

No. 137 /OREDA

Dated 23.07.2013

TENDER CALL NOTICE

Sealed tenders are invited from reputed manufacturers/ authorized dealers of solar PV systems in the country having valid test certificates from MNRE authorized test centres for their products for supply, installation, commissioning and maintenance of 125 Nos of 2.5 kWp Solar PV power plants in selected police stations of the state. Tenders will be received up to 3 PM of 30.08.2013 and the technical bids will be opened on the same day at 3.30 PM. For details please visit our web site www.oredaorissa.com.

Chief Executive

Memo No. 138 / OREDA

Dtd . 23.07.2013

Copy forwarded to The Commissioner-cum- Secretary to Govt., Science & Technology Department, Govt. of Orissa, Bhubaneswar for favour of information and necessary action.

Chief Executive

Memo No. 139 / OREDA

Dtd . 23.07.2013

Copy forwarded to the Director, SCRB, Rasulgarh Square, Bhubaneswar for favour of information and necessary action.

Chief Executive

Memo No. 140 / OREDA

Dtd . 23.07.2013

Copy to Director (Admn), OREDA for information and necessary action . The Tender call notice may be published in the "Daily Samaj", "The Indian Trade Journal" and all editions of "The Indian Express"

Copy to all divisional heads of OREDA for information and wide circulation.

Copy to Notice Board / website, OREDA for circulation.

Chief Executive

DETAILS OF TENDER CALL NOTICE

NO 137/ OREDA

Dated 23.07.2013

Sealed tenders are invited from reputed manufacturers/ authorized dealers of solar PV systems in the country having valid test certificates from MNRE authorized test centres for their products for supply, installation, commissioning and maintenance of 2.5 kWp Solar PV power plants in selected police stations of the state (list enclosed). Tenders will be received up to 3 PM of 30.08.2013 and the technical bids will be opened on the same day at 3.30 PM.

Table I

Sl.No	Item	Quantity	EMD for the composite work in shape of DD (Rs in lakhs)
1	Supply, installation, commissioning and maintenance for a period of 5 years of 2.5 kWp sola PV power plants	125	6

Bid document for the above work can be had from OREDA, S-3-59, Mancheswar Industrial Estate, Bhubaneswar-10 on all working days in between 11.00 A.M. to 4.00 P.M. till 29.08.2013 A.N on payment of Rs. 10,500/- (Rupees Ten Thousand Five Hundred) only which includes VAT @ 5%. Payment can be made in cash at OREDA cash counter or through Account payee Demand Draft in favour of Chief Executive, OREDA Payable at Bhubaneswar. The bid documents can also be downloaded from OREDA Website. In case of downloaded documents the cost of bid document may be paid in shape of Demand Draft drawn on any Nationalised bank in favour of Chief Executive, OREDA payable at Bhubaneswar. The cost of the bid document in shape of Demand draft has to be submitted along with the technical bid only. The bids shall be accompanied with the required EMD and valid STCC/VAT clearance certificate without which the same shall be rejected. The technical bid will be opened in presence of the bidder or their authorised representatives.

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

CHIEF EXECUTIVE
OREDA

Memo No. 141/ OREDA

Dtd. 23.07.2013

Copy forwarded to The Commissioner-cum- Secretary to Govt., Science & Technology Department , Govt. of Orissa, Bhubaneswar for favour of information and necessary action.

CHIEF EXECUTIVE

Memo No. 142/ OREDA

Dtd. 23.07.2013

Copy forwarded to the Director, SCRB, Rasulgarh Square, Bhubaneswar for favour of information and necessary action.

CHIEF EXECUTIVE

Memo No.143/ OREDA

Dtd. 23.07.2013

Copy forwarded to Dr. G. Prasad, Director(SPV) MNRE, Govt. of India, 14 CGO Complex, Lodi Road, New Delhi-110 003 for favour of information and necessary action.

CHIEF EXECUTIVE

Memo No. 144/ OREDA

Dtd. 23.07.2013

Copy forwarded to the PSO & Head, Regional Office(ER), MNRE, Govt. of India, Plot No.N-2/176, Ground Floor, I R C village, Nayapalli, Bhubaneswar-751 015 for favour of information and necessary action.

CHIEF EXECUTIVE

Memo No. 145/ OREDA

Dtd. 23.07.2013

Copy to Director (Admn), OREDA for information and necessary action.

Copy to all divisional heads of OREDA for information and wide circulation.

Copy to Notice Board / Web sites of OREDA and S&T Department, Govt. Of Orissa

CHIEF EXECUTIVE

Important Dates	
Pre-bid Meeting	13.08.2013
Last date of submission of bids	30.08.2013

No. 137 / OREDA

TENDER DOCUMENT

FOR

Supply, Installation, Commissioning and Maintenance of

Rooftop Solar PV Power Plants

(125x2.5 kWp)

on

Identified Police Stations

in Odisha

ISSUED BY

ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY

S-59, MIE, BHUBANESWAR-751010

Tel No. 0674-2580554, Fax- 0674 -2586368

Email- ceoreda@oredaorissa.com

Website: www.oredaorissa.com

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This bid document along with Annexures as per Index is issued to

M/s _____

Kindly Note:

1. This document is not transferable
2. Though adequate care has been taken for preparation of this document, the bidder shall satisfy himself that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from any bidder within ten days from the date of issue of the bid document, it shall be considered that bid document is complete in all respects and has been received by the bidder.
3. The Odisha Renewable Energy Development Agency (OREDA) reserves the right to modify, amend or supplement this bid document.
4. While the bid has been prepared in good faith, neither OREDA nor their employees or advisors make any representation, 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 and completeness of this bid document, even if any loss or damage is caused by any act or omission on their part.

OREDA

Tel:(0674)2580554

Fax: (0674) 2586368

Email:ceoreda@oredaorissa.com

Place: Bhubaneswar

Background

State Crime Records Bureau (SCRB), Bhubaneswar Implements the Crime and Criminal Tracking Network & System(CCTNS) Project in Odisha Police, which envisages provision of Computers and peripherals to all Police Stations and Higher offices and networking all such posts with the State Data Centre to work online. Realising the fact that many Police Stations in far flung areas suffer from the problem of erratic/ deficit power supply including voltage fluctuation and also that uninterrupted power is key to success of this project SCRB has decided to install 2.5 KVA Solar Power Back-up system at selected power deficit Police Stations with 2 days back-up. Since OREDA has been nominated by State Govt. to function as State Nodal Agency for implementation of Solar Power Projects in Govt. Sector, State Govt. has approved to assign the entire work of installation and maintenance of Solar Power back-up Police Stations under CCTNS project to OREDA. The total number of police stations to be covered in phased manner under the project is 125.

In view of the above this tender is being floated which entirely focuses on successful installation of the rooftop solar PV power plants and effective maintenance of the systems initially for a period of five years so as to provide uninterrupted power supply to the concerned police stations

Important Dates

1	Commencement of sale of bid documents	29.07.2013
2	Last date of sale of bid documents	3.00 P.M. of 29.08.2013
3	Pre bid meeting	4.00 P.M. of 13.08.2013
4	Last dates for submission of bids	3.30 P.M. of 30.08.2013
5	Date of opening of technical bids	4.30 P.M. of 30.08.2013

Check List of Documents

SI No	Document	
1	Certificate of incorporation of the Company	
2	Copy of valid STCC/ VAT clearance certificate	
3	Copy of audited balance sheet for 2009-10, 2010-11 and 2011-12 clearly indicating the turnover from solar PV business duly signed by a Chartered Accountant on each page	
4	Last IT return Statement	
5	Proof of production capacity.	
6	Recent test certificates from appropriate authorized test centres of MNRE, GOI	
7	Copy of Demand Draft submitted as Earnest Money	
8	Undertaking for Indignity of the supplied item	
9	Undertaking to open a local office at Bhubaneswar before commencement of work in case no local office is presently functioning in Bhubaneswar	
10	Undertaking to open cluster level service centres at suitable places as will be indicated by OREDA.	
11	Power of attorney to sign the agreement on behalf of bidders & partnership deed articles, if any.	
12	Technical bid in prescribed format in Annexure A	
14	Certificates from the authorized officer of the concerned SNA/ copy of the work order as proof of experience in RVEP	
15	Price bid in Annexure B	
15	Filled in bid document duly signed and stamped at the bottom of each page	
16	Organizational profile	
17	Covering letter	

List of Abbreviations

Admn	Administration
AH	Ampere Hour
Asst	Assistant
BG	Bank Guarantee
BIS	Bureau of Indian Standards
BOS	Balance of Systems
CCTN	Crime and Criminal Tracking Network
CMC	Comprehensive Maintenance Contract
DD	Demand Draft
EMD	Earnest Money Deposit
GOI	Government of India
GPS	Global Positioning System
IEC	International Electrotechnical Commission
IS	Indian Standards
JCC	Joint Commissioning Certificate
JnNSM	Jawaharlal Nehru National Solar Mission
KHz	Kilo Hertz
mA	Mili Ampere

MNRE	Ministry of New and Renewable Energy
OATC	Other Authorized Test Centers
OREDA	Orissa Renewable Energy Development Agency.
PCBs	Printed Circuit Boards
PS	Police Station
PV	Photo Voltaic
RFID	Radio Frequency Identification
SEC	Solar Energy Centres
SNA	State Nodal Agency
SPV	Solar Photo Voltaic
Sqm	Square Meter
SCRB	State Crime Records Bureau
STC	Standard Test Conditions
STCC	Sales Tax Clearance Certificate
TIN	Temporary Identification Number
V	Volts
VAT	Value Added Tax
W	Watt
Wp	Watt Peak

1. Eligibility Criteria

1.1 The bidder must be a manufacturers of any major component like module/battery/ invertors /System Integrators of solar PV power plants and must have got its products tested and qualified by any of the authorized test centres and have submitted information to the test centre about the company along with a copy to the Ministry in the MNRE format will be eligible to participate. (List of test centres given at Annexure C)

1.2 The bidder must have valid STCC/ VAT clearance certificate.

(Pl. attach copy of valid STCC/ VAT clearance certificate)

1.3 The bidder must have a minimum annual turnover of Rs 30.00 crore during each of last three years in the business of solar PV alone.

(Pl. attach copy of audited balance sheet for 2009-10, 2010-11 and 2011-12 clearly indicating the turnover from solar PV business). The balance sheet must be signed by the Chartered Accountant of the bidder company.

1.4 The bidder must have installed roof top solar PV power plants for an aggregate capacity of at least 100KWp in Government buildings in any part of the country during last 3 years under JnNSM or the bidder must have completed /received purchase orders for installation of roof top solar PV power plants in Government buildings for an aggregate capacity of at least 300 KW in any part of the country during last 3 years starting from 2010-11.

(Pl. attach certificates from the authorized officer of the concerned SNA/attach copy of the work order)

1.5 The bidder must be having capacity to roll out at least 50 sets of 2.5 kWp solar power plants in any given month from its own facility.

(Pl. Submit proof thereon)

- 1.6 The product must conform to technical requirements/ standards for off-grid /stand alone solar systems to be deployed under the National solar Mission and the firm must have established necessary quality assurance systems and organization in line with the same.

(Pl. attach copies of recent test certificates from SEC/ other authorized Test Centres of MNRE, GOI as well as details of quality assurance systems as proof thereof)

2. Scope of the work

The Bidder should act as a System Integrator for providing an End-to-End solution for the identified locations including but not limited to design, supply providing of the required Solar Photo Voltaic power plant, battery bank with accessories, grid tied inverter peripherals like cables, junction boxes, earthing, etc. and installation, performance testing, commissioning, warranty, annual maintenance, etc. The bidders have to ensure planning and smooth execution of the project as per the time schedules provided in the RfS document.

The broad scope of the work shall mean and include

- 2.1 Design, supply, installation, commissioning and successful performance of the system over its designed life period i.e. 25 years. While designing various components and sub-components of the system the bidder must take all prevailing local conditions as well as all functional requirements in to consideration so as to ensure the committed level of performance
- 2.2 Installation of the supplied systems on the rooftops or on ground within the premises of the police station as the case may be as directed by the designated officials of OREDA in consultation with the OICs of the respective police stations.
- 2.3 Installation of all necessary protection devices to protect the power plant from lightening, sudden surges in voltage and current and to ensure safety of the grid to which the plant is connected .The bidder should also ensure protection of life and property likely to be endangered due to the installed solar power plant
- 2.4 Execution of Comprehensive Maintenance Contract (CMC) of the complete system for five years warranty period. The date of commencement of CMC shall be reckoned from the date of commissioning of the system.
- 2.5 Opening of service centre/keeping servicing personnel and making available all essential spares in the vicinity of the plant such that the power plants will give the desired performance with least interruption.

- 2.6 Training at least two designated persons from each of the Police stations as well as all designated technical persons of OREDA and SCRB in day to day maintenance and upkeep of the system.
- 2.7 Submission of all details of the installed systems like site details, systems details, installation report, etc. in the formats to be provided at the time of issue of purchase order. The details will also include Photographic proof of delivery of the system to the genuine beneficiary, GPS location of the police station.
- 2.8 Submission of periodic reports and returns as per the MIS prescribed by OREDA

Functional requirements:

Installation:

- a) While installing solar power plants on rooftops the physical condition of the rooftop should be taken in to consideration.
- b) There should not be any damage whatsoever 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.
- c) 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. .
- d) 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.
- e) 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.
- f) While cabling the array care must be taken such that no loose cables lie on the rooftops.
- g) The roof top should look clean and tidy after installation of the array.
- h) 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.
- i) For smaller systems up to 2-10 kW the PCUs must be made wall mounted unless otherwise ground mounting is warranted for some reasons.

- j) The battery bank must be kept in a dry and airy space close to the PCU. The batteries must be stacked in a suitable rack.
- k) Neatness, tidiness and aesthetics must be observed while installing the systems.

System Requirements:

- i) The batteries must remain in full charged condition all the time.
- ii) The batteries should first receive charge from the solar array provided there is sun.
- iii) In case there is no sunshine the batteries should receive charge from the utility grid supply.
- iv) Once the batteries are fully charged and floating condition is achieved additional solar energy, if any, should flow to the main AC panel subject to availability of loads.
- vi) The PCU- Inverter must have intelligent power / load management circuit to work as per the above functional requirements of the system.
- vii) Good quality and robust PCU-Inverters must be provided with the system so as to ensure more than 95% up time on a quarterly basis.
- viii) The AC output at the inverter end must be properly metered. All such meters should be digital and should be provided in the PCU.
- ix) Minimum output of 3300 kwh/annum must be guaranteed.

3. Instructions to Bidders

- 3.1 Prior to submitting the bid document the bidder in his own interest may visit the sites in order to develop a clear understanding of the logistics and other features of the assigned sites.
- 3.2 Bidders must submit their bids for all items as stated in Table- 1.
- 3.3 Bids must be submitted in English language only.
- 3.4 Incomplete, telegraphic or conditional bids shall not be accepted.
- 3.5 Prices quoted must be firm and fixed. No price variation / escalation shall be allowed.
- 3.6 The bidders must sign and stamp at the bottom of each page of the bid documents at the time of submission in token of unconditional acceptance of the departmental terms and conditions, technical specifications etc.
- 3.7 Last IT return Statement /Valid TIN / VAT/ Sales tax clearance certificate duly attested must be submitted along with the bid.
- 3.8 Deviations in terms and conditions, Specification of material, Inspection clause etc. will not be accepted under normal conditions. However under exceptional situation the same may be considered at the discretion of OREDA.
- 3.9 Earnest money as specified in bid may be deposited in shape of Demand Draft drawn in favour of the Chief Executive, OREDA payable at Bhubaneswar from any Nationalized Bank. **Bids without E.M.D will not be accepted.**
- 3.10 Bids received late due to postal delay or otherwise **will not be considered.**
- 3.11 The quantity of materials intended to be purchased as mentioned in this documents is subject to alteration without any notice.
- 3.12 The bidders are required to furnish their offers in the price bid both in words & figures. In case of corrections ,if any, the original text/numerical must be clearly crossed out and re-written legibly above, below or on the side of the crossed out characters as per availability of space and the authorized person must put his dated initial under such corrections. In case of any conflict between figures and words, the later shall prevail.
- 3.13 Since timely execution of works is of paramount importance, requests for extension of time shall not be ordinarily entertained.
- 3.14 Canvassing in any manner shall not be entertained and will be viewed seriously leading to rejection of the bid.
- 3.15 Certificate to the effect that the systems to be supplied are indigenous & not fully imported must be furnished.

- 3.16 All essential supplementing documents should be signed and stamped and in case of need for verification , originals should be produced
- 3.17 Copy of Test Reports from Solar Energy Centers (SEC)/Other Authorized Test Centres (OATC) in regards to SPV Systems confirming to MNRE specifications spelt out in the Administrative Approval of Jawaharlal Nehru National Solar Mission vide MNRE communication would be a major criteria for evaluation of bids.
- 3.18 The bidders must be having / willing to open a local office at Bhubaneswar before commencement of work for close coordination with OREDA and also cluster level service centres at suitable places as will be indicated by OREDA during installation of the systems.
- 3.19 The bidders must submit information such as GPS locations of the site, photographs of the systems (array, battery, PCU separately) along with the installation & commissioning reports.
- 3.20 Bidders will be required to open Cluster Level Service Centres at suitable locations in consultation with the concerned Asst. Director of OREDA. At least one such service centre should be opened for a cluster of 20 to 25 Police stations. The service centres should have adequate spares and trained technicians to cater to day to day maintenance needs so as to guarantee trouble free operations of the systems.
- 3.22 Bidders will also be required to open at least one State Level Service Centre in Bhubaneswar having trained personnel, adequate spares & consumables. At least 10% of all spares including inverters should be kept in the State Level Service Centre.
- 3.23 Power of attorney to sign the agreement on behalf of bidders & partnership deed articles, if any, should be enclosed along with original bid documents.
- 3.24 Notice inviting tender, bid documents, prescribed Technical bid, price bid, terms & conditions will form the part of the tender.
- 3.25 All pages of the bid documents must be signed & sealed by the authorized person on behalf of the bidders.
- 3.26 Bids will be accepted & will be opened as per information mentioned in the notice-inviting tender. No receipt against submission of bid shall be issued by OREDA.
- 3.27 The last date of receipt of the bid is 30.08.2013 up to 3.00 P.M. sealed tenders may only dropped in the specified tender box kept in the Project Division, OREDA during office hours on working days. Bids received after due date & time will not be considered. The bids of such firms shall only be considered who have purchased the bid documents from the Agency by depositing the prescribed fee of the bid document (Non refundable) / downloaded from the website and submitted along with cost of the

tender paper. If due to any reason the due date is declared as a holiday the bid will be opened on next working day at the same time.

- 3.28 The technical bid shall be opened on 30.08.2013 at 3.30 P.M in the OREDA office, Bhubaneswar in presence of such bidders or their authorized representatives, who may like to be present at the time of opening.

3.29 Submission of bids

The first envelop should be superscribed as “Technical Bid” 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 first envelop should be addressed to CE, OREDA shall contain the following:

- (a) DD of Rs. 10,500 forwarding cost of the tender if the document is downloaded.
- (b) Copy of the money receipt issued by OREDA in case of the document is purchased directly from OREDA.
- (c) Demand draft for Rs. 6.00 lakhs in form of EMD
- (d) Filled in Technical Bid Format
- (e) All other documents excepting the Price Bid

The second envelop should be superscribed as “Price Bid” 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 second envelop should be addressed to CE, OREDA shall contain the **Price Bid** only in the prescribed format.

The third Envelop should be superscribed as “Submission of Bid for supply, installation, commissioning and maintenance of 125 Nos of 2.5 kWp Solar PV power plants in selected police stations 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.

4. Procedure for opening the bids

The procedure of opening of the bid shall be as under

- 4.1 First envelope in the 'TECHNICAL BID " shall be opened at the time & date mentioned in the notice in the tender by OREDA in the presence of bidders, or their authorised representative.
- 4.2 Second envelope "PRICE BID" shall be opened after evaluation of technical suitability of the offers. The date for opening of second envelope (Price bid) shall be communicated subsequently. Second envelope of only those bidders shall be opened who qualify in the technical bid evaluation. If necessary, the firms may be called for Technical Presentation of their products as per the time intimated by OREDA.
- 4.3 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. In case of non-lifting of such rejected materials within a reasonable time offered by OREDA it will have the right to suitably dispose of the same and forfeit the amount.
- 4.4 The supplied materials should strictly comply with the specifications as mentioned in the bid, otherwise the material would be liable for rejection.
- 4.5 Any clarification on the technical specification and commercial terms and conditions may be raised during the pre-bid meeting for discussion and decision.
- 4.6 Deviation of any commercial terms and condition and technical specification shall not be entertained under no circumstances.
- 4.7 Bidders may in their own interest visit the sites before submitting bids. OREDA will not be responsible for any incidental or consequential losses of the bidder while execution and till expiry of the period of CMC.
- 4.8 All the bidders shall essentially indicate the break-up of prices as shown in Price bid.
- 4.9 During the warranty period, MNRE/ State Agencies/ Users reserve the right to cross check the performance of the systems with the minimum performance levels specified in the MNRE specifications.

5. Acceptance/ Rejection of the bid documents

Chief Executive, OREDA reserves the right to

- i) reject or accept any or all bids without assigning any reason thereof.
- ii) to split the quantities against the bid on more than one firm for the same items/work.

No reason will be assigned by OREDA for this and the same will be binding on the bidders.

Chief Executive

I/we have carefully read & understood the above terms & conditions of the bid & agree to abide by them.

Signature of Bidder with Seal

6. Commercial Terms & Conditions

6.1 Rate :

The offer should indicate the unit cost of the system, Installation & Commissioning charges, CMC Charges and taxes & duties separately. The unit cost must be inclusive of packing, forwarding, loading & unloading charges, cost of insurance and transportation FOR destination where the system will be installed as per the work order.

6.2 Sales Tax & Duties etc

All Taxes and duties as prescribed both under Central and State Government sales tax rules would be applicable.

6.3 Earnest Money Deposit

6.3.1 Earnest money deposit as specified in Table-1 is required to be deposited along with the bid without which the bid will not be accepted. No interest will be payable for the EMD amount under any circumstances.

6.3.2 Earnest money should be deposited in shape of a Demand Draft in favour of Chief Executive, OREDA from any Nationalised Bank Payable at Bhubaneswar and the proof of deposits should be attached to the bid.

6.3.3 E.M.D would be refunded to the unsuccessful Bidders after finalization of the bid without any interest.

6.3.4 EMD would be refunded to successful bidder(s) after submission of security deposit as detailed at clause 6.4.

6.3.5 E. M. D would be forfeited in case of non- compliance of the purchase order by the successful bidder.

6.3.6 In case of claim for exemption from deposition of Earnest money sufficient proof in support of claim for exemption of EMD as prescribed in Govt. of India Notification is to be attached with the bid.

6.4. 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 Gurantee 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 (ref. clause 2 of Scope of Work) 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.

6.5 Allocation of work:

In view of large geographical spread, limited time available for completion of the project as well as past experience, OREDA may consider to split the work order among a maximum of 3 techno- commercially qualified bidders provided that the second, third or latter bidders in serial order agree to execute the work at the prices quoted by L1 bidder. In such case the splitting will be done in the following manner:

L1- 50% of the order value

L2- 30% of the order value

L3- 20% of the order value

If only two bidders will be agreeable to execute the work at L1 prices the total order will be divided in the ratio of 60:40 in between L1 and the other bidder. In case no other bidder is agreeable to execute the work at L1 prices the entire order has to be executed by the L1 bidder only. While splitting the order OREDA would consider to allot sites in contiguous manner.

The decision of OREDA in this regard shall be final and binding.

6.6 Programme Execution Schedule

6.6.1 Delivery of systems at sites: 2 months from the date of issue of the purchase order

6.6.2 Installation & Commissioning 3 month from the date of preliminary inspection, physical verification and handing over of systems for installation

6.6.3 Upon intimation about commissioning of the systems by the executing firm a joint inspection will be carried out by the representatives of the executing firm, OREDA and the authorised representative of SCRB. Following such inspection a joint commissioning report shall be brought out in the prescribed format, which shall form a part of the documents for release of payments. This certificate shall be issued within 30 days of intimation from the executing firm

6.6.4 The issuance of a JCC shall, in no way relieve the executing firm of its responsibility for satisfactory operation of the SPV systems.

6.7 Quantity

The quantities of Solar PV Power Plants mentioned in the bid are subject to revision according to the requirement.

6.8 Validity of offer

The offer must be kept valid for a period of one year from the date of opening of the technical bid. No escalation clause except the admissible tax component under the period of consideration would be accepted. The validity can be further extended with mutual consent.

6.9 STCC/ VAT

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

6.10 Warranty

The SPV Modules and the Balance of Systems (BOS) should be warranted against any manufacturing defect or bad workmanship for a period of 10 (Ten) and 5 (five) years respectively from the date of commissioning of the systems.

Warranty certificate to the above effect must be furnished along with the commissioning reports.

Any defect noticed during warranty period should be rectified/replaced by the supplier free of cost upon due intimation by the concerned police station/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.

6.11 Penalty and termination of contract

The systems shall be supplied, installed and commissioned within the scheduled time. If the supplier fails to adhere to the schedule, OREDA shall without prejudice to its other remedies under the contract deduct from the contract price as liquidated damages a sum equivalent to 1% of the delivery price of the delayed goods or unperformed services for each week of delay until actual delivery or installation/commissioning up to a maximum deduction of 10% of the contract price for delayed goods or installation and commissioning. Once the maximum is reached (i.e 10 weeks of delay) OREDA may consider termination of the contract and forfeit

the security deposit without prejudice to the other remedies of the contract along with recovery of mobilization advance by forfeiture of bank guarantee.

However, Chief Executive, OREDA may at his own discretion allow reasonable time extension upon written application of the supplying firm. If the delay is considered intentional or due to negligence of the vendor extension can be allowed with imposition of penalty. If the delay is considered to be genuine time extension can be allowed without imposition of penalty.

6.12 Force Majeure

The supplier of the SPV system shall not be charged with liquidated damages nor shall his security for performance be forfeited when failure of the supplier in making delivery is due to any event beyond the control of the supplier and could not have been foreseen, prevented or 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.

6.13 Inspection

6.13.1 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. Authorized OREDA Officer shall be entitled at all reasonable time to inspect and supervise and test during erection and commissioning. Such inspection will not relieve the executing firm of their obligation in the contract.

6.13.2 OREDA has the right to have the tests carried out at its own cost by an independent agency at any point of time. Pre- delivery inspection at the factory site if necessary will be carried out by OREDA.

6.14 Payment

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

1. **First Interim Payment @ 50%** of the total value of order (excluding AMC charges) after commissioning of the project. The check list of documents to be submitted with the bills for release of first instalment is annexed at Annexure- D
2. **Second interim payment @ 50%** 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

6.15 Execution

Execution of work shall be carried out in an approved manner as outlined in the technical specification or where not outlined, in accordance with relevant Indian Standard Specification, to the reasonable satisfaction of the Authorized OREDA Officer..

6.16 Comprehensive Maintenance Contract

CMC will be applicable from the date of commissioning of the system. The bidder must enter into a Comprehensive maintenance contract for the specified period before release of the first instalment of payment. Offer without such CMC shall not be considered. The scope of CMC must cover supply of spare parts (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/ Authorised 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 to be issued to the successful bidder only)

6.17 Limitation of Liability

OREDA, will, in no case be responsible for any accident fatal or non-fatal, caused to any worker or outsider in course of transport or execution of work. All the expenditure including treatment or compensation will be entirely borne by the Executants. The Executants shall also be responsible for any claims of the workers including PF, Gratuity, ESI & other legal obligations.

6.18 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 court only. The Chief Executive, OREDA reserves the right to accept or reject any or all bids without assigning any reason thereof.

Chief Executive

OREDA

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

SIGNATURE OF BIDDER WITH SEAL

Technical Specification & Features Of 2.5KWp Solar Power Plan

1. PV Modules:

Only Poly crystalline modules of 250 Wp capacity at STC should be used in the solar power plants under this tender. All modules must comply with IEC 61215, 61730 part 1 & 2. Certificates from MNRE test centres in support of such compliance must be submitted along with the tender document. Other specifications of PV modules should be as under

Particular	Specifications
Solar Panel Wattage at STC	250Wp
Type of PV Module	Poly Crystalline
Module efficiency	≥14%
Cell efficiency	≥16%.
Open Circuit Voltage of each panel	42Vdc
Max mppt Voltage of each panel	36Vdc
No of cells in each panel	72 Cells per panel
Total No of panels	10 No's
Total Wattage	2500wp
Arrangement	2 Series 5 parallel of series

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 20 years.

IDENTIFICATION AND TRACEABILITY

Each PV module used in solar power projects under this tender must use a RF identification tag (RFID), which must contain the following information. The RFID should be laminated inside the module and but must be able to withstand harsh environmental conditions.

- (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 cells and module).
- (iv) Country of origin (separately for solar cells and module).
- (v) I-V curve for the module.
- (vi) Peak Wattage, I_m , V_m and FF for the module.
- (vii) Unique serial No and Model No of the module.
- (viii) Date and year of obtaining IEC PV module qualification certificate.
- (ix) Name of the test lab issuing IEC certificate.

SPV panels must be warranted against any manufacturing/ design for a minimum period of 25 years.

2. Power Conditioning Unit (PCU):

The Power Conditioning Unit to be provided along with the systems under this tender should be MPPT type with a rating on 3Kw and the nominal System voltage should be 48Vdc. The PCUs must comply with IEC 61683/IS61683 and IEC 60068—2(1,2,14,30) or equivalent BIS standards and Other Specifications of the PCU are as follows

Specifications of Solar PCU		
	Rating	3000W
Solar	Solar charge Controller Type	MPPT
	Vmax range (Vdc)	50-79
	Max Open circuit Voltage(Vdc)	88
	System Voltage(Vdc)	48
	Max array capacity(Wp)	3000
	Solar Charging Type	Boost and Float, suitable for Gel battery
	System Operating Modes/Priority	Solar>Grid>Battery
Inverter	Rated Output power(Max)	3000W
	Output Wave Form	Pure Sine wave
	Inverter Efficiency	>85%
	Output Voltage	230V±5%
	Output Frequency	50Hz±3
	Inverter Overload Capacity	150% for 4 Min, 125% for 4Min
	Power factor	>0.8 lag
THD	<3%	
Grid	Grid input voltage	165-265Vac
	Grid frequency range	47-53Hz
	Grid Charging Current	41A
Environmental	Operating temperature	-5 to 45°C
	Altitude	<1000m
	Relative Humidity	>95% Non Condensing
Enclosure	Body	IP 20
	Cooling	Forced Cool

3. Battery bank

The Battery Bank should comply with the relevant BIS standards for Tubular GEL Batteries and is to be designed to provide 6 hours back up for above mentioned load.

Charge and discharge of battery should lie in between 100% to 25% .Remaining 25% should be always be inside battery. Other specification of battery bank are as under:

Sl.No	Description	Specifications
1	Battery rating	48 V- 300 Ah at C10 to 1.80 ECV at 27°C
2	Type of Battery	Tubular Gel Maintenance Free Valve Regulated Lead Acid Battery
3	Battery Voltage	2V
4	Cell capacity	300 Ah at 10 hour rate to 1.80 ECV at 27°C
5	No of cells	24 cells
6	Applicable standards	IEC 60896 – 21 & 22, IEC 61427,DIN 43539 P5
7	AH Efficiency	> 95%
8	WH Efficiency	> 85%
9	Self discharge	< 0.5% per week at 27°C
10	Design float life	20 years design life at 27°C
11	Design cycle life	2100 Cycles at 80% depth of discharge at 35°C 6000 Cycles at 20% depth of discharge at 35°C

12	Charge Controller setting	Pulse width modulation(CV CONTROLLER) Type: Regulation voltage: 2.400±0.005 V/cell at 27°C Low voltage disconnect: 1.850±0.005 V/cell at 27°C Load reconnection voltage: 2.080±0.005 V/cell at 27°C
13	Recommended max. period of storage	6 months at 27°C
14	Operating temperature range	-20°C to +55°C
15	Grid Alloy	Lead Calcium tin alloy
16	Container & Lid Material	Poly propylene co-polymer
17	Sealing Method	Heat sealing
18	Safety vent	Self resealing, Pressure Regulating Valve with Flame arrestor
19	Ventilation	Normal ventilation is required
20	Positive Plate type	Tubular
21	Separator	Micro porous synthetic separator
24	Electrolyte	Gel type
25	Terminals & ICC	Lead plated brass & copper with PP Moulding.
26	Cell enclosure	Steel Enclosures with Acid Resistant Epoxy Powder coating.
27	Mounting	Mounting frame with acid resistant coating

- **Designed life of battery should not be less than 5 years.**

4. Junction Boxes

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 i,ii,iii)/ IS 60947 (part i,ii,iii)

5. Module Mounting Structures

Module mounting structure should be installed on roof.

Module mounting structure designed to install solar panels should be made of MS hot dip galvanized.

Thickness of galvanizing should be 80µm(Microns)

Minimum clearance of Solar panels from roof should be 500mm.

All fasteners used to fix solar panels with module mounting structure should be of SS304.

All exposed metallic parts should be properly grounded.

Only Anti- theft fasteners should be used in mounting structures.

6. 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 25Sqmm copper flexible cable .

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

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

All copper flexible cables should comply to IS651 and make should be Polycab, Havells or equivalent .

Color code should be followed for over all wiring i.e, red for positive, black for negative , green for earth .

All cable should run in suitable PVC Conduits .No cable should be directly exposed to sunlight.

TECHNICAL BID**Supply, installation, commissioning and maintenance of rooftop Solar Power Plants****under CCTN Project**

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

VENDOR

PRICE BID

Supply installation under CCTN Process

Sl. No	Item	Rate per system
1.	Supply of 2.5 kWp Solar PV Power plant comprising of PV array, array mounting structure, PCU, battery bank, inter-connection wires and cables, etc, all complete as per technical specifications, operation instructions and maintenance manual all complete including packing & forwarding, loading and unloading charges and cost of insurance and transportation, delivery FOR assigned site.	
2.	Taxes & Dues, if any, on item-1 (mention separately)	
3.	Sub-Total (A)	
4.	Installation & commissioning of the system at the given location and proper documentation thereof.	
5.	Taxes & duties, if any on Item-4 mention separately.	
6.	Sub-Total (B)	
7.	Annualized Comprehensive maintenance contract for five years .	1 st year 2 nd year 3 rd year 4 TH Year 5 th Year
8.	Taxes & Duties, if any, on item 7 (mention separately).	
9.	Sub Total (C)	
11.	GRAND TOTAL (A+B+C)	

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

SIGNATURE & SEAL OF BIDDER

List of Authorised Test Centres of MNRE, GOI

Lab/ Organisati on	PV Module	Lighting System		Battery	Inverter >100W		Charge Controller	
		As per MNRE Specificati on	Environme ntal		Efficiency	Environme ntal	Protection s	Environme ntal
SEC	Yes (IEC61215up to100WP) NABL Accredited	Yes MNRE Accredite d	Yes (Including IP) MNRE Accreditate d	Yes MNRE Accredita ted	Yes (up to 100KVA)M NRE Accreditate d	Yes (Including IP) MNRE Accreditate d	Yes MNRE Accreditat ed	Yes (Including IP) MNRE Accreditate d
ERTL (East)	STC Test Facility MNRE Accredited	Yes NABL/ MNRE Accredite d	Yes NABL/ MNRE Accredited	Yes upto 1000 AH	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited	Yes NABL/ MNRE Accredited
ETDC (B)	Yes (IEC61215)un der ICEEECB, IEC 61701 (upto100WP) NABL Accredited	Yes NABL/ MNRE Accredite d	Yes NABL/ MNRE Accredited	Yes upto 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 Accredite d	Yes NABL/ MNRE Accredited	Yes upto 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 Electronic s & luminaire NABL Accredita ted	Yes NABL Accredited	No	Yes Upto 5 KVA NABL Accreditate d	Yes NABL Accreditate d	Yes up to 5 KW (NABL Accreditat ed)	Yes NABL Accredited
UL (B)	Yes (IEC61215 IEC 61730 Pt.II and IEC 61701) upto 400WP NABL Accredited	Yes Except Battery NABL Accredita ted	Yes NABL Accredited	No	Yes Upto 6 KVA NABL Accreditate d	Yes NABL Accreditate d	Yes up to 6 KW (NABL Accreditat ed)	Yes NABL Accredited
TUV Rhineland	Yes (IEC61215 IEC 61730 Pt.II upto 400WP NABL Accredited	No	Yes NABL Accredited	No	Yes Upto 10 KVA NABL Accreditate d	Yes NABL Accreditate d	Yes up to 10 KW (NABL Accreditat ed)	Yes NABL Accredited
Inter Tek	No	Only Electronic s & luminaire NABL Accredita ted	Yes NABL Accredited	No	Yes Upto 5 KVA NABL Accreditate d	Yes NABL Accreditate d	Yes up to 5 KW (NABL Accreditat ed)	Yes NABL Accredited

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 police station Postal Address Phone No. Fax No. Name of the OIC/Contact Person	
2	System details a. Solar PV Modules Make of the modules Year of manufacturing Module test report from MNRE authorised 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 authorised test centre c. Battery bank Make Model Yr. of manufacturing Test report from MNRE authorised 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	Material handing over report (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.	

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

FORMAT FOR WARRANTY CARD TO BE SUPPLIED WITH EACH SOLAR POWER PLANT CCTN project)

1. Name & Address of the Manufacturer/Supplier of the System	
2. Name & Address of the police station	
3. Date of installation of the system	
4 Details of SPV module (s) supplied in the system Make (Name of the manufacturer) Model Serial No. (s) Wattage of the PV Modules under STC Warranty valid up to	
5 Details of Battery Bank Make (Name of the manufacturer) Model Batch/Serial Nos.(s) Rated V & AH capacity at C/20/C/10 rate at 20 C Warranty valid up to	
6 Details of PCU Make (Name of the manufacturer) Model Serial No (s) Warranty valid up to	
7 Details of BOS Make (Name of the manufacturer) Model Serial No (s) Warranty valid up to	
8 Designation & Address of the person to be contacted for claiming warranty obligations.	

(During the warranty period MNRE / OREDA authorized Officer / Users reserves the right to cross check the performance of the system as per the minimum performance levels specified.)

Signature & Stamp

VENDOR

Place:

date:

List of Police Station

Sl No	Name of the District	SL No	Name of the Police Station	Remarks
1	2	3	4	5
1	Angul	1	Purunakote	
		2	Kishorenagar	
		3	kiakata	
2	Bolangir	4	Tureikela	
3	Balasore	5	Raibania	
		6	Berhampur	
4	Bhadrak	7	Bansada	
		8	Naikandhi	
5	Boudha	9	Harbhanga	
6	Cuttack	10	Kanpur	
7	Dhenkanal	11	Tumusingha	
		12	Nihaliprasad	
8	Gangam	13	Tarasinghi	
		14	Jarada (Berhampur)	
		15	K.Nuagaon	
9	Gajapati	16	Ramgiri	
		17	Seranga	
10	Jajpur	18	Mangalpur	
		19	Ramchandrapur	
11	Jagatsingpur	20	Nuagaon	
		21	Ersama	
12	Jharsuguda	22	Rengali	
13	Kalahandi	23	Kegaon	
		24	Biswanathapur	
		25	Golamunda	
14	Kandhamal	26	Belghar	
		27	Kotgarh	
15	Kendrapada	28	Jambooo Marine	
16	Keonjhar	29	Nayakote	
		30	Telkoi	
17	Khurda	31	Balipatna (DCP Bhubaneswar)	
18	Koraput	32	Padwa	
19	Mayurbhanj	33	Sarat	
		34	Mahulidiha	
20	Nabarangpur	35	Raighar	
21	Rayagada	36	Puttasingha	
		37	Chandrapur	
22	Sambalpur	38	Kisinda	
23	Sundergarh	39	Hatibari	
		40	Talsara	
		41	Kinjirkela	
		42	Gurundia	
		43	k.Balanga	
		44	Mahulpada	
24	Sonepur	45	Ulanda	

TOTAL - 45 NOB. (PHASE - I)