

Important Dates	
Last date of sale of tender bid	21.09.2013
Last date of submission of bids	23.09.2013

TENDER DOCUMENT

FOR

**SUPPLY, INSTALLTION, COMMISSIONING AND
MAINTENANCE OF SPV SYSTEMS IN SEVASHRAM /
SCHOOLS AND PHC/CHC IN THE STATE**

ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY
S-59, MANCHESWAR INDUSTRIAL ESTATE BHUBANESWAR-751010

Technical bid Document

Supply, installation, commissioning and maintenance of SPV Power plants.

1. PROJECT BACK GROUND

Odisha Renewable Energy Development Agency (OREDA) is the state level nodal Agency under Science & Technology, Dept, Govt of Orissa to implement renewable energy programme/scheme in the state.

OREDA have decided to set up SPV power plants of 2 kWp capacity in 8 Sevashrama/hostels and three PHC/CHC in the state of Odisha for illumination, operation of TV/Fans in the institutions with financial support from the State Govt. and MNRE, GOI

2 kWp X 11

For this job OREDA is to select suitable firm for installation, commissioning and maintenance of the above SPV power plants

2. TENDER NOTICE

This tender is invited from the eligible SPV manufacturer / system integrators/ authorized representative of the SPV manufacturer in the country to take up the above.

2.1 The agencies/ bidders are advised to study the Tender document carefully. Submission of Tender shall be deemed to have been done after careful study and examination of the Tender document with full understanding of its implications.

2.2 Interested bidders may download the Tender document from the website www.oredaorissa.com and submit the bid along with a demand draft of Rs 10,500/- (Rupees ten thousand five hundred) only including 5% VAT drawn in favour of Chief Executive, Odisha Renewable Energy Development Agency payable at Bhubaneswar towards cost of bid documents or obtain the same from the office of Chief Executive, Odisha Renewable Energy Development Agency (OREDA, Dept. of Science & Technology, Govt. of Orissa, S-59, Mancheswar Industrial Estate ,

Bhubaneswar-751010,Odisha, Tel:-0674-2588260/ 2586398 Fax-2586368 on payment of non refundable tender document fee of the above amount. The payment will be accepted in the form of crossed demand draft drawn on any scheduled bank, payable in Bhubaneswar in favour of “Odisha Renewable Energy Development Agency”.

2.3 This Tender document is not transferable. OREDA Advt. No. 2824 date 31.8.2013.

3. INSTRUCTION TO BIDDERS:

1. Rates quoted should be firm and fixed. No price variation and escalation will be allowed.
2. Terms and conditions, technical specifications and price bid may be returned duly signed by the bidder on each page in token of acceptance.
3. Valid Sales Tax/ VAT Clearance Certificate duly attested to be attached.
4. Rates will be valid up to six months from the date of opening of tender.
5. Deviation in terms and conditions, Specification of material, Inspection clause etc. will not be accepted
6. Earnest money amounting to Rs 1,00,000 /- shall be deposited in shape of Demand Draft in favour of the Chief Executive, OREDA payable at Bhubaneswar . Tenders without deposit of E.M.D will not be accepted. In case of E.M.D Exemption, a copy of such notification issued by Govt should be enclosed.
7. Preference will be given to the public sector enterprises as per Govt norm.
- 8. The firm should open office in Odisha and register under Odisha VAT Act before commencement of work.**
9. Intending bidders are required to carefully go through the tender specification before submitting their offer.
10. Tenders must be submitted in English language only.
11. Incomplete, telegraphic or conditional tenders are not accepted.
12. Tenders received late due to postal delay or otherwise will not be considered.
13. The bidders are required to furnish their offers in the price bid in both words & figures, so that in case of any confusion, the offer given in words would be accepted as final.
14. The materials are urgently required. Timely delivery of materials against purchase order is of paramount importance. Therefore, offer with ex-stock delivery will be preferred.
15. Canvassing in any manner is strictly prohibited. The same will lead to rejection of the tender.
16. Certificate to the effect that the systems to be supplied are indigenous & not fully imported must be furnished.
- 17.** Submission of test certificate as specified under JNNSM issued by MNRE Govt. of India vides letter no- 5/23/2009-P & C dt 8.7.2010 and subsequent addendums. The

valid test report on components issued by the accredited test centers of MNRE, GOI are to be submitted. **List of accredited test centers of MNRE is enclosed at Annexure-C.**

18. Declarations of the bidder to the effect that all the balance of system (BOS) are as per standard equivalent to those specified under JNNSM.
19. The firm must have minimum 3 years' experience in supply/installation of solar PV systems. Proof in support of previous experience should be furnished along with tender. In case of authorized representative of the SPV manufacturer participating the tender then the desired experience and turnover of the authorized dealer/distributor /representative will be taken up for tender evaluation process only. In such case experience and turnover of the original manufacturer will not be considered.
20. Proof in support of having authorized representative / service center in Orissa should be enclosed.
21. **The electrical wiring (indoor & outdoor) should be done by approved electrical contractor. Appropriate certificate to be enclosed along with the tender bid..**
22. Original documents of the tender along with the prescribed price bid should be signed, sealed & submitted by the Bidder(s), otherwise tender is liable for rejection.
23. In case of any correction made by the bidder in the rates offered, it should be signed & sealed by the bidders; otherwise tenders are liable for rejection.
24. Power of attorney to sign the agreement on behalf of bidder & partnership deed articles should be enclosed along with original tender documents.
25. Notice inviting tender, tender documents, prescribed Technical bid, price bid, terms & conditions will form the part of tender.
26. All pages of the tenders must be signed by the authorized person on behalf of the bidder.
27. The last date of receipt of the tender is 23.9.2013 up to 3.30 P.M. Sealed tenders will only be accepted during office hours on working days through deposit in the tender box kept for the purpose with Div-I. Division in the office of the Chief Executive, OREDA, Bhubaneswar. Tenders received after due date & time will not be considered.
28. In case of tenders downloaded from the website, the tender documents submitted along with the demand draft for the cost of the tenders in favour of Chief Executive, OREDA drawn in any nationalized bank payable at Bhubaneswar shall only be accepted.
If due to any reason the due date is declared as a holiday the tender will be opened on next working day at the same time.
29. The technical bid shall be opened on 23.9.2013 at 4.30 PM in the OREDA office, Bhubaneswar in presence of such Bidders /their representatives, who may be present at the time of opening.
30. The tender should be submitted in two separate sealed envelopes as mentioned below & addressed to the Chief Executive, OREDA, S-59, Mancheswar Industrial Estate, Bhubaneswar -10, inside a sealed envelope super scribed with " The tender

for supply, installation, commissioning and maintenance of SPV power plants against Tender Call Notice **No-2824 /OREDA Dated- 31 .08.2013 .**

(i) First sealed envelope should contain Technical Bid as per Annexure – A, prescribed test certificate, EMD amounting to Rs 1,00,000/-, Technical Specification, valid STCC/ VAT clearance certificate, Commercial terms & conditions, tender document duly signed & stamped in all pages, Indignity Certificate, Proof in support of supply as well as brochure, literature etc. It should be super scribed with “PART-1 Technical Bid “.All the papers of tender documents except the price bid duly signed should be submitted in the first envelope.

(ii) Second sealed envelope (part-II) should contain Price bids in respect of 11 SPV power plants separately as per Annexure – B-I. It should be superscribed with "PART-II PRICE BID". Any condition in regard to financial aspects, payments, terms of rebate etc beyond the prescribed financial terms of OREDA will make the tender invalid. Therefore it is in the interest of the bidder not to write anything extra in the Price Bid in Annexure-B-I except price.

(iii) The third Envelop should be superscribed as “Submission of Bid for supply, installation, commissioning and maintenance of 11 Nos of 2 kWp Solar PV power plants in Sevashrama/PHC/CHC of selected locations of Odisha” at the top the envelop and name and address of the bidder should be given at the left hand side bottom of the envelope. The third envelop should be addressed to CE, OREDA shall contain the First and second envelops only.

(Note: All papers that comprise the bid document of the concerned bidder must be numbered at the top right hand corner of each page, properly stitched and hard bound. At the beginning an index of each page should also be provided.)

The procedure of opening of the bids

a) First envelope "PART-1 TECHNICAL BID” shall be opened at the time & date mentioned in the tender notice by OREDA representative in the presence of bidders, who choose to be present.

b) Second envelope (part-II) containing Price bids shall be opened after evaluation of technical suitability of the offer. If required, the date for opening of second envelope (Price bids) shall be communicated later on. Second envelope (price bids) of only those Bidders shall be opened whose Technical bid shall be found Techno-commercially suitable. If necessary, the firms may be called for Technical Presentation of their product as per the time intimated by OREDA.

31. Entry Tax if applicable will be paid extra as per actual on documentary evidence.

32. No price escalation on account of any statutory increases in or fresh imposition of custom duty, excise duty, sales tax or duty livable in respect of the major components in the said acceptance of the tender shall be applicable.

33. The bidders quoting abnormally low/high price may be rejected from consideration during financial bids analysis.

34. In case of supply of any defective material or substandard material, the materials will be rejected & it will be the responsibility of the supplier for taking back & replacing the rejected materials at their own cost.
35. The supplied materials should be strictly as per specifications mentioned in the tender; otherwise the material would be liable for rejection.
36. In case of any doubt, regarding specification, the bidders may discuss the same with the Dy. Director (Tech) Division-I.
37. The tender with validity of less than six months shall not be considered. The validity can be further extended with mutual consent.
38. Any or all tenders may be rejected or accepted partially or fully without assigning any reason thereof by Chief Executive, OREDA, and Bhubaneswar.

4. SCOPE OF WORK

Odisha Renewable Energy Development Agency (OREDA) proposes to set up 11 SPV power plants of 2 kWp capacity each in 11 School//hostels/PHC/CHC(list enclosed-B) in the state with an objective to provide electricity to the respective institution .

Scope of work includes: -

1. Design, supply, installation, commissioning and maintenance of SPV power plants in the School/ hostels/ PHC/CHC building comprising module mounting structure, SPV modules, batteries, PCU, electronics, control panel, junction boxes and all other accessories complete for delivery of power to the School/ hostel/PHC/CHC . The location, different loads on the SPV power plant to be installed is reflected in the Annexure-B.
2. Comprehensive Maintenance Contract (CMC) of complete system for five years. The date of commencement of CMC shall be reckoned from the date of commissioning of the power plant.
3. Supply of power from SPV power plant to illuminate the rooms and Veranda of the School/ hostel/ PHC/CHC, supply and fixing of CFL with complete fitting as per wattage at different location of the School/hostel/PHC/CHC. Two power plug sockets 5 Amp, 240V each are to be provided to run one 100 watt colour TV and dish antenna in the Sevashrama. In case of PHC/CHC two power plug sockets of 5 Amp -240 volts each are to be provided to run fans.
4. 4 street lights of 11 watt (CFL) are to be installed in the premises of the sevashrama/CHC/PHC which will be powered by the above SPV power plants. The luminaries with electronics 11 CFL are to be fitted on pole. The pole should be made of mild steel pipe of 75 mm heavy duty with height of 4 meter above the ground level after proper grouting and final installation. The pole should have provision to hold the

- weather proof lamp housing and can withstand high wind velocity up to 200 KM per hour. It must be painted with corrosion resistant paint.
5. Required sizes/quantity of interconnecting cables/wires/switches etc. are to be fitted as per the requirement at site for supply of power from power plant to different loads i.e. lights ,fan and TV for smooth functioning.
 6. The materials to be supplied should be as per specification with at least five years warrantee period on system and 10 years on SPV modules.
 7. In each school /hostel one TV of 100 watt capacity with dish antenna will be provided by OREDA at site.
 8. Fan is to be provided by the PHC/CHC.
 9. While installing solar power pants on rooftops the physical condition of the rooftop should be taken in to consideration.
 10. There should not be any damage what so ever to the roof top due to setting up of the solar power plant so that on a later day there is leakage of rain water ,etc from the roof top.
 11. In case small damages are inevitable for erecting the footings for the module mounting structure etc. the roof top may be given a suitable grading plaster with suitable leak proof compound so as to render the roof entirely leak proof.
 12. The solar PV array must be installed on the roof top in such a way that there is sufficient space on the roof top for maintenance etc.
 13. If the roof top does not have any access such as stairs or Ladder, a proper and safe ladder must be provided to ensure easy access to the roof top mainly for the purpose of maintenance and inspection.
 14. While cabling the array care must be taken such that no loose cables lie on the rooftops.
 15. The roof top should look clean and tidy after installation of the array.
 16. Cables running from the roof top to the PCU down below should be made concealed to the maximum extent possible. In no case the cables should be allowed to pass through windows making the windows non-operational.
 17. The firm shall after completion and commissioning of the work submit details of the same in the format.
 18. The firm should inspect the respective sites and quote accordingly.

5. ELIGIBILITY CRITERIA FOR THE MANUFACTURERS OF THE SPV SYSTEMS FOR PARTICIPATION.

1. The firm should be SPV Indian manufacturer of any major components like module/battery/inverter / authorized representative of SPV manufacturer/ System Integrators solar PV power plants and must have got its products tested and qualified by any of the authorized test centers and have submitted information to the test center about the company along with a copy to the Ministry in the MNRE format will be eligible to participate. (List of test centers given at Annexure C)
2. The firm must have valid STCC/VAT clearance certificate.
3. The firm must have commissioned at least 10 kWp SPV power in range of 1 kWp and above during last three years i.e. 2010-11 to 2012-13.

4. The firm must have an average turnover of Rs 3 cores during last three financial years i.e. from 2010-11 to 2012-13 in the business of solar PV alone. (Audited balance sheet, signed by chartered Accountant, for 2010-11, 2011-12 and 2012-13 is to be attached indicating the turn over from solar PV business). In case the audited balance sheet for 2012-13 is not available the firm may submit certified copy of the same from Chartered Accountant.
5. Field service set up / local office to provide good after sale services including necessary repair and maintenance in the state of Odisha.

6. SIGNING OF AGREEMENT/ MOU

Finally selected firm or their authorised representative will submit the signed and sealed copy of the purchase / work order in each page on behalf of the firm as token of acceptance along with required security deposit to execute the work as per the terms and condition laid down in the said order.

SCHEDULED OF EVENTS

Important dates on tender

Last date of Sale of Tender:	21.9.2013 up to 5 PM
Submission of Tender:	23.9.2013 up to 3.30 PM
Opening of Technical bid:	23.9.2013 at 4.30 PM
Opening of Price bid:-	To be announced to short-listed bidders)

Address for submission of Tender

Chief Executive,
Odisha Renewable Energy Development Agency,
S-59 Mancheswar Industrial Estate, Bhubaneswar.
Pin 751 010.

Bidders are requested to watch out OREDA web site for change of events/additional information from time to time.

CHECK-LIST (All the following documents should be enclosed in technical bid)

Please check whether following documents have been enclosed in the bid

- 1) Tender Paper Cost (DD No.::, ----- Amt: Rs. -----/-, (Bank. name:, Date:)) (Yes/No)
- 2) Tender paper cost in shape of cash Rs -----/- MR No- date- (Yes/No)
- 3) Cost of EMD DD No.::, ----- Amt: Rs. -----/-, (Bank. name:, Date:)) (Yes/No)
- 4) Evidence of registered Firm /Company (Yes/No)
- 5) Evidence of operation of the company in India in SPV sector for last 3 years (Yes/No)
- 6) Recent test certificate from appropriate authorized test centers of MNRE, GOI.
- 7) Proof of STCC/VAT Registration Copy of valid STCC /VAT clearance certificate, Service Tax Registration Certificate in Odisha / Copy of PAN (Yes/No)
- 8) Proof of office in Odisha and registration under Odisha VAT Act.(Yes/No)
- 9) Copy of audited balance sheet for the year 2010-11, 2011-12 and 2012-13, signed by CA, clearly indicating the turn over from Solar PV business.
- 10) Proof of professionals with qualification and experience in installation of SPV power plants (Yes/No)
- 11) Proof of successful installation and commissioning of SPV power plants in last 3 years i.e 2010-11 to 2012-13 .Copies of work completion with details of work execution / copy of work order (Yes/No)
- 12) Declaration of ineligibility for corrupt and fraudulent practices (Yes/No)
- 13) Acceptance of terms & conditions contained in the Tender (Yes/No)
- 14) Representatives authorization letter both for tender opening and technical presentation (along with Proof of above two persons as employee of the company to be enclosed) (Yes/No)

Signature of Authorized Signatory

Annexure-III

*(To be typed on the Letterhead paper of the Applicant, including full postal address,
Telephone and FAX numbers and e-mail address)*

To,

**The Chief Executive
Orissa Renewable Energy Development Agency (OREDA)
Dept. of Science and Technology, Govt. of Orissa, S-59 Mancheswar
Industrial Estate Bhubaneswar 751 010. (Orissa)
Tel:-0674-2588260/2586398., Fax-2586368.**

**Subject: Tender (Tender) for selection of firm for installation,
commissioning and maintenance of SPV power plant vide
tender call notice no 2824-/OREDA dated- 31.8.2013.**

Dear Sir,

Having examined the Tender (Tender) we, the undersigned, offer to propose for award of work for installation, commissioning and maintenance of SPV power plant vide tender call notice no 2824/OREDA dated 31.08.2013 in full conformity with the said Tender.

We have read the provisions of the Tender and confirm that these are acceptable to us. We further declare that additional conditions, variations, deviations, if any, found in our Tender offer shall not be given effect to.

We agree to abide by this Tender, consisting of this letter, the detailed response to the Tender and all attachments, for a period of one year from the date fixed for submission of Tender as stipulated in the Tender

This application is made with the full understanding that:

(a) Bids by qualified firm will be subject to verification of all information submitted for qualification and bidding;

(b) OREDA reserves the right to reject or accept any application, cancels the qualification process, and rejects all applications and OREDA shall not be liable for any such actions.

Any genuine changes made by OREDA in the interest of the work with respect to the technical requirement during the course of project implementation will be acceptable.

We hereby declare that all the information and statements made in this proposal are complete, true and correct and accept that any misinterpretation contained in it may lead to our disqualification.

Information Detail

- 1 Name of bidder
- 2 Address of bidder
- 3 Name, Designation and Address of the contact person to whom all correspondences shall be made regarding this Tender
- 4 Telephone no. of contact person
- 5 Mobile no. of contact person
- 6 Fax no. of contact person
7. E-mail address of contact person

We hereby declare that our Tender is made in good faith and the information contained is true and correct to the best of our knowledge and belief.

<Signature of Authorized Signatory>

<Name>

<Designation>

<Contact Address>

<Telephone Numbers (Mobile & Land)>

Firm/Company Seal

PROFILES OF PROJECTS COMPLETED

1. Name of client
2. Name of the Project
3. Brief Description of the Project
4. Scope of the Project (Activities Involved)
5. Details of Solution and Methodology Adopted
6. No. of Locations at which Project is being/was implemented
8. Value of the project (INR)
9. Date of award of contract
10. Date of commencement of the project
11. Date of successful completion of the project
12. If not completed, expected date of completion
13. Name of the person who can be referred to from Clients' side, with Name, Designation, Postal address, Contact phone, FAX number, e-mail id etc.

Attach Additional Sheets and Annexure, if required.

**Authorized Signatory
(Company Seal)**

Annexure-VI

BRIEF VENDOR PROFILE

- 01 Name of the Firm/Company
- 02 Year Established
- 03 Address of Office
- 04 Telephone No.
- 05 Fax No.
- 06 E-mail Address
- 07 Website
- 08 Sectors' in which the company/firm has successfully commission SPV power plant against the work order of Govt./ PSU/ Agencies in India
- 09 No. of full time personnel currently under employment
- 10 No. of years of proven experience of providing similar Services
- 11 Certifications (ISO 9001:2000, if any)

**Authorized Signatory
(Company Seal)**

DECLARATION

Date: _____

Ref: _____

To,

**Chief Executive
Odisha Renewable Energy Development Agency (OREDA)
S-59 Mancheswar Industrial Estate Bhubaneswar 751 010.
Dept. of Science and Technology, Govt. of Orissa,**

Ref: Declaration Letter for firms for installation, commissioning and maintenance of SPV power plants

Dear Sir,

This is to notify you that our Firm / Company intend to submit a proposal in response to your Tender Reference No: -----

----- In accordance with the above we would like to declare that:

- a) We are not involved in any litigation that may have an impact of affecting or compromising the delivery of services as required under this assignment

- b) We are not blacklisted by any Central / State Government / Public Sector Undertaking in India.

Sincerely,

[BIDDER'S NAME

Name

Title

Signature

Date

Company Seal

UNDERTAKING

I

.....

Son / Daughter

.....

Resident of

.....

Being Proprietor/ Partner/ authorized representative of

M/S

.....

of whose State Sales Tax Registration No VAT and TIN . is

.....

CST Registration No. is

.....

and Income Tax P.A No. is

.....

Hereby give consent to OREDA to deduct from our Bill whatever dues of the ST & IT Department on their demand.

Place:

Date:

SIGNATURE:

NAME:

SEAL:

COMMERCIAL TERMS & CONDITIONS

1. RATE:

The offer should indicate the unit cost, taxes & duties separately. The unit cost must be inclusive of packing, forwarding, loading & unloading charges, cost of insurance, transportation for delivery at destination and training to users, technical personnel and field functionaries of OREDA.

2. SALES TAX & DUTIES ETC.:

All taxes and duties as prescribed both under central and state Government sales tax rules would be applicable.

3. EARNEST MONEY DEPOSIT:

- 3.1 Earnest money amounting to Rs 1, 00,000/- shall be deposited along with the tender without which the same shall not be accepted.
- 3.2 Request for adjustment of Earnest money Deposit against any previous dues with OREDA will not be considered.
- 3.3 E.M.D will be refunded to the unsuccessful bidders after finalization of the tender without any interest.
- 3.4 The Earnest Money Deposit will be returned to the successful bidders after furnishing Security Deposit for performance and acceptance of the purchase order. The EMD can also be adjusted against Security Deposit on request by the successful bidder
- 3.5 Within 15 (fifteen) days of issue of the letter-accepting bid, the successful bidders shall furnish security deposit for the amount prescribed in this document for performance along with the letter of acceptance. If the bidders fail to furnish the required security deposit along with acceptance letter, within the stipulated time, his E. M. D shall be forfeited and the bidder may be disqualified for participating in further tenders.
- 3.7 The validity of Earnest Money, shall have to be suitably extended if necessary on request by OREDA, with out which the tender shall be rejected.

4. SECURITY DEPOSIT/ PERFORMANCE GUARANTEE FEES:

The successful bidder must deposit the Security amount / Performance Guarantee fees @ **10%** of the ordered value with the Chief Executive, OREDA, Bhubaneswar-10 at the time of acceptance of the work order in shape of Bank Guarantee in two parts, 50 % value with 5 ½ years validity and the balance 50% value with 10 ½ years validity from the date of acceptance of the work order or till the completion of respective warranty periods whichever is later. The said deposit would be forfeited, if the supplies are not made as per the Terms & Conditions of the purchase order. 50% of the security deposit amount will be refunded after the expiry of the Warranty period and CMC period of the systems, subject to satisfactory execution / performance of the systems. Balance 50% of

the Security deposit shall be released after expiry of warranty period of 10 years provided for the SPV modules subject to the successful performance.

5. DELIVERY:

The materials must be delivered within the stipulated time mentioned in the purchase order. The system should preferably be delivered to the consignee within one month of issue of purchase order.

6. QUANTITY:

The quantity mentioned in the tender might either increase or decrease according to our requirement. The order shall be placed to the approved bidder in phased manner.

7. CONSIGNEE: The Asst Director (Tech) R E Cell, DRDA of the district.

8. VALIDITY OF OFFER:

The offer must be kept valid for a period of six months from the date of opening of the tender. No escalation clause would be accepted. The validity can be further extended with mutual consent.

9. STCC:

The Bidders must submit attested copy of valid up to date Sales Tax / VAT clearance certificate along with the tender. The tender would not be considered without this document. The original certificate would be produced at the time of opening of the tender, or, before placement of purchase order, if required.

10. WARRANTY:

The mechanicals structures, electrical works including power conditioners/inverters/charge controllers/ maximum power point tracker units/distribution boards/digital meters/ storage batteries, etc. and overall workmanship of the SPV power plants/ systems must be warranted against any manufacturing/design/ installation defects for a minimum period of 5 years.

PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

Any defect noticed during warranty period should be rectified/replaced by the supplier free of cost upon due intimation by the concerned PHC/CHC/Sevashrama /District Renewable Energy Cell of OREDA. The warranty period shall be extended by the period during which the systems remain non-operative due to reasons within the control of the executants. Care should be necessarily taken to make the system operational within a week of reporting of defect. If the system is not made operational within fifteen days, OREDA may rectify the same and charge all expenses incurred on the said account to the vendor.

11. LIQUIDATED DAMAGES:

The systems are to be supplied within the scheduled time. For delay in supply and installation of the system beyond the scheduled date the buyer shall without prejudice to its other remedies deduct from the order value as liquidated damage @ 0.5% of the delayed in commission the work per week of delay or part thereof up to maximum 10% of order value. Once the maximum is reached (i.e. 20 weeks of delay) the purchase order would be cancelled and the security deposit would be forfeited.

12. FORCE MAJEURE:

The supplier shall not be charged with Liquidated damages nor shall his security for performance be forfeited when failure of supplier in making delivery is due to any event beyond his control and could not have been foreseen, prevented, avoided by a prudent person.

These include, but are not restricted to, acts of God, acts of public enemy, acts of government, fires, floods, epidemics, strikes, freights, embargoes and unusually severe weather.

13. SPECIFICATION:

The detailed technical specifications of the SPV system should be as specified under JNNSM issued by MNRE vide letter no- 5/23/2009-P & C dt 8.7.2010 and subsequent addendum issued. The materials must confirm to the specification.

14. INSPECTION:

All tests and inspections shall be made at the place of delivery unless otherwise specifically agreed upon by the bidder and OREDA at the time of purchase if necessary.

15. PAYMENT:

Payment for the work (excluding CMC charges) under normal circumstances will be done as detailed below;

- i) First Interim Payment @ 75 %** of the total value of order (excluding AMC charges) after commissioning of the project. The cheque list of documents to be submitted with the bills for release of first installment is annexed -D.
- ii) Final payment @ 25%** of the total value after successful functioning of the system for six months. Measurement of all performance parameters for 2 days (with full sunny days) and submission of all documents as per check list given at Annexure- E.

Payment will be made after commission and verification thereof by the Asst. Director (Tech), DRDA of the respective district. Bills in triplicate must be

submitted along with valid VAT/Sales tax clearance, ITCC and other document as mentioned above for release of payment.

16. COMPREHENSIVE MAINTENANCE CONTRACT

CMC will be applicable from the date of commissioning of the system. The bidder must execute Comprehensive maintenance contract for the specified period before release of the first installment of payment. Offer without such CMC shall not be considered. The scope of CMC must cover supply of spare parts and all consumable (including battery) / services during the contract in force. Order shall be placed only on bidders who agree to offer such CMC. The CMC charges quoted by the bidder must be realistic in view of actual rendering of after sale services. Bids with very low/unrealistic CMC charges will be liable for rejection. The payment of annual maintenance charges under the Comprehensive Maintenance Contract shall depend upon the functionality of the system duly certified by the concerned office/ Authorized officials of OREDA. Upon receipt of such certificates CMC amount as applicable shall be paid at the end of 1st, 2nd, 3rd, 4th and 5th years. (Format of CMC is enclosed)

17. TRAINING PROGRAMME:

The bidder as per the discretion of OREDA should conduct one Training programme of users, technical personnel & field functionaries of OREDA at site.

18. DISPUTE:

For adjudication of any dispute between OREDA and the bidders arising in this case, reference can be made to any Law courts under the jurisdiction of Orissa High Courts only.

The Chief Executive, OREDA reserves the right to accept or reject any or all tenders without assigning any reason thereof.

**Chief Executive
OREDA**

I/We have carefully read and understood the above terms and conditions of the tender and agree to abide by them.

SIGNATURE OF TENDERER WITH SEAL

A. TECHNICAL SPECIFICATIONS FOR 2kWp SPV POWER PLANT.

1. SPV MODULES

The total Solar PV array capacity shall be using 150 Wp to 250 Wp SPV Modules as per standard specified under JNNSM.

Each module used in solar power plant must use a RF identification tag (RFID), which must contain the following information. The RFID can be inside or outside the module laminate, but must be able to withstand harsh environment condition.

- (i) Name of the manufacturer of PV module
- (ii) Name of the manufacturer of solar cells
- (iii) Month and year of the manufacture (Separately for solar cell & module)
- (iv) Country of origin (Separately for Solar Cell and module)
- (v) Peak Wattage, I_m , V_m and FF for the module
- (vi) Unique Serial No and Model no of the module
- (vii) I-V Curve for the module
- (viii) Date and year of obtaining IEC PV module qualification certificate
- (ix) Name of the test lab issuing IEC certificate
- (x) Other relevant information on traceability of solar cells and modules as per ISO 9000 series.

2. Mechanical Components: Array Support Structure: Modules shall be mounted on a non-corrosive support structure suitable for site conditions with the facility to adjust tilt to maximize annual energy output.

These shall be mild steel frame structures (Hot dipped Galvanized) with corrosion resistant painting for holding the PV modules to form the PV panels.

Each panel frame structure shall have provision to adjust its angle of inclination to the horizontal from 25 to 35 degree at interval of 05 degree so that the inclination can be adjusted at the specified tilt angle whenever required.

Each panel frame shall be completed with a weatherproof junction box as per the relevant ISI specifications, where the modules terminals shall be interconnected and output taken.

The panel frame structure should be capable of with standing a wind load of 200 Km per hour, after grouting and installation. Antitheft nut & bolts should be used for fixing the solar panel with frame.

3. **Foundation:** The foundation for holding & grouting the module mounting structure shall be done in such a way that 1:2:4 cement concrete of required depth is maintained. Maximum wind speed of the site, i.e. 200 Km/hour. The RCC foundation shall have to be designed on the basis of the weight of structure with module and maximum wind speed of the site i.e. 200 km/hr. keeping in view that a minimum clearance (4ft) if installed on ground and 2ft if installed on roof top. Between GL (roof level; if installed on roof top. & bottom edge of SPV modules is maintained.

4 **Junction Box for Cables from Solar Array:**

Array Junction Box should comply with IP 54 as per IEC 529 and should be provided with reverse blocking diodes, fuses and Isolators of suitable ratings.

DC Distribution board should comply with IP 21 as per IEC529. It should be equipped with suitable rating of DC isolators for solar input from array junction box and fuse of suitable rating between PCU and battery.

AC distribution board should comply with IP 21 as per IEC529 and should be equipped with suitable rating of MCB between PCU and load.

All switches, circuit breakers and connectors should comply with IEC 60947 (part ii, iii)/ IS 60947 (part i, ii, iii)

5. **Cables**

Cables running between solar panels and array junction box should be 4 Sqmm copper flexible.

Cables running between AJB and DCDB should be of 25Sq mm copper flexible cable.

Cable running between PCU and battery should be 25Sq mm coppers flexible cable.

Cable running between PCU and ACDB should be 6 Sq. mm Copper cables.

Cable running between ACDB to Load should be 2.5Sq mm Copper flexible cables.

6. **POWER CONDITIONING UNIT (PCU),:**

Capacity – 3KVA

It should be as per specification specified under JNNSM issued by MNRE, GOI vide letter no- 5/23/2009-P & C dt 8.7.2010 and subsequent addendum issued

7. **Protection & Safety:** Specifically the inverter should be a single phase static solid state type power conditioning unit Both AC & DC lines shall have suitable fuses and Executants to allow safe start up and shut down of the system. Fuses used in the DC circuit should be DC rated. Inverter should have overload, surge current protection, high Temperature, over/ under voltage and over/ under frequency. The inverter shall have provision for input & output isolation (automatic & manual), Important and necessary spare parts, control cards recommended by the manufacturer are to be supplied compulsorily, with the inverters for any immediate requirement. Each solid-state electronic device shall have to be protected to ensure long life of the inverter as well as smooth functioning of the inverter. Should have safety measures to protect inverter from reverse short circuit current due to lightening or line faults of distribution network.

Technical Specification

Input Voltage	24/48/96/240 Volt nominal
Tripping voltage	42.5/85/105/210 Volt settable
Start up voltage	45/90/112/222.5 Volt
Output Voltage	240 Volt, AC, 50 Hz, 1 phase pure sine wave
Regulation	Maximum 5% against input voltage & load variation
Frequency	50 Hz \pm 0.5 Hz variation

8. **BATTERY BANK:**

The following battery bank capacity shall be of capacities as specified tubular lead acid type

2volt 500 AH, 48 Volt system

It should be as per specification specified under JNNSM issued by MNRE, GOI vide letter no- 5/23/2009-P & C dt 8.7.2010 and subsequent addendum issued.

- 9 **Battery Rack:** Battery rack should be of matured treated salwood duly painted. Placement of battery should be such that maintenance of the battery could be carried out easily. The non-reactive acid proof mat should be provided to cover the entire floor space of the battery room. An exhaust fan, one point of 15W connection for DC supply from battery & one point for 50W connection for AC supply from ACDB shall also be provided in the battery room with proper on-off switches in form of MCBs & HRC Fuses, of required capacities.

10. **Tools Kit:** Necessary tools kits to be provided along with each battery bank for any immediate maintenance compositions. Tool kit shall include at least Hydrometer, Cell Tester, Thermometer with wall mounting frame in which hydrometer & cell tester can also be hanged, Rubber gloves, Gum Boot, Funnel, Spare ten liter distill water in two canes, plastic mug, rubber pipe, balloon & jelly. Tool Kits shall be provided in a strong toolbox made of good quality MS.

- 11.. **LIGHTNING AND OVER VOLTAGE PROTECTION:** The SPV System / Power Plant should be provided with lightening and over voltage protection. The principal aim in this protection is to reduce the over voltage to a tolerable value before it reaches the PV or other sub-systems components. The source of over voltage can be lightening or any other atmospheric disturbance. The LA is to be made of 1/4" diameter and 12 feet long GI spike on the basis of the necessary meteorological data of the location of the projects. Necessary foundation for holding the LA is to be arranged keeping in view the wind speed of the site and flexibility in maintenance in future. Each LA shall have to be earthed through suitable size earth bus with earth pits.

- 12.. **EARTHING PROTECTION:** Each array structure of the PV yard and PCU should be grounded properly. In addition the lightening arrestor/masts should also be provided inside the array field. Provision should be kept for shorting and grounding of the PV

array at the time of maintenance work. All metal casing/shielding of the plant should be thoroughly grounded in accordance with Indian Electricity Act/ IE rules as amended up to date. Each Resistance should be tested in presence of the representative of OREDA after earthing by calibrated earth tester.

13. **BATTREY PROTECTION PANEL:** A separate panel consisting of MCB & HRC fuses of suitable capacities with the purpose of providing the option for isolating the battery bank.
14. **DC & AC DISTRIBUTION BOARD:** These shall consist of suitable metal/FRP casing with copper bus bars of suitable rating. Each incoming and outgoing feeder must be provided with **MCB or HRC** fuse of proper rating. At least one feeder shall be provided at ACDB with MCB & HRC fuse of suitable capacity installed at each feeder in the ACDB. Proper rating Load limiters shall be installed at each feeder for 4 hours duration. Electronic Energy Meter, ISI make, Single Phase, Operating Voltage 120-300V, 45-55Hz of 0-40 A ratings of good quality shall also be installed near ACDB suitable placed to measure the consumption of power from each feeder of SPV System / Power Plant.
15. **DANGER BOARD:-** Danger board should be provided as and when necessary as per IE Act/IE rules as amended up to date.
16. **CABLES/WIRE:** All cables should be as per IS and should be of 650V/1.1 KV grade as per requirement. All connections should be made through suitable lug/terminal crimped properly with use of cable glands. The size of cables/wires should be designed considering the line losses, maximum load on line, keeping voltage drop within permissible limit and other related factors. The cable/wire should be of ISI mark.
17. **DISTRIBUTION:** The distribution voltage shall be 220/230 volt AC only. The distribution of power from each line shall be made through junction boxes. Separate fuse shall be provided for each line.
18. **SOLAR WATER DISTILLATION PLANT:** - One Solar water distillation plant of 2.5 liter per day capacity each is to be installed in each power plant site for topping up the batteries.
19. **JUNCTION BOXES:** Junction Boxes shall be mounted.. The junction boxes should be made of FRP. It should be provided with proper locking arrangements.
20. **PROVISION OF CONTROL ROOM:** The control room is the constructed space provided from a portion of the Scholl/hostel/PHC/CMC complex. Proper casing capping (conduit pipe) should be provided with distribution line.

Technical bid**Annexure- A****Supply, installation, commissioning and maintenance of rooftop Solar Power Plants
In PHC/CHC/Sevashrama**

We conform the following technical specification.

Sl. No	Item	Description
1.	PV Module	
2.	PV Array	
3.	Array Junction Boxes	
4.	PCU	
5.	Battery	
6.	Battery bank	
7.	Wires and cables	
7.	Electronics Protection	
8.	Array structure and other Mechanical Hardware	
9.	Meters	
10	Other features	

**SIGNATURE and SEAL
BIDDER**

Annexure-B

List of sites for installation of SPV power plants

Sl. No	Name of School/ Hostel/PHC/CHC block	Name of block	District	Number of lights and other load	Hours of operation	Capacity of the power plant
1	Rampur PHC	Dunguripali	Sonepur	(i) 30 nos of 23 Watt (ii) 7 nos of 15 watt (iii) 4 nos 11 watt CFL (iv) One Fan 80Watt	6hrs 12hrs 12 hrs 8 hrs	2 kWp
2	Th Rampur PHC	Th. Rampur	Kalahandi	(i) 30 nos of 23 Watt (ii) 7 nos of 15 watt (iii) 4 nos 11 watt CFL (iv) One Fan 80Watt	6hrs 12hrs 12 hrs 8 hrs	2kWp
3	Kudumuluguma CHC	Kudumuluguma	Malkangiri	(i) 30 nos of 23 Watt (ii) 7 nos of 15 watt (iii) 4 nos 11 watt CFL (iv) One Fan 80Watt	6hrs 12hrs 12 hrs 8 hrs	2 kWp

4	Padapadar Ashram School	Th. Rampur	Kalahandi	(i) 30 nos of 25 Watt (ii) 7 nos of 15 watt (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 6hrs 12 hrs 5 hrs	2 kWp
5	Bijepur Ashram School	Lanjigada	Kalahandi	(i) 30 nos of 25 Watt (ii) 7 nos of 15 watt (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 6hrs 12 hrs 5 hrs	2 kWp
6	Educational Complex Angarpada (Residential School)	Joshipur	Mayurbhanj	(i) 30 nos of 25 WattCFL (ii) 7 nos of 15 watt CFL (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 6hrs 12 hrs 5 hrs	2 kWp
7	Satkosia Ashrama School	Thakurmunda	Mayurbhanj	(i) 30 nos of 25 Watt CFL (ii) 7 nos of 15 watt CFL (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 6hrs 12 hrs 5 hrs	2 kWp
8	Rajpalama Sevashram	Semilliguda	Koraput	(i) 30 nos of 25 Watt CFL (ii) 7 nos of 15 watt CFL (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 6hrs 12 hrs 5 hrs	2 kWp
9	Golganda Sevashrama	Pottangi	Koraput	(i) 30 nos of 25 Watt CFL	5 hrs	2 kWp

				(ii)7 nos of 15 watt CFL (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 12 hrs 5 hrs	
10	Godiapada Sevashram	Khajuripada	Kandhamal	(i) 30 nos of 25 Watt CFL (ii)7 nos of 15 watt CFL (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 6hrs 12 hrs 5 hrs	2 kWp
11	Billabadi Sevashram	Khajuripada	Kandhamal	(i) 30 nos of 25 Watt CFL (ii)7 nos of 15 watt CFL (iii) 4 nos 11 watt CFL (iv) One TV 80Watt	6hrs 6hrs 12 hrs 5 hrs	2 kWp

PRICE BID**Annexure- B -1 (For PHC/CHC/ Sevashrama)**

Sl no	Item	Rate
1	Supply of 2 kWp SPV power plant comprising of SPV modules, mounting structure, battery bank with rack (48 Volt 500 AH), PCU, cabling, Supply and fixing of CFL with fitting 30-nos of 25 watt and 7 nos of 15 watt and 4 nos 11 Watt CFL with fittings for outer lights , earthing etc all completed as per technical specification including packing, forwarding, transport and delivery at site	
2	Taxes and duties on item no-1	
A	Total	
3	Installation, testing and commissioning of the 2 kWp SPV power plant including all accessories as per technical specification	
4	Taxes and duties on item no- 3	
B	Total	
5	Comprehensive Maintenance Contract (CMC) charges for five for SPV power plant	1st year 2nd year 3rd year 4th year 5th year 6th year
6	Taxes and duties on item no- 5	
C	Total	
D	Grand Total (A +B+_C)	

- Bidders are required to follow the details of the technical specification while quoting rates for each item

Annexure-IX

Joint Commissioning cum handing over Certificate

This is to certify that M/S -----have installed ----- kWp SPV power plant system at ----- Sevashrama/ PHC/CHC under ----- block of ---- district and completed the same by----- successfully. Now the power plant is running satisfactorily.

1. Place of installation: -
2. Block: -
3. District: - ----
4. Battery make and SI No for power plant
5. SPV module
Make & SI no
6. Make and SI no of the PCU

Signature with Seal
M/S -----

Signature with Seal
Asst Director (Tech)
R E Cell, DRDA,

Handed over to the Head Master/ Medical Officer -----
Sevashrama/ School /PHC/CHC

Signature of the Head Master /Medical Officer ----- Sevashrama/ School,
PHC/CHC or his representative with Seal

COMPREHENSIVE MAINTENANCE CONTRACT (CMC) FOR MAINTENANCE OF ---
----- SPV POWER PLANT SUPPLIED & INSTALLED BY M/S-----
IN ----- SEVASHRAMA/SCHOOL
/PHC/CHC

FOR FIVE YEARS

This Comprehensive Maintenance Contract (CMC) is executed between the Odisha Renewable Energy Development Agency (OREDA), S-59, Mancheswar Industrial Estate, Bhubaneswar-10 represented by its Deputy Director (Tech.), SE Division hereinafter called as 1st Party and M/S. _____ hereinafter called as 2nd Party, for maintenance of 2 kWp SPV power plant for a period of five years with effect from _____ AD, supplied and installed at ----- Sevashrama/School/ PHC/CHC of ----- block of district. Vide Purchase Order No. _____ dt. _____.

The 2nd party will maintain the SPV power plant as per the terms and conditions mentioned hereunder.

1. It has been envisaged in the Purchase Order No. _____/OREDA, dated. _____ Under Clause No. _____ that the SPV power plant shall be warranted against any manufacturing defect and bad-workmanship at least for a period of five years and module for 10 years from the date of commissioning. The systems have been commissioned and handed over to the 1st party through its Asst Director (Tech), posted at DRDA _____ during _____. The 2nd party is fully responsible for their trouble-free performance of all the components during the warrantee period. .
2. PV Modules & battery: As stipulated in the ---- paragraph of the said Purchase Order under the Clause No. ----, the PV modules are covered under warranty for a period of at least ten years from the date of use, it is natural that these are to be covered under Warranty up to _____ AD. Similarly the balance of system (BOS) are covered under warrantee for a period of at least 5 years from the date of use so these are to be covered under warrantee up to -----AD.
The 2nd party is fully responsible for any defect noticed within the above warranty period and is liable for rectification/replacement of the defective components/systems free of cost.
3. The 2nd party should conduct at least one training programmes for the users/technical personnel and field functionaries of OREDA, on day-to-day repair and maintenance of the system.
4. 50 % of the PGF (Security amount) amount (50 % of the 10% of security deposit/PGF of the ordered value) shall be kept as fees towards Performance Guarantee for a period of five years of maintenance.

After expiry of the maintenance period of five years, which remains valid up to _____AD, the above security deposit towards PGF shall be returned to the 2nd party thereafter only.

If the maintenance of the SPV power plant is found to be unsatisfactory by the 2nd party, the 1st party will have the liberty to en cash and forfeit the PGF deposited/furnished, in full or part as may be decided by the 1st party. Balance 50 % of the security deposit will be returned after 10 years of warrantee on module.

5. The CMC includes repair/replacement of all spares and consumables, including CF Lamp (including battery) during maintenance period.
6. The 2nd party shall undertake Preventive/Routine Maintenance work of the of SPV power plant. This shall be done at least once in every six month and shall include activities such as cleaning and checking the health of the SPV system, cleaning of module surface, topping up of batteries, tightening of all electrical connections, changing of tilt angle of module mounting structure, cleaning & greasing of battery terminals and any other activity that may be required for proper functioning of the SPV power plant as a whole. The 2nd party shall forward report to the 1st party in the prescribed format attached herewith (format-1) on every succeeding six months.
7. Whenever a complaint is lodged by the user, the 2nd party shall attend within 5-days period of time and in any case the breakdown shall be corrected within a period not exceeding 7-days from the date of complaint. The 2nd party shall furnish the status report after the repair works are over which shall invariably bear the signature of the head master of Sevasharma/ School/PHC/CHC, or his representative.
8. For carrying out the CMC effectively, the 2nd party shall establish at least one service center deployed within the State. The 2nd party shall maintain the following facilities at the service center for ensuring highest level of services to the end user.
 - (a) Adequate trained manpower specifically trained by the 2nd party for carrying out the service activities.
 - (b) Adequate provisions for record keeping, which shall inter-alia, include the following.
 - (c) Adequate spares for ensuring least down time of a individual component.
 - (d) The service center shall send summary service reports to 1st party on half yearly basis. These reports shall include the following information:
 - ❖ Number of complaint received during the period of reporting.
 - ❖ Number of complaints attended during period of reporting.
 - ❖ Major cause of failure, as observed.
 - ❖ Major replacement made during the reporting period.

- (e) The records maintained at the service center shall be available for scrutiny of authorized representatives of the 1st Party.
 - (f) The date of CMC, maintenance period shall begin on the date of actual commissioning of the SPV systems.
9. Separate bills/Invoices in triplicate towards CMC cost are to be submitted by the 2nd party to 1st party for effecting payment, after end of the year from the date of maintenance of the systems as per price quoted in the price bid ..
 10. Certificate in support of successful maintenance of the system (s) shall be obtained from the user as explained above, which should be countersigned by the Assistant Director (Technical), RE Cell, DRDA, ----- in token of verification of maintenance done.
 11. It will be the liberty of the 1st party to cross check the systems maintained by the 2nd party. Random verification of the maintenance may be carried out by the 1st party wherever necessary.
 12. The 2nd party may continue to maintain the power plant after expiry of the maintenance period of five year, provided the beneficiaries/1st party desires.
 13. For adjudication of any dispute between the two parties arising on execution of this CMC, the matter shall first be brought to the notice of Chief Executive/Chairman, OREDA
 14. In case, there will be no amicable settlement of the issue, the matter can be referred to the Court of Law having jurisdiction at Bhubaneswar only.
The Comprehensive Maintenance Contract is signed jointly between the two parties today i.e. on dated. _____day of 2013.

For and on behalf of Odisha
Renewable Energy Development
Agency (OREDA), BBSR
(1st Party)

For and on behalf of
M/S.
(2nd party)
(Seal)

Dy. Director (Tech.)
Division-I
(Seal)
Witness

Dy. Director (Tech.), Division-III, OREDA (Seal)

(To be furnished in duplicate by the 2nd party)

STATUS REPORT OF SPV power plant

(A) **PARTICULARS**

1. Name of the user :
2. (a) Place of installation :
(Village)
- (b) Gram Panchayat :
3. Block :
4. District :
5. Date of visit :
6. Name & address of the staff :
visiting the installation.

(B) **OBSERVATIONS** (To be filled-in by the staff visiting the installation)

(i) Have seen any

7. Visual damage of the system :
8. Damage of the module :
- (i) Sl. No. & make of the damage module

9. Condition of the battery :

(i) Make & Sl. No. of the battery defective battery

Condition of the :-

10. Electronic Controller:
11. Compact Fluorescent lamp :
16. Electrical condition :
17. Routine maintenance work :
- (i) Cleaning up the module surface :
- (ii) Topping up the battery :
- (iii) Tightening of the all electrical connection:
- (iv) Changing of tilt angle of the module
Mounting structure. :
- (v) Cleaning & greasing of the battery Terminal.

18. Type of repair/rectification carried out:

19. Suggestion imparted to the user:

20. Status of the system

21. Remarks of the user:

Signature of the user/representative(with name & stamp if any) with date

Signature of the staff visiting the installations with date -
Signature of the

**Asst Director (Tech)/
R E Cell, DRDA,
District-----**

ANNEXURE-C

List of Authorised Accredited Test Centres of MNRE, Off-Grid Programme

Lab/ Organ ization	PV Module	Lighting Systems		Battery	Inverter >100W		Charge Controller	
		As per MNRE Specification	Environme ntal		Efficiency	Environme ntal	Protections	Environme ntal
SEC	Yes (IEC61215 up to100WP) NABL Accredited	Yes MNRE Accredited	Yes (Including IP) MNRE Accredited	Yes MNRE Accredite d	Yes (up to 100KVA)MNRE Accredited	Yes (Including IP) MNRE Accredited	Yes MNRE Accredited	Yes (Including IP) MNRE Accredited
ERTL (East)	STC Test Facility MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes Up to 1000 AH	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited
ETDC (B)	Yes (IEC61215) under ICEEECB, IEC 61701 (upto100WP) NABL Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes Up-to 100 AH	Yes (up to 3 KVA) NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited
CPRI (B)	No	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes up to 1000 AH	Yes (up to 10 KVA) NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited
ERTL (N)	No	Only Electronics & luminaire NABL Accredited	Yes NABL Accredited	No	Yes Up to 5 KVA NABL Accredited	Yes NABL Accredited	Yes up to 5 KW (NABL Accredited)	Yes NABL Accredited
UL (B)	Yes (IEC61215 IEC 61730 Pt.II and IEC 61701) up to 400WP NABL Accredited	Yes Except Battery NABL Accredited	Yes NABL Accredited	No	Yes Up to 6 KVA NABL Accredited	Yes ABL Accredited	Yes up to 6 KW (NABL Accredited)	Yes NABL Accredited
TUV Rhinel and	Yes (IEC61215 IEC 61730 Pt.II upto 400Wp NABL Accredited	No	Yes NABL Accredited	No	Yes Up to 10 KVA NABL Accredited	Yes NABL Accredited	Yes up to 10 KW (NABL Accredited)	Yes NABL Accredited
Inter Tek	No	Only Electronics & luminaire NABL Accredited	Yes NABL Accredited	No	Yes Up-to 5 KVA NABL Accredited	Yes NABL Accredited	Yes up to 5 KW (NABL Accredited)	Yes NABL Accredited

*Beyond 10 KVA self-certification by the manufactures is acceptable.

Check List for submission of information/documents after commissioning of the project

S/N	Information/document to be submitted	Whether submitted
1	Site Details Name of the Institution Postal Address Phone No. Fax No. Name of the Contact Person	
2	System details a. Solar PV Modules Make of the modules Year of manufacturing Module test report from MNRE authorized test centre Serial Number and IV curve of each module may be submitted in a separate sheet b. PCU Make Model Yr of manufacturing Serial Number of the PCU Test report from MNRE authorized test centre c. Battery bank Make Model Yr. of manufacturing Test report from MNRE authorized test centre Serial Number of each battery may be submitted in a separate sheet d. Wires and cables Make of the wires/ cables Length(Meter) and Thickness in sq. mm of all wires and cables used BIS test certification for the wires and cables used. e. Any other feature of the system that needs special mention	
3	Warranty/ Guarantee of the composite system	
4	Training details Date of training No. of persons trained Name & designation of the persons	
5	Service Centre Details Name /address / contact details of the service centre that will cover the project Name & mobile No. of the person of the service centre in-charge of the project	
6	Performance details (as per enclosed format)	

Annexure E

SRI No.	Document to be submitted	
1	Joint Commissioning and handing over certificate (in prescribed format)	
2	Signed Copy of CMC	
3	Performance Report by OREDA	
4	Measurement of performance parameters if any done	
5	Report of daily/monthly wise generated/ consumed with proper resource in case of short fall.	