



ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY

Under the Department of Science & Technology

Government of Odisha

(ISO 9001:2008 / ISO 14001:2004)

S-3/59,MANCHESWAR INDUSTRIAL ESTATE

BHUBANESWAR-751010, ODISHA

Website : www.oredaorissa.com E-mail : ceoreda@oredaorissa.com

No- 2439 /OREDA

Dated. 31 / 05 /2016

TENDER CALL NOTICE

Sealed tenders are invited from reputed manufacturers/ System integrator of solar PV systems in the country having valid test certificates from MNRE authorised test centres for their products for supply, installation, commissioning and maintenance of 15 Nos of 2.5 KWP Solar PV Power Plants in selected police station of the state . Tenders will be received up to 2.00 PM of 10.06.2016 and the technical bids will be opened on the same day at 3.00 PM. For details, please visit our web site www.oredaorissa.com.

Sd

Chief Executive

Memo No. 2440 /OREDA

Dated:31 /05 /2016

Copy forwarded to the Principal Secretary to Government, Science & Technology Department, Govt. of Orissa, Bhubaneswar for favour of information and necessary action.

Sd

Chief Executive

Memo N.O- 2441 /OREDA

Dated-31 /05-2016

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

Sd

Chief Executive

Memo No.-2442 /OREDA

Dated: 31 /05 /2016

Copy forwarded to The Director, Regional Office (Eastern Region),Ministry of New & Renewable Energy, Govt. of India, Plot No.N-2/176,IRC Village, Nayapalli, Bhubaneswar- 751 015 for favour of information and necessary action.

Sd

Chief Executive

Memo No. 2443 /OREDA

Dated: 31 /05/2016

Copy to Director (Admin), OREDA for information and necessary action. The tender call notice may be published in the "Daily Samaj", "Sambad", and all editions of "The Times of India".

Sd

Chief Executive

Memo No. 2444(4) /OREDA

Dated: 31 /05 /2016

Copy to all Divisional heads/Accounts officer, OREDA for information and wide circulation.

Sd

Chief Executive

Memo No. 2444(2) /OREDA

Dated:31/05/2016

Copy to Notice Board/Website, OREDA for circulation.

Sd

Chief Executive

ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY
BHUBANESWAR



BID DOCUMENT
FOR

Supply, Installation, Commissioning and Maintenance for a period of 5 years
of (15 x2.5) KWP Solar Power Plants in selected police stations of state

ISSUED

S-3/59, MANCHESWAR INDUSTRIAL ESTATE , BHUBANESWAR-751010

Phone : (0674) 2588260,2586398,2580554. Fax:2586368

Website: www.oredaorissa.com.

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This bid document along with Annexure 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 respect and has been received by the bidder.

3. The Odisha Renewable Energy Development Agency (OREDA) reserves the rights to modify, amend or Supplement this bid document.

4. While the bid has been prepared in good faith , neither OREDA nor their employees or advisers 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](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 peripheral to all police stations and higher offices and networking all such posts with the state Data Centre to work on line. Realising the fact that many police stations in 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 (10-hours) back-up. Since OREDA has been nominated by the 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.

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	31.05.2016
2	Last date of sale of bid documents	10.6.2016 1.P.M
3	Last dates for submission of bids	Up to 2.00 P.M. of 10.06.2016
4	Date of opening of technical bids.	3P.M of 10-06-2016.

List of Abbreviations /Check List of Documents

SI No	Particulars of Item	Status
1	Certificate of Incorporation of the company	
2	Copy of valid STCC/ VAT clearance certificate	
3	Copy of audited balance sheet and profit and loss account for 2012-13,2013-14 and 2014-15 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.	
13	Certificates from the authorized officer of the concerned SNA/ copy of the work order as proof of experience in RVEP.	
14	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
e.g.	Example
EMD	Earnest Money Deposit
ER	Eastern Region
ESI	Employee State Insurance
GOI	Government of India
Govt	Government
GPS	Global Positioning System
HLS	Home lighting Systems
ID	Identity
IEC	International Electro-technical Commission
IS	Indian Standards
JCC	Joint Commissioning Certificate
JnSM	Jawaharlal Nehru National Solar Mission
KHz	Kilo Hertz
LED	Light Emitting Diode

mA	Milli Ampere
MNRE	Ministry of New and Renewable Energy
OATC	Other Authorized Test Centres
OREDA	Orissa Renewable Energy Development Agency.
P&C	Planning & Coordination
PCBs	Printed Circuit Boards
PS	Police Station
PF	Provident Fund
PI	Please
PSO	Principal Scientific Officer
PV	Photo Voltaic
QBS	Quality Based Selection
RFID	Radio Frequency Identification
SCRB	State Crime Records Bureau
SEC	Solar Energy Centres
SLS	Street lighting Systems
SNA	State Nodal Agency
SPV	Solar Photo Voltaic
Sqm	Square Meter
STC	Standard Test Conditions
STCC	Sales Tax Clearance Certificate
TIN	Tax payers' Identification Number
V	Volts
VAT	Value Added Tax
W	Watt
Wp	Watt Peak

1. Eligibility Criteria

1.1 The bidder must be a manufacturer 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.
(Please attach copy of valid STCC /Vat clearance certificate.)

1.3 The bidder must have a minimum annual turnover of Rs 1 (One) crore during each of last three years in the business of Solar PV alone.

(Pl attach copy of audited balance sheet for 2012-13, 2013-14 & 2014-15. Clearly indicating the turn over 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 50 KWp in Government buildings in any part of the country during last 3 years under JNSM or the bidder must have completed / received purchase orders for an aggregate capacity of at least 50 KW in any part of the country during last 3 years starting from 2012-13.*

1.5 The bidding company/firm must have been rated by any of the approved rating agencies of MNRE like ICRA / CRISIL etc for SPV systems and must be holding necessary certificate to that effect.

(Please attach copy of the rating certificate)

1.6 The Bidder must be having capacity to roll out at least 5 sets of 2.5 KWP solar power plants in any given month from its own facility.

(Pl. Submit proof thereon)

1.7 The product must conform to minimum 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

cable, 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 documents.

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, 25years . 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 systems.. The date of commencement of CMC shall be reckoned from the date of commissioning of the last system of the given order.

2.5 Opening of services 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 station 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 systems 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 roof tops the physical condition of the roof top 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 stair 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 charges from the solar .

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.

v) The PCU-Inverter must have intelligent power / load management circuit to work as per the above functional requirements of the systems.

vi) Good quality and robust PCU –inverters must be provided with the system so as to ensure more than 95% up time on quarterly basis.

vii) The AC output at the inverters must be properly metered . All such meters should be digital and should be provided in the PCU.

viii) Minimum out put of 3300KWh /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 Bids must be submitted in English language only.

3.3 Bidders must submit their bids for all items as stated in Table-1.

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 returns Statement /Valid TIN / VAT/ Sales tax clearance certificate/ Copy of PAN card/ Copy of service tax registration 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 the bid must 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 or authentic exemption certificate shall 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 Centres (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 location in consultation with the concerned Asst director (OREDA). The service centres should have adequate spare and trained technicians to care to day to day maintenance needs so as to guarantee trouble free operations of the systems.
- 3.21 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.
- 3.22 Power of attorney to sign the agreement on behalf of bidders & partnership deed articles, if any, should be enclosed along with original bid documents.
- 3.23 Notice inviting tender, bid documents, prescribed Technical bid, price bid, terms & conditions will form the part of the tender.

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- 3.24 All pages of the bid documents must be signed & sealed by the authorized person on behalf of the bidders.
- 3.25 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.
- 3.26 The last date of receipt of the bid is 10-06-2016 up to 2.00 P.M. Sealed tenders may only be 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.
- 3.27 The technical bid shall be opened on 10-06-2016 at 3.00 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.
- 3.28 Submission of bids:

The first envelop should be superscribed as “Technical Bid” at the top of the envelop and name and address of the bidder should be given at the left hand side bottom of the envelop. The first envelop should be addressed to CE, OREDA shall contain the following:

- (a) DD of Rs 10,500 forwarding cost or prof of Local NSIC certificate must be attached with 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 70,000.00 Seventy Thousands in form of EMD or prof of Local NSIC certificate must be attached .
- (d) Filled in Technical Bid format.
- (e) All other documents excepting the price bid.
- (f) **The second envelop** should be superscribed as “Price Bid “ at the top of the envelop and name and address of the bidder should be given at the left hand side bottom of the envelop. 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 15 Nos 2.5 KWp Solar PV Power plants in selected police station of odisha” at the top of 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 address to CE, OREDA shall contain the First and second envelops only.

Note: All papers that comprise the bid document of the concerned bidder 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 representative in the presence of bidders, their authorised representative.
- 4.2 Second envelope "PRICE BID" containing 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 product 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.

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- 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.
- iii) cancel the tender without assigning any reason thereof.
- iv) alter or delete any of the terms and conditions mentioned in this document during the process of tender till finalisation.

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

sd

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 the Table-1 is required to be deposited along with the bid without which the bid will not be accepted. No interest will be payable on 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 .In case of claiming exemption Local NSIC certificate must be attached .
- 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 Guarantees 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 ½ years provided for the SPV modules subject to the successful performance.

6.5 Allocation of work:

Allocation of work will be made in favour of L-1, bidder only, In case L-1 bidder does not accept the work or fail to execute the same the work can be allotted to other bidder in order of (L-2,L-3,L-4,---) at L-1, prices subject that acceptance of the same.

6.6 Programme Execution Schedule

6.6.1 Installation & Commissioning 2 months from the date of issue of work order.

6.6.2 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, representatives of 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. The certificate shall be issued within 30 days of intimation from the executing firm. within 30 days of intimation about commissioning of the systems in the prescribed format, which shall form a part of the documents for release of payments.

6.6.3 The issuance of a Joint Commissioning Report 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. 90% of the total value of order (excluding AMC charges) 100% Tax after successful commissioning of the project. The check list of documents to be submitted with the bills for release of payment is annexed at Annexure-D.
2. 10% of the total value after successful functioning of the systems for three months with submission of all documents as per the 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 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 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 Plant

Solar Panel Specifications(Poly Crystalline):

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 specification on PV Modules should be as under

Particular	Specifications
Solar Panel Wattage at STC	250Wp
Type of PV Module	Poly Crystalline
Module efficiency	$\geq 14\%$
Cell efficiency	$\geq 16\%$
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 project 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 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 3 kw and the normal system voltage should be 48vdc. The PCUs must comply with IEC61683 /IS61683 and IEC 60068- 2 (1,2,14,30) or equivalent BIS standard and other specifications of the PCU are as follows.

Specifications of Solar Power Conditioning Unit(PCU):

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 :

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 the 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 the battery bank are as under.

Sl. No	Description	Battery Details
1	Battery rating	48 V- 400 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	400 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	6 months at 27°C

	storage.	
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 be 5 years.**

4. Junction Boxes

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

DC Distribution board should comply with IP 21 as per IEC 529 . 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 IEC 529 and should be equipped with suitable rating of MCB between PCU and load.

All switch , 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 .

Colour 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.

ANNEXUTRE-A

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	
8	Electronics protection	
9	Array Structure and other Other Mechanical hardware	
10	Meters	
11	Other features	

Signature and seal vender

ANNEXUTRE-B

PRICE BID

Supply installation under CCTN Project.

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 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)	
10	Grand Total (A+B+C)	

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

SIGNATURE & SEAL OF BIDDER

ANNEXUTRE-C

List of Authorised Test centres of MNRE , GOI

ANNEXUTRE-D**Check list for submission of information /documents after commissioning of the project.**

SN No	Information /Documents to be submitted	Whether submitted
1	<p>Site details</p> <p>Name of the Police station</p> <p>Postal Address</p> <p>Phone No-</p> <p>Fax No-</p> <p>Name of the OIC /Contract persons</p>	
2	<p>Systems Details</p> <p>A. Solar PV modules.</p> <p> Make of the modules</p> <p> Year of manufacturing</p> <p> Module test report from MNRE authorised test centre</p> <p> Serial number and IV Curve of each module may be submitted in a separate sheet.</p> <p>B. PCU</p> <p> Make</p> <p> Model</p> <p> Year of Manufacturing</p> <p> Serial Number of the PCU</p> <p> Test report from MNRE authorised test centre.</p> <p>C. Battery bank.</p> <p> Make</p> <p> Model</p> <p> Year of manufacturing</p> <p> Serial Number of the PCU</p> <p> Test report from MNRE authorised test centre</p> <p> Serial number of each battery may be submitted in a separate</p>	

	<p>sheet.</p> <p>D. Wires and cables. Make of the wire /Cables.</p> <p>Length (Meter) and Thickness in sq .mm of all wires and cables used.</p> <p>BIS test certification for the wires and cables used.</p> <p>E. Any other features of the system that needs Special mention.</p>	
3	Warranty /Guarantee of the composite system.	
4	<p>Training details.</p> <p>Date of Training</p> <p>No of Persons trained</p> <p>Name & designation of the persons</p>	
5	<p>Service centre Details</p> <p>Name /Address/ contract details of the service centre that will cover the project.</p> <p>Name & Mobile No. Of the person of the service centre in charge of the project.</p>	
6	Performance details(As per enclosed format)	

ANNEXUTRE-E

Sl No	Documents to be Submitted	
1	Materials 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 / month wise generated /consumed with proper resource in case of short fall.	

ANNEXURE-F

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

**FORMAT FOR WARRANTY CARD TO BE SUPPLIED WITH EACH
SOLAR POWER PLANT**

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

Place:

Date:

VENDER.

JOINT COMMISSIONING REPORT OF 2.5 KWP PV POWER PLANT

1. Name of the Police :
2. Name of the district :
3. Date of Commissioning :
4. Date of inspection :
5. Technical Details :
6. Total power out put from the date of commissioning
To till date :
7. Whether during installation & commissioning of the
Project all functional requirement have been adhered to :
8. In case there is no access to roof whether a ladder
has been provided :

Sl No	Item	Make & specification	Whether complied to work order	Remarks
1	2	3	4	5
01	Solar Module			
02	Battery			
03	Inverter			
04	BoS			

Signature
Representative of OREDA

Signature
Representative of SC

Signature