6. QUALITY AND WARRANTY

- I. The Solar home system including Battery will be warranted for a period of five years from the date of supply.
- II. The PV module(s) will be warranted for a minimum period of 25 years from the date of supply. PV modules used in Solar Home Lighting System must be warranted for their output peak watt capacity, which should not be less than 90% at the end of Ten (10) years and 80% at the end of Twenty five (25) years
- III. The Warranty Card to be supplied with the system must contain the details of the system. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

7. OPERATION and MAINTENANCE MANUAL

An Operation, Instruction and Maintenance Manual, in English and the local language,

should be provided with the Solar Home System. The following minimum details must be provided in the Manual:

- Basic principles of Photovoltaics.
- A small write-up (with a block diagram) on Solar Home Lighting System - its components, PV module, battery, electronics and luminaire and expected performance.
- Significance of indicators.
- Type, Model number, voltage & capacity of the battery, used in the system.
- The make, model number, country of origin and technical characteristics (including IESNA LM-80 report) of W-LEDs used in the lighting system must be indicated in the manual.
- Clear instructions about mounting of PV module(s).
- Clear instructions on regular maintenance and trouble shooting of the Solar Home Lighting System.
- DO's and DONT's.
- Name and address of the contact person for repair and maintenance

The BoS items / components of the Solar PV Power Plants/ systems must conform to the latest edition of IEC/ equivalent BIS Standards as specified below:

BoS item/component	Applicable IEC/equivalent BIS Standard	
	Standard Description	Standard Number
Power Conditioners/ Inverters*	Efficiency Measurements Environmental Testing	IEC 61683 IEC 60068 2 (6,21,217,30,778)
Charge controller/ MPPT units*	Design Qualification Environmental Testing	IEC 62093 IEC 60068 2 (6,21,27,30,75,78)
Cables	General Test and Measuring Methods PVC insulated cables for working Voltages up to and including 1100 V-Do-, UV resistant for outdoor installation	IEC 60189 IS 694/ IS 1554 IS/IEC 69947
Switches/Circuit Breakers / Connectors	General Requirements Connectors- safety	IS/IEC 60947 part I,II,III EN 50521
Junction Boxes/ Enclosures	General Requirements	IP 65 IP 21 IEC 62208
SPV System Design	PV Stand-alone System design verification	IEC 62124
Installation Practices	Elect. installation of building requirements for SPV power supply systems	IEC 60364-7-712

** BoS Must additionally conform to the relevant national/international Electrical Safety Standards.

8. MAIN FEATURES & OPERATING MODE

PCU should give preference to the solar power as the first input to load. The second preference is given from the grid and third from Battery. The PCU always gives preference to the solar power and will use Grid power only when the solar power is insufficient to meet the load requirement. The output from the power conditioning unit should give phase plus neutral operation with continuous capacity providing 230 V AC at 50 Hz, each phase to neutral pure sine wave. It should contain intelligent controller to get maximum power over the period

9. PROTECTION SYSTEM: PCU should have in-built software controls for islanding protection to isolate from the grid in case of no supply, under voltage and over voltage conditions.

PV system should be provided with adequate rating fuses on PCU input side as well as output side for overload and short circuit protection and disconnecting switches to isolate the power for maintainers are needed.

Fuses/ RBD's of adequate rating should be provided in each solar array string to protect them against short circuit

SURGE PROTECTION: Internal surge protection shall consist of three MOV type arrestors connected from +Ve and -Ve terminals to earth (via Y arrangement) for higher withstand of the continuous PV-DC voltage during earth fault condition. SPD shall have safe disconnection and short circuit interruption arrangements through integrated DC in-built bypass fuse (parallel) which should get tripped during failure mode of MOV, extinguishing DC arc safely in order to protect the installation against fire hazards. Nominal discharge current (I_n) at 8/20 micro seconds shall be minimum 10 kA with maximum discharge (I_{max}) at 8/20 micro seconds minimum 20 kA with visual indication (through mechanical flag) in modules to monitor the life of SPD.

EARTHING PROTECTION:

i. Each System structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. Earth Resistance shall be tested in presence of the representative of Department/TSREDCO 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.

10. MODULE MOUNTING STRUCTURE

- **MS Galvanized Ground Mounted Single Pole Structure with minimum height 2mtrs above the ground.**
- The foundation for ModuleMounting structures shall be 1:3:6 PCC Construction. There shall be minimum necessary coping 1/6th height of pole to be buried in ground.
- ❖ Modules shall be mounted on a non-corrosive support structures towards due south and at a suitable inclination to maximize annual energy output.
- Ground Mounting structure should be withstand for 180Kmph wind speed with sustainability certificate
- Support structures shall be manufactured with steel angles & channels; hot dip galvanization to IS 1416.716.7 Part -1 with thickness of 100 microns as per IS 5905. Fixed Structure shall be designed for mounting of offered Solar Modules with angle facility from 17° to 23°. All fasteners shall be of Stainless steel - SS 304(Hardware make: LPS Bossard).

11. ORIENTATION AND TILT OF PV module: Modules alignment should be due south and tilt angle shall be 12 - 23 degrees with horizontal.

12. DC DISTRIBUTION BOARD (DCDB): A DC Protection shall be provided in between PCU and Solar Array. It should have protection circuits of Suitable rating for connection and disconnection of array and battery bank section

13. ACDB: AC Distribution Board: A AC Protection shall be provided in between PCU and distribution line. It should have a protection circuit of Suitable rating for connection and disconnection of distribution line

14. OPERATION MANUAL: An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the Solar PV Power Plant and detail of plant layouts Wiring and Connection Diagrams will also be provided with the manual.

II. Technical Specifications of Energy Efficient Fans:

Parameter	Specifications	Confirm Your specification (technical details)
Type of fan	External rotor	
Colours	White, Brown or Ivory (as mentioned in PO/LOA)	
Type of motor	Brush Less Direct Current (BLDC)	
Fan size (Sweep)	1200 mm / 48 inch	
Power input	28W (Maximum wattage)	
Air delivery	≥ 210 m ³ /min	
No. of blades	3 (three)	
Operation	The fan shall work with a. Remote Control (or) b. with appropriate Regulator	
ON/OFF and speed control operation	i. With built-in remote (IR) Sensor for external remote control. Sensor shall be located for signal sensing through the center of the fan motor bottom cover. ii. With Three button remote control for ON/OFF, Speed Increase and Speed Decrease	
Multiple speed settings	From 170 RPM to max speed in near equal steps from remote	
Operating Voltage	110-250V	
RPM	> 310	
Frequency	48-52 Hz	
Power Factor	> 0.95	

III. Technical Specifications - self-ballasted 9 W LED bulb

- Bidder to give 5 years free replacement warranty Certificate for each Batch of bulbs supplied.
- Bidder to submit Test Certificate for the parameters given below from a NABL certified Lab. as per the testing protocol mentioned in the tender document below

S.No	Parameters	Cool white LED Bulb	Applicable IS	Documents to be submitted & annexed by Bidder	Details to be filled by Bidder		
					Complied (Yes / No)	Details in brief	Remark - if not complied
1.	Light Source	SMD LED Chip	LM80/1610 6	LED technical datasheet including packaging details to be submitted.			
2.	LED Make	Suitable LED chip manufacturers subject to technical due diligence by		LED Chip manufacturer to provide an authorization letter in favor of bidder stating their supply support for execution of project.			

		TNREDCL (Maximum of 3 LED from the original manufacturer/ designer of the Chip for manufacturing the offered design. TNREDCL Reserves the right to reject any Chip proposed by Bidders.		LM-80 test reports should have an accreditation of ILAC/MRA/KOLAS/EPA International Certifying Agencies Bidder to submit LED chip manufacturer's credentials viz. proof of supplies made to Indian lighting companies and recommendations from other Lighting manufacturers along with the technical bid.				
3.	LED Chip Efficacy	Minimum 130 Lm/W.	Efficacy at actual LED driving condition.					
4.	Lamp Efficacy	Minimum 100 Lm/W	Efficacy at actual LED driving condition.					
5.	Lumen maintenance @ 85°C for LED chip	As per LM80 report of chip	LM80					
6.	Max. Junction Temperature	As per manufacturer's test report at maximum ambient temperature but should not exceed maximum rated Junction temperature of chip used						
7.	Lamp Life Hrs	Minimum 25,000	16102-2 and 16106					
8.	Lamp Wattage	Rated Lamp Wattage - 9W - as per BIS Standards (IS 16102-1 and 16102-2)	16102-1 and 16102-2					
9.	CCT	Cool white (5700K, 6500K)	16102-2 CCT range as per standard or ANSI.					
10.	LED Chip package Wattage	< 1w ± 10 %	Recommended at actual driving condition					
11.	Base Cap	B22d (Bayonet Cap) Push fit terminals instead of Solderable terminals may be used provided bulb meets the TNREDCL tender specifications].	16102-1					
12.	Ingress Protection	IP20						
13.	Rated Luminous flux	900 Lumens - as per BIS Standards (IS 16102-1 and 16102-2)	16102-2 and 16106					
14.	CRI (Typical)	Minimum 80	16102-2 and					

			16106				
15.	Beam angle	> 120°	16102-2				
16.	Total Harmonics Distortion	Maximum 15%	16102-2				
17.	Driver Efficiency	>85%	IS 15885				
18.	EMC	Table 6 and 7	16102-2 and 6873 part 5				
19.	Lumen Maintenance @ 25 °C ambient (±2 °C)	Minimum 80% after 6000 hrs. (Indoor application). Intermittent test results at every 1000hrs to be reported.	16102-2 and 16105.	NABL (Lab may certify that, if the samples are still under testing or else intermittent test results			
20.	PF	Minimum 0.9	16102-2	NABL Test Report			
21.	Operating Voltage Range	100 V - 300 V	16102-2	NABL Test Report			
22.	Voltage Range for Lamp "ON" and Safety	100 V - 300 V		NABL Test Report			
23.	Rated Voltage for Performance and Life Time	220 V - 240 V	16103-2	NABL Test Report			
24.	Surge Voltage	Withstand 2.5 kV		NABL Test Report			
25.	Working Temp	-10 to 45 deg C		NABL Test Report			
26.	Temperature for Performance Measurement	25 °C (±2 °C)		NABL Test Report			
27.	Temperature for Safe Operations	-10 to 45 deg C		NABL Test Report			
28.	Working Humidity	10% - 90% RH		NABL Test Report			
29.	Marking	Table 1		NABL Test Report			
30.	Safety Requirement	All Test		NABL Test Report			
31.	Temperature Cycling test and supply voltage switching test	(1) Product shall be subjected to -10 °C for 1 hrs, then switch to 50 °C for 1 hrs. Total 5 cycles (2) 30 Sec On and 30 sec Off. For 12500 cycles At the end of test as per (1) and (2), no visual damage shall be observed and lamp shall alight for more than 15 min after test.		NABL Test Report			
32.	Accelerated Operational life test.	Product shall be operated continuous for 6000 hours. Test has to conduct at 45 °C At the end of test, no visual damage shall be observed and lamp shall alight for more than 15 min		NABL Test Report			

		after test.					
33.	Adequate di-electric protection	(Isolation-minimum 1.5KVdi-electric resistance) to be provided in the bulb design to prevent any possibility of electric shocks to user from leakage or short circuiting from lamp body.		NABL Test Report			

Note:

1. The required documents must be properly annexed and submitted as mentioned above with necessary details.
2. The Bulb design and packaging should comply IS 16102 Part 1 under the compulsory registration scheme and has to be registered with BIS under CRS.
3. The Original full LM 79 report, THD report and Photobiological safety report are to be submitted in hard copy either at bidding stage or before delivery of first lot otherwise the bidder's offer will be considered as non-responsive.
4. The LED Light should have diffuser (milky diffuser) and no LED Light source should be visible through naked eye and the light on the diffused cover must be uniform without any dark spots.
5. The LED Light should have diffuser (milky diffuser) and no LED Light source should be visible through naked eye and the light on the diffused cover must be uniform without any dark spots.
6. Please provide the all above-mentioned test results in table format which is given below. But all the supporting documents such as laboratories reports have to be submitted with bid.

S. No.	Test Name	Test Results (Value/Complies/Satisfactory)	Test Date	Name of Laboratory

7. Bidder must submit all the Test Reports with sign and stamp of Lab Authorized signatory. During Appraisal and Verification if any document submitted are found to be fake / manipulated, Bid is liable for rejection and bidder may also be debarred from participating in future tenders

IV. Technical Specifications - Switch Board

- ❖ Supply of 16A flush type Switch Board/ Socket combined (4 in one) of Branded makes with 4 Points accommodating for 2 Light, 1 Fan & 1 charging point.

* As per Telangana State R & B SSR specifications

15. WARRANTEE/ GUARANTEE: (i) The complete Solar PV Power Plant must be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years with CMC.

(ii) PV modules used in Solar PV Power Plant must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 15 years and 80% at the end of 25 years.

- ❖ The Complete sets of bulbs for 2 Years with replacement
- ❖ Energy Efficient BLDC Fans for 3 years

(iii) The Warrantee/ Guarantee Card to be supplied with the Solar PV Power Plant must

contain the details of the system supplied, as given in the Annexure- 1. The manufacturers can provide additional information about the system.

(iv) During the Warrantee/ Guarantee period, MNRE / TSREDCO / users will have all the rights to cross check the performance of the Solar PV Power Plant. TSREDCO may carry out the frequent inspections of the Solar PV Power Plant installed and randomly pick up its components to get them tested at Govt. / MNRE approved any test center. If during such tests any part is not found as per the specified technical parameters, TSREDCO will take the necessary action. The decision of TSREDCO in this regard will be final and binding on the tenderer.

16. TEST REPORTS: The test certificate of various components of the proposed SPV system should be in accordance with guidelines of MNRE for off grid Solar PV systems under Jawaharlal Nehru National Solar Mission (JNNSM) and related Addendums/ Minutes of meeting published on MNRE website Test certificates from MNRE approved test centers shall also be considered valid.

17. OTHER FEATURES: (i) The supplier must fulfil all the technical & other requirements as per provisions under JNNSM, MNRE, GOI.

(ii) Only indigenously manufactured Solar PV Power Plant which fully confirm to the MNRE specifications shall be procured. Fully imported Solar PV Power Plant shall not be procured however use of imported components of PV system would be permitted, subject to adequate disclosure and compliance to specified quality norms and standard.

(iii) A strip containing the following details should be laminated inside the module so as to be clearly visible from the front side:

- a) Name of the Manufacturer or distinctive Logo
- b) Model or Type No.
- c) Serial
- d) Year of make.

SCOPE OF WORKS AND SERVICES**SCOPE OF WORK**

The work shall include Design, Supply, Installation & Commissioning of Stand Alone 300Wp OFF-GRID Solar power generating systems at PVTG Habitations of ITDA (Chenchu) Mannanur & Uttoor in Telangana State" on turnkey basis in accordance with the technical specifications, including the CMC for a period of 5 Years.

Sl. No	System Details	Qty
1	<p>Design, Supply, Installation & Commissioning of Stand Alone 300Wp OFF-GRID Solar power generating systems with following specifications</p> <p>a) SPV Modules: Any standard make with Indigenous, IEC certification and RFID tag pasted inside as per MNRE specifications and of ≥ 300 Wp capacity-1no to be provided.</p> <p>b) Invertors : MNRE empanelled manufactures/ Inverters PWM/ MPPT type of minimum 24 Volts with 600VA capacity to be installed</p> <p>c) Batteries : MNRE empanelled manufactures/batteries of Tubular Gel battery's of capacity 12V, 100AH with 2 No's</p> <p>d) Structure& other BOS : MS Galvanized Ground Mounted Single Pole structure with minimum height 2Mtrs above the ground as per MNRE specs to be used.</p> <p>e) Cables: Reputed brand having IEC 60189 IS 694/ IS 1554 of 4Sqmm on DC side and 2.5sqmm on AC side must be used Energy Meter, ACDB, DCDB has to be provided. Battery backup including the AMC for a period of 5 Years.</p> <p>f) Civil Works: Coping of 1/6th height of pole to be buried in ground and filled with 1:3:6 CCM, Inclusive of separate earthing pits to be provided.</p>	1 Set
2	Supply & Installation of Energy Efficient BLDC Fan	1No
3	Supply & installation of 9W LED Lights	3Nos
4	Supply & Installation Electrical Switch Board with 4Points accommodating for 2Light, 1 Fan & 1 charging point with suitable cable	1 Set

Scope of works shall include:

A. Solar PV modules including mounting frames, Mounting structures, foundation bolts and nuts for holding structures and module inter connection, Array Junction boxes / String combiner Box with surge protection and monitoring system including output electrical wiring works for connecting to the loads. The entire work shall be performed on turnkey basis. All the works related to the proper installation and functioning of the system shall have to be carried out by the contractor in the prices

offered by him.

B. Required Internal wiring to energize the proposed load shall have to be done by the contractor. All the wiring shall have to be done in concealed PVC conduits.

C. All necessary electrical wiring from electrical distribution box up to PCU of Solar PV Power Plant and back from PCU to distribution box shall have to be provided by the contractor.

D. Appropriate Cabinets for battery banks, with the provision of acid proof racks for batteries should be provided by the contractor.

E. The complete Solar PV Power Plant including indoor and outdoor fittings shall be warranted by the contractor against any manufacturing/ design/ installation defects for a minimum period of 5 years from the date of installation.

F. Required earthing pits on AC & DC sides should be provided by the contractor.

G. PV modules used in Solar PV Power Plant shall be warranted by the contractor for their output peak watt capacity, which should not be less than 90% at the end of 15 years and 80% at the end of 25 years.

H. The contractor will make all necessary arrangements for satisfactory operation, maintenance and performance of the Power Plant during 5 year's CMC period.

I. Rectification of all the defects developed in the Solar PV Power Plant during CMC period shall have to be done by the contractor promptly, at the most within 3 days from the date of receipt of compliant.

J. CMC will include rectification /replacement of all the defective and consumable components/items including batteries. During CMC period, all the arrangements for keeping the Solar PV Power Plant functional shall be the sole responsibility of the contractor.

K. After completion of the proposed works, clearances of all temporary works/ materials shall be the sole responsibility of the contractor and this shall be removed immediately after the requirement of such temporary work is completed.

L. Supply and Installation of **Permanent Display board showing all technical information of SPV plant shall be done by contractor.** The Display board consisting of beneficiary details, cost of the system, date of commissioning, agency details and technical information on a board size of 2Ft X 1Ft. The matter written on these boards shall be finalized in consultation with TSREDCO at time of issuing the Work Order.

M. All the non functional parts/ materials/ items replaced during the CMC period shall be the property of the contractor.

N. The contractor will conduct on-site training of the purchaser's/ user's personnel

regarding the operation, maintenance and repairs of the Solar PV Power Plant.

O. Necessary arrangements for storage of batteries, Earthing pits/ lighting arrestors & PCU of Solar PV Power Plant as per requirement shall be done by user agency.

P. During CMC period, the contractor shall have to submit quarterly performance report from user agency regarding functionality of the system.

SECTION - D
TENDER SCHEDULE

1. PREAMBLE:

The scope of work for the bidder include complete **Design, supply, installation & commissioning of Stand Alone 300Wp Off Grid Solar power generating systems at different locations in Habitations of ITDA Mannanur & Utnoor in Telangana State**" including operation and maintenance (O&M) of the project for a period of Five years after commissioning of above locations in Telangana State through e-procurement platform (i.e. www.tender.telangana.gov.in).

2. INCOME TAX:

During the course of the contract period, deduction of income tax and surcharge as in force at source shall be made at the prevailing rate of income tax department issued from time to time of the gross amount of each bill.

3. RATES , TAXES AND DUTIES:

All the rates in the tender shall be **inclusive of all statutory compliances** like PF, ESI, Service Tax, GST, etc. However, any changes made to the tax structure by the government shall be duly considered and appropriate changes made.

4. PLACE OF WORK AND VISIT TO SITE:

Intending tenders shall visit the Site/ Campus to acquaint with local site conditions, nature and requirement of work, present conditions of premises/fittings/fixtures, etc., before start of the work.

5. ELIGIBILITY CRITERIA:

- a. Valid Registered SPV Suppliers/ Manufacturers/ System Integrators with TSREDCO.
- b. Bidder should have annual turnover of Rs.3.00 Cr. In any one (1) Financial Year during the last three financial years i.e. 2016-17, 2017-18 and 2018-19 (Certificate from CA is to be furnished).
- c. Bidder should have experience at least minimum **200KWp cumulative capacity in field of Off & ON Grid Solar PV systems (with Mandatory of 50KW off-grid experience)** in any one (1) year from the last 3 Years (i.e. FY 2016-17, 2017-18 and 2018-19)
- d. Experience certificate along with performance from beneficiary, should be before 6months from last date

6. BID PRICE:

- a. The price should be quoted in Indian Rupees in online, failing which the bid would be rejected. The price shall be written both in figures & words in the prescribed offer form.
- b. The rates quoted by the bidder shall be fixed for the duration of the contract period and shall not be subject to adjustment on any account except on account of any statutory changes made to the tax structure by the government
- c. If there is a discrepancy between amount in words and figures, the amount in the words will prevail.
- d. Incomplete and/or conditional bids shall be liable to rejection. Prices should be quoted as per the format of price bid.
- e. The (AC & DC) Internal and Electrical output wiring, installation and connection to the loads or any in the scope of supplier only and costs are included in the quoted price.

7. PLANT PERFORMANCE EVALUATION

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

8. PROJECT INSPECTION.

The progress of the project above will be monitored by TSREDCO and the will be inspected for quality at any time during commissioning or after the completion of the project either by officer(s) from TSREDCO, beneficiary dept. or any authorized agency/ experts.

- a. TSREDCO reserves the right to do sample inspection checks for the projects commissioned by the Bidder.
- b. TSREDCO may also depute a technical person(s) for pre delivery inspection of SPV Modules and other components from its list of empanelled experts for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the

manufactures facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required.

9. APPLICABLE LAW

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

10. SUCCESSORS AND ASSIGNS:

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

11. SEVERABILITY:

It is stated that each paragraph, clause, sub-clause, schedule or annexure of this contract shall be deemed severable & in the event of the unenforceability of any paragraph, clause sub-clause, schedule or the remaining part of the paragraph, clause, sub-clause, schedule annexure & rest of the contract shall continue to be in full force & effect.

12. COUNTER PARTS:

This contract may be executed in one or more counterparts, each of which shall be deemed an original & all of which collectively shall be deemed one of the same instrument.

13. RIGHTS & REMEDIES UNDER THE CONTRACT ONLY FOR THE PARTIES:

This contract is not intended & shall not be construed to confer on any person other than the TSREDCO& Successful bidder hereto, any rights and / or remedies herein.

14. CORRESPONDENCE

Bidder requiring any clarification on bid documents may contact in writing or by Fax /E Mail.

Sl.No	Designation	Contact Numbers	Email id
1.	General Manager	040 - 23201502/03	info@tsredco.telangana.gov.in
2.	Project Director	040 - 23201502/03	se@tsredco.telangana.gov.in

15. TAX EXEMPTIONS:

Price bids are invited inclusive of Taxes and duties. However, Tax exemptions including certificates of any sort, if available may be dealt with the concerned Dep't of Govt. of India by the bidder. TSREDCO in no case will be responsible for providing any tax exemptions to the bidder.

16. REQUIREMENT OF APPROVALS ON MAKES OF THE COMPONENTS:

The modules should be manufactured in India only. Rest of the components can be procured from any source. However these items should meet the Technical specifications and standards mentioned as per MNRE norms.

17. PENALTY FOR DELAY IN PROJECT IMPLEMENTATION

If the bidder fails to commission the allocated capacity within 30 to 45 days from date of issue of allocation letter, Penalty on per day basis calculated for the Performance Security on a 30 to 45 days period would be levied. After 45 days allocated capacity will get cancelled and the PBG amount pro-rata to non-commissioned capacity would be forfeited.

Example: If a project of 500 kW is delayed by 36 days then the LD will be levied as given below.

$$\text{PENALTY} = ((\text{Performance Security})/60 \text{ days}) * \text{delayed days} = (15,00,000 / 60) * 36$$

18. TIME OF COMPLETION OF ALLOCATED CAPACITY:

- a. Project completion shall be 120 days from the date of handing over of the site. Failure of non-compliance of same shall lead to forfeiture of PBG in proportion to the capacity not commissioned.
- b. A joint programme of execution of the Work will be prepared by the Engineer-in-Charge or its representative nominated for the purpose and Successful bidders based on priority requirement of this project. This programme will take into account the time of completion mentioned above and the time allowed for the priority Works by the Engineer-in-Charge.
- c. Monthly/Weekly implementation programme will; be drawn up by the Engineer-in-Charge jointly with the Successful bidder, based on availability of Work fronts as per Clause above. Successful bidder shall scrupulously adhere to these targets /programmes by deploying adequate personnel, tools and tackles and he shall also supply himself all materials of his scope of supply in good time to achieve the targets/programmes. In all matters concerning the extent of

targets set out in the weekly and monthly programmes and the degree of achievements, the decision of the Engineer-in-Charge will be final and binding.

19. COMMISSIONING /COMPLETION CERTIFICATE:

❖ On completion of the work, the contractor shall submit all documents in formats of MNRE as per Lr. No. 32/648/2017-SPV Division, Dated: 08 October 2018 along with any necessary documents in 3 sets to TSREDCO.(The formats are available in MNRE web site)

a. Application for completion/commissioning certificate:

When the Successful bidder fulfils his obligation under the Contract, he shall be eligible to apply for Completion Certificate. The Engineer-in-Charge of TSREDCO and beneficiary department officials shall normally issue to the Successful bidder the Completion Certificate within 15days after receiving any application therefore from the Successful bidder after verifying from the completion documents and satisfying himself that the Work has been completed in accordance with and as set out in Contract.

b. DOCUMENT SUBMISSION FOR ISSUE COMMISSINONING/COMPLETION CERTIFICATE

For the purpose of above the following documents will be deemed to form the completion documents:

- c. Checklist for inspection of Roof top SPV power plants as per MNRE/TSREDCO format.
- d. Project completion report from successful bidder as per MNRE format
- e. Project completion/satisfaction certificate from concern beneficiary dept. officials.

20. FINAL DECISION AND FINAL CERTIFICATE:

Upon completion of 5 years of O&M and subject to the beneficiary department officials being satisfied, the TSREDCO shall give a certificate herein referred to as the Final Certificate to that effect and the Successful bidder to have fulfilled the whole of his obligations under Contract.

SECTION-E

Bidder Information

(In technical bid)

1	Name of the organization	
2	Year of establishment	
3	Complete postal address	
4	Name & Designation of Authorized person	
5	Phone No.'s	
6	Fax No.	
7	Email	
8	Nature of the firm (Proprietary/partnership/etc...)	
9	Bank Details of the Agency:	
	Bank Name	
	Bank Address	
	Bank Account Number	
	IFSC Code	
10	PAN No.	
11	TIN No.	
12	Service Tax Registration No.	
13	Total No. of branch offices in Telangana	
14	Bid Document Fee (Non refundable)	Amount Rs. :
		DD No. : DD Date : Issuing Bank & Branch :
15	EMD	Amount Rs. :
		DD/BG No. : DD/BG Date : Issuing Bank & Branch :
16	Details of certificates enclosed.	

FormsTurn over details of item/product - **2016- 17 to 2018-19**

S.No	Solution	Amount (Rs in Lakhs)

List of Major Customers - 2016- 17 to 2018-19

S. No	Customer Full Address	Details of Supplies made	Turn Over (Rs. In Lakhs)

SECTION-F
FINANCIAL BID - PRICE BID

(On the official Letterhead of the firm)
(To be submitted in a separate envelope)

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:

Sl No	Particulars	Unit	Total Quoted Price (Rs) IN Figures	Total Quoted Price (Rs.) IN WORDS
		Nos	(Rs)	(Rs)
1	Design, Supply, Installation & Commissioning of Stand Alone 300Wp OFF-GRID Solar power generating systems as per MNRE Standards / above technical specifications	1 Set		
2	Supply & Installation of Energy Efficient BLDC Fan	1No		
3	Supply & installation of 9W LED Lights	3Nos		
4	Supply & Installation Electrical Switch Board with 4Points accommodating for 2Light, 1 Fan & 1 charging point with suitable cable	1 Set		

Note:

1. The quoted price is inclusive of all taxes, duties, freight with insurance up to site, for installation and commissioning within the State of Telangana, incl. internal wiring and CMC/AMC for 5yrs period after commission.
2. 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.
3. In case of discrepancy in the Price quoted between Words and Figures, the lower of the two shall be considered.
4. The bidder shall be designed Module Mounting Structure as per MNRE norms.

Signature of the authorised person:

Name of the authorised person:

Designation:

Name and Address of Bidder and Stamp of bidder

CHECK LIST**IMPORTANT:**

The Bidder must ensure that the following details in the check list are furnished along with the bid document. The bidder must also carefully go through all the contents of the BID Document and any additional information/documents, required more than the items listed in the check list below, also shall have to be furnished. Non-furnishing of any required information/document as per the Tender Document will lead to rejection of the bid. **(in the following order only).**

No	Documents Required from Contractor	Yes/ No	Pg. No.	Name of the File uploaded
1	Tender Document Fee of Rs.25900/- in the form of DD			
2	EMD of Rs.6,00,000/-(DD/BG) drawn from a Scheduled Bank or Exemption letter for this work only			
3	Bidder Information Sheet			
4	Tender document, duly signed and stamped in token of accepted all the terms and conditions of the tender schedule.			
5	Registration Certificate (firm registration)			
6	Copy of PAN certificate			
7	valid Registration with TSREDCO			
8	Certificate of the bidder's turnover for the financial years 2016-17, 2017-18 and 2018-19 in rupees must be enclosed and be duly certified by firm of Chartered Accountant.			
9	Solar PV Module Efficiency has to be greater than 15% @STC. (proof to be submitted)			
10	The bidder should have set up cumulative 200kWp off & On grid solar power plant or above (with 50KWp off grid capacity is mandatory)			
11	List of present clients with contact address & telephone numbers			
12	Certificate to the effect the solar PV modules are indigenously manufactured in India			
13	BLDC FANS & LED Bulbs Test Reports			
14	Power of Attorney, wherever applicable			
15	Any other information/documents that are required in the bid document			
16	Latest GST/ Sales Tax clearance certificate.			