



ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY

Under the Department of Science & Technology

Government of Odisha

(ISO 9001:2008 / ISO 14001:2004)

S/59,MANCHESWAR INDUSTRIAL ESTATE

BHUBANESWAR-751010, ODISHA

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

1354 /OREDA

PD/RVEP-4/12

Dated.25/04/2012

DETAILS OF TENDER CALL NOTICE
NO - 1347 /OREDA , Dated- 25.04.2012

Sealed bids are invited from manufacturers/suppliers 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 Solar PV Home Lighting Systems and Street Lighting systems in different villages in the State of Orissa under the Remote Village Electrification Programme-2011-12.

Sl.No	Item	Quantity	Estimated Cost in Lakhs	EMD for the composite work in lakhs in shape of DD
1	Solar Home Lighting System (MNRE Model - II), 37 Watt; 5 years warranty and 5 years CMC	13661	1483	17.24
2	Solar Street Lighting System, 74 Watt with 5 years warranty and 5 years CMC	1227	241	

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 26.05.2012 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 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. Bids will be received up to 3.00 P.M of 28.05.2012 and the technical bid will be opened on the same day at 4.00 P.M in presence of the bidders or their authorized representatives if any.

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

Chief Executive

ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY
BHUBANESWAR

BID DOCUMENT

FOR

Supply, Installation, Commissioning and Maintenance for a period of 5 years
of Solar Photovoltaic Systems under
Remote Village Electrification Program (RVEP) 2011-12

S-59, MANCHESWAR INDUSTRIAL ESTATE , BHUBANESWAR-751010

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Preamble:

Remote villages by definition are those un electrified census villages or un electrified hamlets of electrified census villages where extension of conventional grid power is neither technically feasible nor commercially viable.

The Orissa Renewable Energy Development Agency, Bhubaneswar has drawn up a program for providing solar lighting systems to different villages under the Remote Village Electrification Program 2011-12 of MNRE, GOI. The systems would broadly consist of Solar PV Home Lights and Solar PV Street Lights. The assignment would inter alia include supply, installation, commissioning and maintenance of the systems for a period of five years.

Timely maintenance of the systems being the key to sustainability of the program a three tier maintenance mechanism involving the village level, Block/ cluster level and state level has been recommended. Such maintenance mechanism has been detailed out elsewhere in this document.

Documentation and record keeping is another key area that needs thorough and meticulous involvement. Village details, beneficiary details, system details, GPS locations, photographs, ID proofs etc are some of the important documents at the pre installation and during installation stages. Similarly system service and maintenance records are very important in the post installation period. The details of the documents and procedures to be followed have been discussed elsewhere in this document.

Since RVEP is an important and prestigious national program and is a matter of pride for all those working in the field of Renewable Energy quality assurance and timely completion of the projects, proper documentation and regular follow up and maintenance are of paramount importance which call for greater involvement of the vendor agencies which inter alia includes strong local presence and long term commitments.

Important Dates

1	Commencement of sale of bid documents	30.04.2012
2	Last date of sale of bid documents	26.05.2012
3	Pre bid meeting	4.00 P.M. of 15.05.2012
4	Last dates for submission of bids	Up to 3.00 P.M. of 28.05.2012
5	Date of opening of technical bids	4.00 P.M. of 28.05.2012

Check List Of Documents

Sl No		
1	Copy of valid STCC/ VAT clearance certificate	
2	Copy of audited balance sheet and profit and loss account for 2008-09, 2009-10 and 2010-11 clearly indicating the turnover from solar PV business	
3	Certificates from the authorized officer of the concerned SNA/ copy of the work order as proof of experience in RVEP	
4	Proof of production capacity.	
5	Recent test certificates from appropriate authorized test centres of MNRE, GOI	
6	Xerox copy of the Income Tax PAN card of the company	
7	Xerox copy of Service Tax Registration Certificate	
8	Original Money receipt /Demand Draft as proof of payment of Tender Cost	
9	Demand Draft submitted as Earnest Money	
10	Undertaking for Indignity of the supplied item	
11	Willingness to open a local office at Bhubaneswar before commencement of work	
12	Undertaking to open cluster level service centres at suitable places as will be indicated by OREDA.	
13	Undertaking to unconditionally accept all terms and conditions of the bid document	
13	Power of attorney to sign the agreement on behalf of bidders & partnership deed articles, if any.	
14	Technical bid in format in Annexure A1 and A2	
15	Price bid in Annexure B1 and B2 in separate sealed cover	
16	Filled in bid document duly signed and stamped at the bottom of each page	
17	Organizational profile	
18	Covering letter	

Definitions

Solar Home lighting Systems (Model-II)

A solar home lighting system (Model-II) as per this tender should comprise of a 37 watt solar PV module, a 40 AH lead acid tubular battery with battery box, a charge controller, two luminaires for two numbers of 9 watt compact fluorescent lamps, module mounting structure, wires and cables etc. as specified in the technical specifications and should be able to provide solar electricity for operating lamps for at least 4 hours per day.

Solar Street Lighting systems

A solar street lighting system as per this tender should comprise of a 74 watt solar PV module, a 75 AH lead acid tubular battery with a battery box, a luminaire, a compact fluorescent lamp of 11 watt capacity, control electronics, GI mast, inter-connecting wires/cables, module mounting hardware etc. as specified in the technical specifications and should be able to provide solar electricity for operating the lamp for dusk to dawn operation.

Village Energy Committee

The constitution of a Village Energy Committee should be through the Gram Sabha and got duly notified by the Gram Panchayat as a Sub-Committee or Standing Committee of the Gram Panchayat as per the relevant provisions of the State Panchayati Raj Act and rules in this regard. Care should be taken that the elected Panchayat member/s from that village are ex-officio members of the VEC.

Balance of System (BOS)

The balance of system or BOS encompasses all components of a photovoltaic system other than the photovoltaic panels. This includes wiring, switches, support racks, an inverter, and batteries in the case of off-grid systems. In the case of free-standing systems, land is sometimes included as part of the BOS.

Manufacturer

1. A person, group, or company that owns or runs a manufacturing plant.
2. A person, group, or company that manufactures.

CMC

Fixed fee service provided by a contractor for periodic maintenance of a buildings or equipment which in the present case would include 5 years maintenance of the installed solar PV systems including all required spares and consumables and even total replacement of the system, if necessary.

Warranty

A written guarantee, issued to the purchaser of an article by its manufacturer, promising to repair or replace it if necessary within a specified period of time.

List of Abbreviations

Admn	Administration
AH	Ampere Hour
Asst	Assistant
BG	Bank Guarantee
BIS	Bureau of Indian Standards
BOS	Balance of Systems
CFL	Compact Fluorescent Lamps
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
PF	Provident Fund
PI	Please
PSO	Principal Scientific Officer
PV	Photo Voltaic
QBS	Quality Based Selection
RFID	Radio Frequency Identification
RVE	Remote Village Electrification
RVEP	Remote Village Electrification Programme
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
VEC	Village Energy Committee
W	Watt
Wp	Watt Peak

1. Eligibility Criteria

1.1 All manufacturers of solar PV systems, who have got their products tested and qualified by any of the authorized test centres (SEC or ETDC for PV modules and ERTL or CPRI or SEC for lighting systems) List attached at annexure C 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.

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

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

1.3 The firm must have valid income Tax PAN and Service Tax Registration Certificate

(Pl. attach copy of valid income Tax PAN and Service Tax Registration Certificate)

1.4 The firm must have a minimum annual turnover of Rs 40.00 crore over last three years in the business of solar PV alone.

(Pl. attach copy of audited balance sheet for 2008-09, 2009-10 and 2010-11 clearly indicating the turnover from solar PV business)

1.5 The firm must have electrified at least 75 remote villages in each of any 3 years out of last 5 years beginning from 2006-07 under RVEP in any part of the country or the bidder must have completed /received purchase orders for coverage of at least 300 remote villages in any part of the country during last 5 years starting from 2006-07.

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

1.6 The firm must be having capacity to roll out at least 5000 Solar Home lighting systems and 500 solar street lighting systems 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)

1.8 Preference will be given to MSMEs as per Odisha MSME Development Policy-2009 which is in conjunction with IPR-2007.

2. Scope of the work

The broad scope of the work would be supply, installation, commissioning and maintenance for 5 years of the specified solar PV systems in specified households, community centres, locations in specified remote villages/hamlets. This would inter-alia include

- 2.1 A clear understanding of the logistics and other features of the assigned remote villages. This may require a prior visit to the enlisted villages.
- 2.2 Storage facility to be provided by the vendor for pre-installation inspection at intermediate points for facilitating inspection by the designated official of OREDA.
- 2.3 Supply of complete solar PV systems like Home Systems(model-II) and Street Lighting Systems (SLS) as per technical specifications given subsequently in this document.
- 2.4 Installation of the supplied systems in specific locations like households, community centres waysides as directed by the designated officials of OREDA in consultation with the respective village energy committees.
- 2.5 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 last system of the given order.
- 2.6 Training at least two youths from each of the project village in assembling and installation of the systems including providing first aid maintenance services.
- 2.7 Open at least one cluster level service centre for a cluster of 20 to 25 villages and one state level service centres in Bhubaneswar so as to deliver uninterrupted and sustainable maintenance services.
- 2.8 The successful bidder shall after completion and commissioning of the systems submit all details of the installed systems like beneficiary 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 village.
- 2.9 All necessary conditions as further outlined in the subsequent sections of this document are to be followed.

3. Instructions to Bidders

- 3.1 Bidders must submit their bids both for Solar Home system(model-II) and Street Lighting systems.
- 3.2 Bids must be submitted in English language only.
- 3.3 Incomplete, telegraphic or conditional bids shall not be accepted.

- 3.4 Prices quoted must be firm and fixed. No price variation / escalation shall be allowed.
- 3.5 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.
- 3.6 Last IT return 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.
- 3.7 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.
- 3.8 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.**
- 3.9 Bids received late due to postal delay or otherwise **will not be considered.**
- 3.10 The quantity of materials intended to be purchased as mentioned in this documents is subject to alteration without any notice.
- 3.11 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.
- 3.12 Since timely execution of works is of paramount importance, requests for extension of time shall not be ordinarily entertained.
- 3.13 Canvassing in any manner shall not be entertained and will be viewed seriously leading to rejection of the bid.
- 3.14 Certificate to the effect that the systems to be supplied are indigenous & not fully imported must be furnished.
- 3.15 All essential supplementing documents should be signed and stamped and in case of need for verification , originals should be produced
- 3.16 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.
- 3.17 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.

- 3.18 The bidders must remain prepared for submitting information such as identity proof of beneficiaries, photographs, GPS locations of the villages etc. along with installation reports.
- 3.19 The bidders during installation of the systems will be required to install signboards indicating details of the project as per direction of OREDA.
- 3.20 Bidders will be required to train two village youths selected and recommended by the respective Village Energy Committees before installation of the systems and involve them during installation work on suitable wage payment. The youths should also be provided with requisite tools to undertake minimum maintenance works like replacing of fuses, topping up electrolyte in batteries, cleaning modules, changing of lamps etc.
- 3.21 Bidders will be required to open Cluster Level Service Centres at block head quarters or any other suitable location in consultation with the concerned Asst. Director. At least one such service centre should be opened for a cluster of 20 to 25 villages. The service centres should have trained technicians to handle jobs like replacement of PCBs, minor repairs etc. Such service centres should also be provided with adequate tools as well as spare and consumables to provide services to all the beneficiaries within its jurisdiction.
- 3.22 Bidders will also be required to open at least one State Level Service Centre in Bhubaneswar having trained personnel, adequate spares & consumables and facilities to undertake component level repairs of PCBs etc and all other repairs / services that cannot be provided by the cluster level service centres.
- 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 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 28.5.2012 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.
- 3.27 The technical bid shall be opened on 28.5.2012 at 4.00 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 The bid document should be submitted in two parts as detailed below:

- 3.28.1 Bids should be submitted in two separate sealed envelope as mentioned below & addressed to the Chief Executive, OREDA, Bhubaneswar -10, inside a sealed envelope superscribed " Bid for Solar PV systems against Bid Call Notice No. /OREDA dtd.00.00.0000 First sealed envelope should contain Demand draft towards cost of bid document (in case of down loading)/copy of the receipt issued by OREDA in case of purchase of bid document directly from OREDA ,Technical Bid as per **Annexure – A1,A2**, prescribed test certificate, Earnest Money, Technical Specification, valid VAT / Sales tax clearance certificate ,Income Tax return, PAN card, Service Tax Registration Certificate Commercial terms & conditions, other bid documents duly signed & sealed, Indignity Certificate, organizational profile, balance sheets and profit & loss accounts for last three years, certificate and proof as per qualification criteria as well as brochure, literature etc. It should be super-scribed with Part-1 Technical Bid ". All the papers of bid documents except the price bid duly signed should be submitted in the first envelope. Required earnest money deposit in the form of Demand draft in favour of Chief Executive, OREDA payable at Bhubaneswar should be attached.
- 3.28.2 Second sealed envelope (part-II) should contain Price bid as per Annexure –B1, B2, in a separate sealed envelope. It should be super-scribed with "PART- II PRICE BID". Any condition in regard to financial aspects, payments, terms of rebate etc beyond the prescribed financial terms of OREDA will make the bid invalid. Therefore it is in the interest of the bidders not to write anything extra in the Price Bid in Annexure-B1 & B2 except price.

4. Procedure for opening the bids

The procedure of opening of the bid shall be as under

- 4.1 First envelope "PART-1 TECHNICAL BID " shall be opened at the time & date mentioned in the bid notice by OREDA representative in the presence of bidders, who choose to be present.
- 4.2 Second envelope (part-II) containing Price bid shall be opened after evaluation of technical suitability of the offer. 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. If necessary, the firms may be called for Technical Presentation of their product as per the time intimated by OREDA and submission of samples of HLS, Model II and SLS.
- 4.3 All taxes applicable at the time of supply will be charged separately.
- 4.4 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 the office it will have the right to suitably dispose off the same and forfeit the amount.
- 4.5 The supplied materials should strictly comply with the specifications as mentioned in the bid, otherwise the material would be liable for rejection.

- 4.6 Any clarification on the technical specification and commercial terms and conditions may be clarified in writing from OREDA.
- 4.7 Deviation of any commercial terms and condition and technical specification shall not be entertained under no circumstances.
- 4.8 Bidders may in their own interest visit the sites and undertake field survey before submitting bids. OREDA will not be responsible for any incidental or consequential losses of the firms while execution and till expiry of the period of CMC.
- 4.9 All the bidders shall essentially indicate the break-up of prices as shown in Price bid.
- 4.10 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.

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 for an amount **Rs17.24** lakhs 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 can 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 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:

In view of large geographical spread, remoteness, limited time available for completion of the project as well as past experience OREDA will split the work order among a maximum of 3

techno- commercially qualified bidders provided that the second, third bidder or latter in serial order positioned based on their lowest quoted prices agree to execute the work at the prices quoted by L1 bidder. In such case the order will be split equitably to the maximum extent possible with regards to the value of the order. If only two bidders will be agreeable to execute the work at L1 prices the total order will be divided equally between the two. If other bidders are not agreeable to execute the work at L1 price then the entire work is to be executed by L1 bidder. While splitting OREDA would consider to allot villages/Blocks/Districts in contiguous manner taking village as a unit.

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, Village Energy committee, OREDA and the concerned Gram Panchayat. Following such inspection a joint commissioning report (Annexure-D) shall be brought out 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.

6.6.4 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 Home Lighting Systems, Model-II and Solar Street Lighting Systems 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

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 VEC/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. The defects should not be ordinarily attributed to tempering by the users. The firm has to devise suitable mechanism to ensure non-tempering of systems.

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 will be made as per the following schedule subject to submission of completed documents as detailed against each

6.14.1 Mobilization advance @ 20% of material cost subject to submission of

- Acceptance of work Order
- Schedule of supply of materials
- Irrevocable Bank guarantee from any Nationalized Bank for an amount equal to the amount of mobilization advance with validity of one year.

6.14.2 Interim Payment I-@ 20% of material cost and full taxes on material cost will be paid subject to submission of

- Verification report of the Asst. Director , District Renewable Energy Cell against the materials supplied In the prescribed format
- Test certificates from authorised test centres of MNRE against the supplied materials.

6.14.3 Interim payment-II @ 40% of material cost, 80 % of installation cost and full tax on installation cost subject to submission of

- Material handing over report (in prescribed format)
- Installation report (in prescribed format)
- Photograph of beneficiary
- GPS details of the village
- Identification of user
- Names of the trained village youths
- Contact details of cluster level service centres

- Photograph of village wise sign boards
- CMC

6.14.4 Final payment @ 20% of material cost and 20% of installation cost will be released after completion of verification by the third party verifier engaged by OREDA and receipt of report thereof.

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

The bidder must enter into a Comprehensive maintenance contract for the specified period at the time of execution of the order. Offer without such CMC shall not be considered.(sample format of CMC enclosed at Annex- E) 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 concerned local panchayat / 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.

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

7 Technical Specification for Solar Home Lighting System-Model- II

7.1 Definition

A Solar Home Lighting System aims at providing solar electricity for operating lights.

7.2 Models

(I) MODEL - II (2 Lights)

Component	Specifications
PV Module	1x 37 Wp under STC
Lamps	2 x CFLs (9W)
Battery	1x 12V, 40 AH Tubular plate, Low maintenance type Lead Acid Battery.
Other Components	Control electronics, Module mounting hard ware, Battery box, Inter-connecting wires / cables, separate Switches, operation, instruction and maintenance manual.

7.3 Duty Cycle

MODELS	AVERAGE HOURS OF OPERATION/ DAY
Model-II	2 Lights, 3 - 4 Hours

7.4 PV Module.

Use of PV modules conforming to latest IEC 61215, IEC 61646 or IS14286, IEC 62108 standards is essential.

In case such certification is not available for the modules in question the concerned manufacturer must have obtained IEC/BIS certification for any of the modules manufactured by them and submit an undertaking to the effect that the modules proposed to be supplied are also manufactured using the same materials and processes, as used in the certified PV module.

It is mandatory to provide a copy of the IEC/BIS PV module qualification certificate/report issued by an authorized laboratory to be eligible.

General specifications for PV modules to be supplied with solar home lighting systems are as under:

- (i) The PV module(s) shall contain crystalline silicon solar cells.
- (ii) The power output of the module(s) under STC should be a minimum of 37W (Model-II)
- (iii) The operating voltage corresponding to the power output mentioned above should be 16.4V.
- (iv) The open circuit voltage of the PV modules under STC should be at least 21.0 Volts.
- (v) The terminal box on the module should have a provision for opening for replacing the cable, if required.

- (vi) A strip containing the following details should be laminated inside the module so as to be clearly visible from front side.
- (a) Name of the manufacturer or distinctive logo.
 - (b) Model or Type No.
 - (c) Serial number
 - (d) Year of manufacturing

7.5 Electronics

General specifications for electronics to be supplied with solar home lighting systems (Model-II) are as under:

- (i) The inverter should be of quasi sine wave/ sine wave type, with frequency in a range of 20-35 KHz. Half-wave operation is not acceptable.
- ii) The total electronic efficiency should be at least 80%.
- iii) The idle current consumption should not be more than 10 mA.
- iv) Electronics should operate at 12V and should have temperature compensation for proper charging of the battery through out the year.
- v) Necessary lengths of wires / cables and switches suitable for DC use & fuses should be provided.

It will be essential to submit a copy of test report issued by any of the authorized test centre to the effect that all electronic circuits used have qualified to the tests for thermal cycling, damp heat cycling & study state tests as per the relevant IEC 60068-2-6 (21,27,30,75,78) standard.

7.6 Battery:

General specifications for batteries to be supplied with solar home lighting systems(model-II) are as under:

- i) The battery will be of flooded electrolyte type, positive tubular plate, low maintenance lead acid battery.
- ii) The battery will have a minimum rating of 12V, 40AH, (C/10) discharge rate..
- iii) 75% of the rated capacity of the battery should be between fully charged & cut off condition.

It will be essential to submit a copy of test report issued by any of the authorized test centre to the effect that the batteries supplied as a part of the PV system qualify the following tests, as specified in the relevant standards (IEC 61427, IS 1651, IS 13369, IS 15549 or equivalent standards).

- capacity as per C/10 rate, as applicable for the specific battery
- Watt-Hour and Amp-Hour efficiency, and
- charge retention/ Shelf Life test

The bidders are advised to provide a copy of the test report for the above tests, issued by any of the authorized test centres.

7.7 Lamps

- i) The Lamps will be of compact fluorescent (CFL) type, either 4-pin types, with ratings of 9W. For the 4 -pin type CFLs, a suitable pre- heating circuit must be provided.
- ii) The light output from the lamps should be around 600+/-5% lumens (for 9 w CFL) and also please see (iii) of VI given below.
- iii) No blackening or reduction in the lumen output by more than 10% should be observed after 1000 ON/OFF cycles (two minutes ON followed by four minutes OFF is one cycle).
- iv) The lamp should be housed in an assembly suitable for indoor use with a reflector on its back. While fixing the assembly the lamp should be held in a base up configuration.

7.8 Electronic Protection

- (i) Adequate protection is to be incorporated under no load conditions e.g. when the lamp is removed and the system is switched ON.
- (ii) The system should have protection against battery overcharge and deep discharge conditions.
- (iii) Fuses should be provided to protect against short circuit conditions.
- (iv) A blocking diode should be provided as part of the electronics to prevent reverse flow of current through the PV module(s) in case such a diode is not provided with the Solar Module(s).
- (v) Full protection against open circuit, accidental short circuit & reverse polarity should be provided.

7.9 Mechanical Components

- i) Metallic frame structure (with corrosion resistant paint) to be fixed on the roof of the housed to the SPV modules. The frame structure should have provision to adjust its angle of inclination to the horizontal between 0 and 45 so that it can be installed at the specified tilt angle.
- ii) The Housing containing the electronics, lamp and battery should qualify requirements of IP 21 depending on its use/ application i.e. indoors or outdoors.

7.10 Other Features:

- (I) The system should be provided with 2 LED indicators: a green light to indicate charging in progress and a red LED to indicate deep discharge condition of the battery. The green LED should glow when the battery is actually being charged.
- (II) The PV Module(s) will be warranted for a minimum period of 10years from the date of supply and the Solar Home System(model-II) (including the battery) will be warranted for a period of two years from the date of supply. The warranty card to be supplied with the system must contain the details of the system supplied as given in the Annexure-I. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

- (III) An operation, Instruction and Maintenance Manual in English and the Oriya language, should be provided with the System.

The following minimum details must be provided in the manual :

- a) About photovoltaic.
- b) About Solar Home System – its components and expected performance.
- c) About PV Module.
- d) About CFL
- e) About battery
- f) Clear instructions about mounting of PV module(s) .
- g) About electronics.
- h) About charging and significance of indicators.
- i) Do's and Do Not's.
- j) Clear instructions on regular maintenance and trouble shooting of the Solar Home System.
- k) Name and address and Phone No. of the contract person in case of failure or complaint of the System.

8 Technical Specification for Solar Street Lighting System

8.1 Definition:

A stand alone solar photovoltaic Street Lighting System comprises a compact fluorescent lamp, lead acid battery, PV module(s), control electronics, Inter connecting wires/cables, module mounting hardware, battery box, operation instruction and maintenance manual.

Component	Specifications
PV Module	1x 74 Wp under STC
Lamps	1 x CFLs (11W)
Battery	1x 12V, 75 AH Tubular plate, Low maintenance type Lead Acid Battery.
Other Components	Control electronics, Module mounting hard ware, mast, Battery box, Inter-connecting wires / cables, separate Switches, operation, instruction and maintenance manual.

8.2 Duty Cycle

The system should be designed to automatically switch on at dusk, operate throughout the night and automatically switch off at the dawn under average daily insolation of 5 kWh / Sqm. on a horizontal surface.

8.3 PV Module

Use of PV modules conforming to latest IEC 61215, IEC 61646 or IS14286, IEC 62108 standards is essential.

In case such certification is not available for the modules in question the concerned manufacturer must have obtained IEC/BIS certification for any of the modules manufactured by them and submit an undertaking to the effect that the modules proposed to be supplied are also manufactured using the same materials and processes, as used in the certified PV module.

It is mandatory to provide a copy of the IEC/BIS PV module qualification certificate/report issued by an authorized laboratory to be eligible.

General specifications for PV modules to be supplied with Solar Street lighting systems are as under:

- i. The PV module(s) shall contain crystalline silicon solar cells.
- ii. The power output of the module(s) under STC should be a minimum of 75W
- iii. The operating voltage corresponding to the power output mentioned above should be 16.4V.
- iv. The open circuit voltage of the PV modules under STC should be at least 21.0 Volts.
- v. The terminal box on the module should have a provision for opening for replacing the cable, if required.
- vi. A strip containing the following details should be laminated inside the module so as to be clearly visible from front side.
 - (e) Name of the manufacturer or distinctive logo.
 - (f) Model or Type No.
 - (g) Serial number
 - (h) Year of manufacturing

It is mandatory to affix RFID tags as specified by MNRE to all modules supplied as part of solar street lighting systems. It is also mandatory to provide one RFID reader at OREDA hqrs along with the first consignment.

8.4 Electronics

General specifications for electronics to be supplied with Solar Street lighting systems are as under:

- i) The inverter should be of quasi sine wave/ sine wave type, with frequency in a range of 20-35 KHz. Half-wave operation is not acceptable.
- (ii) The total electronic efficiency should be at least 80%.
- (iii) No blackening or reduction in the lumen output by more than 10% should be observed after 1000 ON/OFF cycles (two minutes ON followed by four minutes OFF is one cycle).
- (iv) The idle current consumption should not be more than 10 mA.
- (v) Electronics should operate at 12V and should have temperature compensation for proper charging of the battery through out the year.
- (vi) Necessary lengths of wires / cables and fuses should be provided.
- (vii) The PV module will be used to sense the ambient light level for switching ON and OFF the lamp.

It will be essential to submit a copy of test report issued by any of the authorized test centre to the effect that all electronic circuits used have qualified to the tests for thermal cycling, damp heat cycling & study state tests as per the relevant IEC 60068-2-6 (21,27,30,75,78) standard.

8.5 Battery:

General specifications for batteries to be supplied with solar street lighting systems are as under:

- i) Flooded electrolyte type, positive tubular plate, low maintenance lead acid battery .
- ii) The battery will have a minimum rating of 12V, 80 Ah (at C/10) discharge rate.
- iii) 75% of the rated capacity of the battery should be between fully charged and load cut-off conditions.

It will be essential to submit a copy of test report issued by any of the authorized test centre to the effect that the batteries supplied as a part of the PV system qualify the following tests, as specified in the relevant standards (IEC 61427, IS 1651, IS 13369, IS 15549 or equivalent standards).

- capacity as per C/10 rate, as applicable for the specific battery
- Watt-Hour and Amp-Hour efficiency, and
- charge retention/ Shelf Life test

The bidders are advised to provide a copy of the test report for the above tests, issued by any of the authorized test centres.

8.6 LAMPS

- (i) The lamp will be of compact fluorescent (CFL) either 4 pin or 2 pin type, with a rating of 11 W. For the 4 - pin type CFL, adequate pre -heating circuit must be provided.
- (ii) The light output from the lamp should be around 900 + / - 5% lumens. Also please see (iii) of V given below.
- (iii) No blackening or reduction in the lumen output by more than 10% should be observed after 1000 ON/OFF cycles (two minutes ON followed by four minutes OFF is one cycle).
- (iv) The lamp should be housed in a weatherproof assembly suitable for outdoors use, with a reflector on its back. While fixing the assembly the lamp should be held in a base up configuration.

8.7 Electronic Protection

- i. Adequate protection is to be incorporated under no load conditions e.g. when the lamp is removed and the system is switched ON.
- ii. The system should have protection against battery overcharge and deep discharge conditions.
- iii. Fuses should be provided to protect against short circuit conditions.
- iv. A blocking diode should be provided as part of the electronics to prevent reverse flow of current through the PV module(s) in case such a diode is not provided with the Solar Module(s).
- v. Full protection against open circuit, accidental short circuit & reverse polarity should be provided.

8.8 Mechanical Components

- (i) A metallic frame structure with corrosion resistant paint to be fixed on the pole to hold the SPV module (S). The frame structure should have provision to adjust the angle of inclination to the horizontal between '0' & 45 °, so that the module(s) can be oriented at the specified tilt angle.
- (ii) The pole should be of mild steel with height of 4 meters above the ground level, after grouting and final installation. The pole should have provision to hold the weather proof housing. It should be painted with a corrosion resistant paint. The fabrication and assembly of the Street Lighting System should be as per the specification given above.
- iii) The Housing containing the electronics, lamp and battery should qualify requirements of IP 65 for outdoor applications.

8.9 Other Features:

- i) The system should be provided with two LED indicators : a green light to indicate charging in process and a red LED to indicate deep discharge condition of the battery. The green LED should glow only when the battery is actually being charged.
- ii) There will be a nameplate on the system, which will give.
 - (a) Name of the manufacturer or Distinctive Logo
 - (b) Year of manufacture
- iii) Components and parts used in the Solar Street Lighting Systems should conform to BIS Specifications, wherever such specifications are available and applicable.
- iv) The PV Module(s) will be warranted for a minimum period of 10 years from the date of supply and the Street Lighting System (including the battery) will be warranted for a period of two years from the date of supply. The warranty card to be supplied with the system must contain the details of the system supplied as given in the Annexure-I. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.
- v) An operation, Instruction and Maintenance Manual in English and Oriya language, should be provided with the Solar Street Lighting System.
The following minimum details must be provided in the manual:

About photovoltaic.

About Solar Street Lighting System – its components and expected performance.

- a) About PV Module.
 - b) About CFL
 - c) About battery
 - d) Clear instructions about erection of pole and mounting of PV module(s) and lamp housing assembly on the pole.
 - e) About electronics.
 - f) About charging and significance of indicators.
 - g) Do s and Do Nots.
 - h) Clear instructions on regular maintenance and trouble shooting of the Solar Street Lighting System
 - i) Name and address of the contract person in case of non-functionality of the Solar Street Lighting System.
- vi. The system should be provided with a maintenance log card printed in Oriya language as per direction of OREDA.

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

**FORMAT FOR WARRANTY CARD TO BE SUPPLIED WITH SOLAR HOME LIGHTING SYSTEM(MODEL-II) /
SOLAR STREET LIGHTING SYSTEM**

1. Name & Address of the Manufacturer/Supplier of the System	
2. Name & Address of the Users / Village Energy Committee	
3. Date of supply 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 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 Electronics other BOS items Make (Name of the manufacturer) Model Serial No (s) Warranty valid up to	
7. Designation & Address of the person to be contacted for claiming warranty obligations.	

(During the warranty period MNRE / OREDA authorized Officer / Users / VECs nominated trained person reserves the right to cross check the performance of the system with the minimum levels specified in the MNRE specification.

(Signature)

Name & Designation

Name & address of the

Manufacturer/Supplier

(Seal)

Place: -

Date: -

TECHNICAL BID

Supply, installation, commissioning and maintenance for Solar Home Lighting System-Model - II

We conform the following technical specification.

Sl. No	Item	Description
1.	Duty Cycle	
2.	Lamp	
3.	Battery	
4.	Electronics	
5.	PV Module(s)	
6.	Electronics Protection	
7.	Mechanical Hardware	
8.	Others Features	

SIGNATURE OF THE BIDDER WITH SEAL

TECHNICAL BID**Supply, installation, commissioning and maintenance for Solar Street Lighting System.**

We conform the following technical specification.

Sl. No	Item	Description
1.	Duty Cycle	
2.	Lamp	
3.	Battery	
4.	Electronics	
5.	PV Module(s)	
6.	Electronics Protection	
7.	Mechanical Hardware	
8.	Others Features	

SIGNATURE OF THE BIDDER WITH SEAL

PRICE BID

SOLAR HOME LIGHTING SYSTEM (Model-II) WITH FIVE YEARS WARRANTY AS WELL AS CMC

Sl. No	Item	Rate per system
1.	Supply of Solar Home Systems (Model-II) comprising of CFL luminary with lamp, lead acid battery, PV module (s), control electronics, inter-connection wires and cables, Module mounting structure, Battery box 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 OF THE BIDDER WITH SEAL

PRICE BID

SOLAR STREET LIGHTING SYSTEM WITH FIVE YEARS WARRANTY AS WELL AS CMC.

Sl. No	Item	Rate per system
1	Supply of Solar Street lighting System comprising of CFL, Lead acid battery, PV module(s), control electronics (With a spare PCB), Interconnection wires and cables, Module mounting structure, Battery box 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 & duties, 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)	
10.	GRAND TOTAL (A+B+C)	

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

SIGNATURE OF THE BIDDER WITH SEAL

MNRE Authorised Test Centres

SI No	Name and Address of Test Center	Products Tested
1	Electronics Regional Test Laboratory (East), D N Block, Sector V, Salt Lake City, Bidhan Nagar, Calcutta - 700 091 Fax : 033-23679472 / 23678974 E.mail : ertleast@ertle.ernet.in	Solar Lighting Systems
2	Central Power Research Institute Energy Conservation and Development Division PBNo.8066 Sir C.V. Raman Road Bangalore:560080 Tel No. 080-23604682 080-23604682 , Fax: 080-23601213	Solar Lighting Systems
3	Solar Energy Centre (Ministry of New and Renewable Energy) Gwal Pahari, Gurgaon - Faridabad Road, Gurgaon - 122 001, Haryana, Telephone : 011- 2436 0331 011- 2436 0331 (New Delhi), 0124 - 2579207 0124 - 2579207 , 0124- 2579208 (SEC, Gurgaon)	Cells, Modules, Systems & Developmental Testing
4	Electronics Test and Development Centre (ETDC) Ring Road, Peenya Industrial Estate, Bangalore - 560 058 Telephone - 080 - 8395992, 080- 9394766 Fax - 080- 839 1804	PV Modules

Joint Commissioning Report on installation of SPV systems under RVEP

Village:

G.P.:

Block:

Sanction details:

HLS (Nos) :

SLS (Nos):

District:

Name of the supplier:

A. Details of HLS installed:

S/N	Name of the beneficiary	Module No.	Battery No.	Electronics No.	Luminaries No.		Date of Installation & Commissioning	Status of the system
					L1	L2		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

B. Details of SLS installed

S/N	Location of the system	Module No.	Battery No.	Electronics No.	Luminary No.	Date of Installation	Status of the system
1							
2							

Representative of
supplying firmAsst. Director
RE CellSecretary
VECRepresentative
of Gram Panchayat

SAMPLE FORMAT FOR C.M.C

(Subject to modification as per suitability of system and project requirement)

Comprehensive Maintenance Contract (CMC) for maintenance of SPV system supplied and install by M/S

.....

for five years.

This Comprehensive Maintenance Contract (CMC) is executed between the Orissa Renewable Energy Development Agency (OREDA) , S-3-59, Mancheswar Industrial Estate, Bhubaneswar-10, represented by its Deputy Director (Tech), Project Division herein after called as Ist. party and M/S

.....

herein after called as 2nd party, for maintenance of sets offor a period of five years with effect from AD, supplied, installed and commissioned vide purchase order No Dated in village covering blocks of Districts.

The 2nd party will maintain these Systems as per the terms and conditions mentioned here under.

1. It has been envisaged in the purchase order No/ OREDA dated under clause No that these sets of shall be warranted against any manufacturing defect and bad workmanship at least for a period of 5 years for the system and battery and 10 years for the PV modules from the date of commissioning . As these systems have been commissioned and handed over to the 1st party through its Assistant Director (Tech) / authorized OREDA official at DRDA During all these systems , as such are covered under warranty period up to, and respectively.

Hence, the 2nd party is fully responsible for their trouble free maintenance and the 2nd party is liable to rectify / remove any defect noticed within the aforesaid period free of cost.

- 2. The 2nd party will impart training to two nos. of youth from each completed village to be able to provide first aid repair service for the SPV systems installed in the village.
- 3. The 2nd party will ensure a formal training of such identified youth (2 from each village) at a cluster level of villages in consultation with the 1st party.

4. An amount of 10% of the ordered value shall be kept as fees towards Performance guarantee for a period of 10 years of warranty & maintenance . After expiry of the successful and satisfactory maintenance period of 10 years which remains valid up to AD , the security deposit / PGF shall be returned to the 2nd party thereafter only.
5. The CMC includes repair/ replacement of all spares and consumable, including CF Lamp, battery & PV module during the maintenance period.
6. The 2nd party will setup a state level office at Bhubaneswar duly headed by a Service Engineer.
7. The 2nd party shall undertake the periodical maintenance work of these sets prescribed formats attached herewith (Format I) on the 10th of every succeeding quarter duly countersigned by the concerned Assistant Director (Tech), / Authorized Officer, R.E. Cell , DRDA
8. The 2nd party should be in readiness to attend to the defects of any system (out of these Sets), as and when required by the beneficiary/ 1st party and ensure rectification of defects and restore functionality within seven days of lodging the complaints. The 2nd party shall furnish the status report after the maintenance work are over, which shall invariably bear the signature of the beneficiaries as per the format annexed herewith (format- II).
9. The 2nd party shall appraise the 1st party about the requirements and supply of spares during warranty as well as CMC period.
10. The 2nd party will ensure to submit quarterly reports of visits made by their representatives to the completed villages every three months during the warranty and CMC period.
11. The 1st party in consultation and cost sharing with the 2nd party will maintain a central complaint cell at Bhubaneswar alongwith adequate stock of spare parts as a backup.
12. Separate bills/ invoices in triplicate enclosing the prescribed formats duly filled in (Format-I and II) are to be submitted by the 2nd party to 1st party for effecting payment after end of the each year from the date of maintenance of the systems.
13. Certificates in support of successful maintenance of the system(s) shall be obtained from the users which should be countersigned by the Assistant Director (Tech), / Authorised Officer, RE Cell , DRDA In token of verification of maintenance done.
14. It will be the liberty of the 1st party to cross check the systems maintained by the 2nd party. Random verification of the maintenance may be carried out by the 1st party wherever necessary.
15. The 2nd party may continue to maintain the gadgets after expiry of the maintenance period of 10 years , provided the beneficiaries/ 1st party desires.
16. For adjudication of any dispute between the two parties arising on execution of this CMC , the matter shall first be brought to the notice of Chief Executive, OREDA.
17. In case, there will be no amicable settlement of the issues, the matter can be referred to the court of law having jurisdiction at Bhubaneswar only.

The Annual Maintenance contract is signed jointly between the two parties today i.e on dated day of 2012 and shall come into force from the date of its signature(s).

For and on behalf of Orissa Renewable
Energy Development Agency, Bhubaneswar
(1st Party)

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

Deputy Director (Tech),
Project Division, OREDA
(Seal)

Witness

Deputy Director (Tech)
RE Division, OREDA
Bhubaneswa
(Seal)

ORISSA RENEWABLE ENERGY DEVELOPMENT AGENCY

BHUBANESWAR

FORMAT-I

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

STATUS REPORT OF SPV HLS & SLS

(A) PARTICULARS

1. Name of the beneficiary :
2. (a) Placement of installation
(village/hamlets).
(b) Gram Panchayat :
3. Block :
4. District :
5. Date of visit :
6. Type of installation
7. Name & Address of the Staff :
visiting the installation. :

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

- (i) Have seen any :
8. Visual damage of the system
9. Damage of the module :
10. Sl. No. & make of the module :
11. Sl. No. of the system :

12. Condition of the battery :
13. Make & Sl. No. of the battery :
- (ii) Conditions of the
14. Electronic Controller :
15. Compact Fluorescent Lamp :
16. Electrical condition :
17. Routine maintenance work :
- (i) Cleaning of the module surface :
- (ii) Topping of the battery :
- (iii) Tightening of the all electrical connection :
- (iv) Changing of Tile angle of the module
mounting structure.
- (v) Cleaning & greasing of the battery terminal :
18. Type of repair / rectification carried out :
19. Suggestion imparted to the beneficiary :
20. Remarks of the beneficiary :

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

with date.

Signature of the staff visiting the installations with date

ORISSA RENEWABLE ENERGY DEVELOPMENT AGENCY

BHUBANESWAR

FORMAT-II

REPAIR & MAINTENANCE OF SOLAR STREET LIGHTING SYSTEM / SOLAR HOME SYSTEMS IN ORISSA

1. Date of Inspection :

2. Location :

Village	Block	District

3. Battery make & No. :

4. Module make & No. :

5. Make of the System :

6. Visual Inspection (conditions of)

(a) Module

(b) Mast

(c) Luminaire

(d) Electronics

(e) Battery

7. Battery condition :

Cell No. :

Cell Voltage :

SP. Gr. :

Terminal : Clean / Not clean

Battery box condition : O.K / Not O.K.

Volt Plugs : Clean / Not clean

8. (A) General Maintenance
- (a) Distilled water quantity replenished :
 - (b) Checking of battery terminals :
 - (c) Cleaning of Luminaires :
 - (d) Tightening of loose connection :
(if any).
 - (e) Cleaning of module :
- (B) Repairs done
- (a) Replacement of Luminaires :
 - (b) Replacement of charge controller /
Inverter. :
 - (c) Any other repair / replacement done :
- (C) Functional Status – (after repair & maintenance)
- (D) Repairs if any to be done further

Remarks

Signature of the Inspecting Agency

Name & Signature of the User

Date: -

Date:-

Signature of the Representative of the Supplier (2nd Party)