

# ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY

## BHUBANESWAR

### BID DOCUMENT

DETAILS OF TENDER CALL NOTICE No. 801/OREDA DTD- 10.02.2020

FOR

**Design, Supply, Testing, Installation, Commissioning and Maintenance  
for a period of 5 years of Solar Cold Storage Unit**

Date of Hoisting of the bid document on Website	11.02.2020
Date & time of pre-bid meeting	19.02.2020 at 11:30 AM in OREDA Conference hall
Last Date and time for submission of online bids	11.03.2020 up to 5:00 PM
Last Date and time for submission of hard copy of bids	13.03.2020 up to 1:00 PM
Date of Opening of Techno-Commercial bids	13.03.2020 up to 3:00 PM
Date of Opening of the price bid	To be intimated to the techno-commercially qualified bidders only.

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

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

Website: [www.oredaorissa.com](http://www.oredaorissa.com) Email: [ceoreda@oredaorissa.com](mailto:ceoreda@oredaorissa.com)

## Disclaimer

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 on the pre bid meeting or within ten days from the date of issue of the bid document, it shall be considered that bid document is complete in all respects and has been received by the bidder.
3. The Odisha Renewable Energy Development Agency (OREDA) reserves the right to modify, amend or supplement this bid document keeping in view the necessity in implementation of the scheme.
4. While the bid document has been prepared in good faith, neither OREDA nor their employees or advisors make any representation, warranty, express or implied or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability and completeness of this bid document, even if any loss or damage is caused by any act or omission on their part.



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### **Details of Notice Inviting E-Tender**

Odisha Renewable Energy Development Agency invites e-tenders from interested bidders for Design, Supply, Testing, Installation, Commissioning and Maintenance for a period of 5 years of Solar Cold Storage Unit.

<b>Name of the work</b>	<b>Quantity</b>	<b>Estimated Project Cost (in INR)</b>	<b>Earnest Money Deposit (in INR)</b>	<b>Non-Refundable Cost of Bid document (in INR)</b>	<b>Tender processing fee Non refundable (in INR)</b>
Design, Supply, Testing, Installation, Commissioning and Maintenance for a period of 5 years of Solar Cold Storage Unit	10*	1,50,00,000/-	1,50,000/-	10,500	5,000 + Applicable GST

\* The quantity may increase up to 100%.

## **1. SCOPE OF THE WORK**

The broad scope of the work includes Design, Supply, Installation, Testing & Commissioning of Solar Cold Storage unit including five years Comprehensive Maintenance Contract (CMC). The detailed scope of this work are as under:

### **A. Design**

1. The bidder will design the system as per the requirements given in the subsequent technical specification section.
2. The solar based cold storage unit must have a valid test certificate in the name of the bidder from MNRE/ NABL accredited test laboratory.  
*\* In case, the test certificate is not available at the time of bidding, documentation pertaining to availing the same i.e Test Acknowledgement copy etc should be furnished along with the bid. In that case, the bidder shall have to submit the valid test report at the time of acceptance of LOI. The formal work order will be issued only after receiving of valid test certificate.*
3. Adequate Protection must be provided as per the requirement of the site by taking lightening and other climatic conditions etc.

### **B. Installation and commissioning**

1. The successful bidder will transport the system to the site, install and commission it on the field of beneficiaries as given in the list.
2. Before submission of the Bid, Bidders in their own interest may visit the sites.
3. The installation process should be documented step by step in the mobile installation app “**Resolve**” developed by OREDA. The successful bidders before going for installation should collect the app from OREDA Customer Relationship Centre (CRC).
4. After completion of installation work, each unit have to be tested and commissioned in presence of the Asst. Director (AD(T)), OREDA, RE Cell, DRDA of the respective District as well as the designated representative of the District Administration/ concerned department.
5. The date & time for testing and commissioning must be decided in consultation with the AD(T) of the concerned district. On the date of such testing & commissioning the commissioning certificate has to be signed by AD(T), OREDA, designated representative of the District Administration/ concerned department and representative of selected vendor.
6. A display board (size preferably 3ft X 3ft) to be provided at the prominent place. The design and content to be provided at time of issuing work order.

### **C. Maintenance services**

1. The successful bidder is required to undertake scheduled maintenance as well as corrective maintenance for a period of 5 years (Five years) starting from the date of commissioning of the project.
2. To ensure proper maintenance of the installed systems, the bidder is required to appoint a technically qualified person to look after maintenance and upkeep of the plant/System.

Sufficient spare should also be kept with the service personnel so as to attend to any breakdown forthwith.

3. The cold room will be equipped with a remote monitoring system for monitoring its performance which will feed into the maintenance service of unit
4. The bidder must enter in to a Comprehensive Maintenance Contract for a period of 5 years as per the format given in Annexure-A.
5. The date of commencement of CMC shall be reckoned from the date of commissioning of the system.
6. Scheduled maintenance of each unit has to be taken up every quarter as per the Standard maintenance protocol given at Annexure-B. The compliance should be reported through mobile app as per the protocol given.
7. The bidder is also required to undertake on-call maintenance as and when required upon receipt of service request from OREDA-CRC.
8. The bidder must adhere to maintenance procedure by OREDA from time to time.
9. The bidder if required should agree to undertake extended maintenance services beyond 5 years on mutually agreed terms and conditions.
10. Following service request intimated by OREDA-CRC, the system must be made functional within 7 days. System downtime beyond 7 days will result in poor performance score of the vendor which might affect their chances of further bidding in the OREDA tenders or blacklisting of the firm.
11. The successful bidder should have a local office at Bhubaneswar and any other place to be intimated later so as to deliver uninterrupted and sustainable maintenance services and share its contact details with all concerned.

#### **D. Training**

1. The successful bidder shall have to organise training programme for the beneficiaries for operation and maintenance of the unit. The training shall be a mix of audio and video modules.
2. A list of DOs and DON'Ts shall be prepared and displayed at a prominent place at the site along with warning signs wherever necessary.
3. The beneficiary shall be equipped with copies of a pictorial (for easy understanding) operation manual in Odiya and English.

## **2. ELIGIBILITY CRITERIA FOR PARTICIPATING IN THE BIDDING**

- a. The bidder must be a company (registered under Indian Companies Act 1956) or a Partnership Firm (registered under Indian Partnership Act 1932) or a Sole Proprietorship Firm.
- b. The bidders must have minimum cumulative turnover of Rs 45,00,000/- over last three financial years (2016-19) exclusively in the Solar business. As proof of this, the bidder must submit the turnover certificate certified by Chartered Accountant.

- c. Net Worth of the bidder in the last Financial Year (2018-19) should be **Positive**.  
*“Net Worth” as per section 2 (57) of the Companies Act, 2013 means the aggregate value of the paid up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.*
- d. The bidder should have cumulative experience of executing contracts of supply of at least 3 nos. of Solar Cold Storage System to any Central Govt/ Any State Govt./ PSUs/ Govt Agency/ Bodies, Registered Co-operative or Society in the last 3 years from the date of issue of this tender. As proof of installation the bidder must submit the work completion certificates in the format below in favour of each work order issued.

Sl. No	Name of the Organization/ Beneficiary	Reference of Work Order/Supply Order issued	No. of Solar Cold Storage unit supplied	Date of Commissioning	Reference of Work Completion Certificate

- e. The products offered by the bidder should confirm to the technical specification given in the tender. The necessary test certificate of the solar cold storage unit issued from MNRE/NABL accredited laboratory to be submitted along with the bid. The test certificate should be in the name of the bidder.  
*In case, the test certificate is not available at the time of bidding, documentation pertaining to availing the same i.e Test Acknowledgement copy etc should be furnished along with the bid. In that case, the bidder shall have to submit the valid test report at the time of acceptance of LOI. The formal work order will be issued only after receiving of valid test certificate.*
- f. The bidder’s company/firm must not have been debarred / blacklisted by any Govt. Dept., agency, PSUs / institution / agencies / autonomous organisations. The bidder shall submit a self-certification by an authorized person duly notarized to this effect.
- g. The bidder’s company/firm must have established quality assurance systems and organization in line with the requirements under ISO 9001:2015 and ISO 14001:2015.

### **3. INSTRUCTIONS TO BIDDERS:**

#### **3.1 GENERAL INSTRUCTIONS**

- Interested bidders are advised to view the detailed tender documents on [www.oredaorissa.com](http://www.oredaorissa.com) or [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA).
- Bidders desirous of participating in the tender shall have to pay the tender costs mentioned in TENDER SCHEDULE. The tender cost is required to be paid in shape of Demand draft only, drawn in **favour of Chief Executive, OREDA payable at Bhubaneswar**. The tender cost is inclusive of GST and is not refundable.
- All participating bidders shall have to pay the non-refundable tender processing fee as mentioned in TENDER SCHEDULE to K.S.E.D.C. Ltd. Bangalore through Tender Wizard Portal on e-payment modes only such as credit/debit cards, Net banking etc.
- Earnest money as specified in bid should be deposited in shape of Demand Draft drawn in favour of the Chief Executive, OREDA payable at Bhubaneswar from any nationalized bank. Alternatively, the EMD can also be submitted in shape of Bank Guarantee from any nationalized bank in the format given at **Annexure-D** having validity of 45 days.
- The bidders shall submit copies of documents defining their respective constitutional or legal status, place of registration and principle place of business of company or firm or partnership.
- Only bidding companies are required to submit Board Resolutions in prescribed format given at **Annexure-E**.
- Bidding firms are required to submit documents related to assignment of Power of attorney to sign the agreement on behalf of bidders.
- Bidding Partnership firms are required to submit complete partnership deeds along with the bid documents.
- The bidder shall submit reports on their financial standing such as audited profit and loss statements, balance sheets, auditor's report for the past three years. All accounting statements must be duly audited and submitted along with auditor's note on accounts and accounting standards.
- The bidders shall submit information on their performance during last 3 years in format given at **Annexure-F**.

- The bidders shall have to indicate their capacity to manufacture/integrate the different solar PV systems asked for in this tender within the specified time after meeting all their other similar commitments.
- The supplied materials should strictly comply with the specifications as mentioned in the bid, otherwise the material would be liable for rejection.
- Certificate to the effect that the systems to be supplied are indigenous & not fully imported must be furnished.
- Since timely execution of works is of paramount importance, requests for extension of time shall not be ordinarily entertained.
- Notice inviting tender, bid documents, prescribed Technical bid, price bid, terms & conditions will form the part of the tender.
- Bidders may in their own interest visit the sites before submitting bids.
- All Taxes applicable at the time of supply will be admissible.
- 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, OREDA will have the right to suitably dispose off the same and forfeit the expenses towards such dispute either from the amount payable to the vendor or adjust from the performance BG.
- OREDA will not be responsible for any incidental or consequential losses of the firms during the contract period or after.
- During the warranty period, MNRE/ State Agencies/ Users reserve the right to cross check the performance of the systems with the minimum performance levels indicated in the MNRE specifications.
- Deviations in terms and conditions, Specification of material, Inspection clause etc. will not be accepted under any condition.
- The Electronic Form/Template of the Techno –Commercial bid, as available on the portal, shall be duly filled in and scanned copies of documents in support of meeting the minimum qualifying requirement of the tender shall be given as attachments
- Prices quoted must be firm and fixed. No price variation / escalation shall be allowed during project execution period.



- **Any condition in regards 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 except price.
- Canvassing in any manner shall not be entertained and will be viewed seriously leading to rejection of the bid.
- All subsequent addendum/Corrigendum to the tender shall be hoisted in OREDA's official web site [www.oredaorissa.com](http://www.oredaorissa.com) and [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) only.

### **3.2 SUBMISSION OF BIDS:**

- **THE BIDS MUST BE SUBMITTED ONLY ONLINE ON [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) PORTAL.**
- The bidder must ensure that the bids are received in the specified website as per the date and time indicated in the Tender notice.
- The bidders are advised to register their user ID, Password, company ID on website [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) by clicking on hyper link "**Register Me**".

#### **3.2.1 PROCEDURE FOR SUBMISSION OF ONLINE BIDS**

##### **A. ACQUISITION OF DIGITAL SIGNATURE CERTIFICATE**

For participating in the bid it is mandatory to procure the Digital Signatures of **Class III only**.

##### **B. REGISTRATION IN TENDER WIZARD PORTAL**

- Log in [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) Click "Register", fill in the online registration Form.
- Un-registered bidders are required to pay registration fee as applicable to M/s KSEDCL, Bangalore in tender wizard e-payment mode only.
- All bidders are required to pay the tender processing fee as applicable to M/s KSEDCL, Bangalore in tender wizard portal in **e-payment** mode only.
- As soon as the verification is done the e-tender user ID will be enabled/ provided.

##### **c. ON-LINE REQUEST FOR e-TENDER DOCUMENTS**

After viewing Tender Notification in [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) if bidder intends to participate in tender, it has to use its e-tendering User ID and Password which has been received after registration and acquisition of DSCs (Digital signature certificate) and to follow the step by step instructions given below.

- Insert the PKI (which consists of your Digital Signature Certificate) in your System.

**(Note: Make sure that necessary software of PKI has been installed in your system)**

- Click / Double Click to open the Microsoft Internet Explorer

(This icon will be located on the Desktop of the computer)

- Go to Start > Programs > Internet Explorer. Type [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) in the address bar, to access the Login Screen.
- Enter e-tender User Id and Password, click on “Go”.
- Click on “Click here to login” for selecting the Digital Signature Certificate. Select the Certificate and enter DSC Password. Re-enter the e- Procurement User Id Password.
- Click “Un Applied” to view / apply for new tenders.
- Click on Request icon for online request. After making the request, bidder has to pay the requisite tender processing fee (as indicated in tender notice) through **e-payment** facility only available in the portal. Bidders will receive the Tender Documents which can be checked and downloaded by following the below steps.
  - Click on the “Show form” icon.
  - Tender documents will appear on the screen.
  - Click “Click here to download” to download the documents.

#### **D. SUBMISSION OF SECURITIES FEE:**

- The bidders shall have to scan the **Demand Draft** towards EMD and Tender Cost and upload the same in .pdf or .jpg format.
- EMD of the unsuccessful bidders will be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30<sup>th</sup> day after the award of the contract.
- The bidding company/firm registered in Odisha having valid exemption certificate can claim the exemption from depositing the EMD and Tender Cost.
- To ensure due performance of the contract, Performance Security is to be obtained from the successful bidder awarded the contract.
- To ensure proper maintenance of the systems 10% of cost of the systems have to be submitted by select vendor as performance bank guarantees equivalent to 10% cost of the system.
- **Additional Performance Security shall be obtained from the bidder when the bid amount is less than the estimated cost of the package. In such an event the bidders who have quoted less bid price/rates than the estimated cost of the respective package shall have to prepare bank draft/bank guarantee/term deposit pledged in favour of Chief Executive, OREDA with validity of 6 months equal to the exact amount of differential cost i.e. estimated cost minus the**

quoted amount and submit the scanned copy of the same along with the online price bid as Attachment.

- **Note: Additional Performance Security in Original has to be submitted before placement of Work order along with Submission of Acceptance to LOI. Submission of Additional Performance Security in original along with Tender Cost & EMD shall lead to rejection of the bid.**
- **The bids of the Technically qualified bidders will be opened for evaluation of price bid. In case of the bidders quoting less bid price/rate than the estimated cost and have not furnished the exact amount of differential cost as Additional Performance Security, their price bid will not be taken into consideration for evaluation even if they have qualified in the technical bid evaluation.**

The details of the above securities fees are listed below:

Sl. No	Type of Securities	Amount in INR	Submission mode	Remark
1	Tender Cost	As mentioned in the schedule	Demand Draft	Non-refundable
2	Earnest Money Deposit (EMD) or Bid Security	As mentioned in the schedule	Demand Draft/ Bank Guarantee with validity 45 days from the date of bid submission	EMD to be refunded to the successful bidder on receipt of Performance Security.
3	Performance-cum-Maintenance Security:	10% of the value of the contract	5 Nos of Bank Guarantees each equivalent to 2% of the cost of the systems with validities of 1.5, 2.5, 3.5, 4.5 & 5.5 years respectively.	To be submitted by the successful bidder at time of submission of acceptance to LOI. <b>If the successful bidder will not execute and maintain the project as per the tender conditions, then all the five nos of BG will be encashed.</b>

#### **E. SUBMISSION OF TECHNO-COMMERCIAL BIDS:**

- The techno-commercial bid sheets in .xls format are to filled up and up-load without changing the file name. Submission of incomplete techno commercial bid sheets will be liable for rejection of the bid.
- Scanned copies of all related documents as per the checklist shall be uploaded in .pdf or .jpg format prior to last date and time of receipt of bids as specified in tender Notice.

## **F. SUBMISSION OF PRICE BIDS**

- The bidder should fill up price schedule in the given bid sheets in .xls format and up-load the same without changing the file name. The bid will be rejected if the schedule of price is submitted in incomplete form.

After completing all the formalities, Bidders will have to submit the tender as specified in NIT and must take care of all instructions. Prior to submission, verify whether all the required documents have been attached and uploaded to the particular tender or not.

### **Note:**

- **The bid sheets (.xls file) shall be uploaded in [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) portal, prior to online closing of the tender. By no other means (except online) price bid shall be accepted for evaluation of tender.**
- **Please note down or take a print of bid control number once it is displayed on the screen.**

## **G. SUBMISSION OF HARD COPIES**

- Along with the e-tender, bidders shall also submit hard copies of only the following documents:
  1. Demand draft or Bank Guarantee against the EMD
  2. Demand draft against the Tender Cost
  3. Tender processing fee acknowledgement
- The above documents must be submitted in OREDA office at S-57, Mancheswar Industrial Estate, Bhubaneswar 751010 on or before the stated date in the manner prescribed elsewhere in the document.
- **The bidder should not submit the hard copy of any documents other than the above documents. Filled in Price bids/Copies of the uploaded price bids must not be submitted in hard form. Submission of hard copy of such documents will liable the tender for rejection.**
- **At the time of evaluation of the bid, OREDA may ask the bidder for the hard copy of uploaded documents for any clarification if needed.**

## **4. DEAD LINE FOR SUBMISSION OF BIDS**

- Soft copy of the bid shall be uploaded through the portal [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) on or **before the last date and time specified for online submission of the bids.**  
**DD towards Tender cost, DD towards EMD and tender processing fee acknowledgement must be received by OREDA at the address specified not later than the time and date stated in the tender notification.**
- In the event of the specified date for the submission of bids being declared a holiday for OREDA, the bids will be received on the next working day as per the time indicated in tender notification.
- OREDA may, at its discretion, extend this deadline for submission of bids.

## 5. LATE BIDS

- Soft copy of the bid can't be uploaded on the portal after expiry of submission time and the bidder shall not be permitted to submit the same by any other mode. In such case, even if the bidder has submitted the specific documents in hard copy in original within the stipulated deadline, its bid shall be considered as late bid. The hard copy submitted [specific documents (viz., EMD, tender cost.)] shall be returned unopened to the bidder.
- Hard copy of the EMD in shape of DD if received by OREDA after the last date for submission of the hardcopy bid the same will be considered as late bid even if the bidder has uploaded the soft copy of the bid within the stipulated deadline.
- In such a case, the soft part of the bid uploaded on the portal shall be sent unopened to "Archive" and shall not be considered at all any further.

## 6. MODIFICATION AND WITHDRAWAL OF BIDS

- Bidder may modify or withdraw their bids through the relevant provisions on the portal [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) **up to the due date and time of submission of bid indicated in tender notification**
- The Bidders may modify and resubmit their bids as per the provisions given in the portal.
- Bidders may withdraw their bids through the relevant provisions as mentioned in the portal.

## 7. PROCEDURE FOR OPENING THE BIDS:

- The Technical bid shall be opened at the time & date mentioned in the NIT by OREDA in the presence of bidders, who choose to be present. If necessary, the firms may be called for Technical Presentation the schedule for which will be intimated by OREDA.
- The Price bid shall be opened after evaluation of technical suitability of the offers. The date for opening of Price bid shall be communicated subsequently. The Price Bid of only those bidders shall be opened who qualify in the technical bid.
- 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.
- Tender Opening event can be viewed online.
- The bid sheets of participants can be viewed by other participants.

## 8. SELECTION OF VENDORS:

- Following opening of the price bids of technically qualified vendors the same will be evaluated by the designated purchase committee and the qualified vendors will be arranged in order of their quoted price for the complete work as L1, L2, L3..... Ln.

## 9. ALLOCATION OF WORK:

- The entire work will be divided among the first 2 vendors in order of their quoted prices i.e L1, L2 subject to the agreement of L2 to execute the work at L1 price. In

case L2 do not agree to the L1 price and those in the upper ladders such as L3, L4, L5 .... etc agree to the L1 price, they will be enlisted within L1 in the order of their originally quoted price and will be shortlisted for executing the work.

- **All supply / installation orders shall be placed with the state local registered office of the qualified vendors only.**
- The allotment of the area will be the discretion of OREDA.

**DEPENDING UPON THE PERFORMANCE OF THE VENDORS, CHIEF EXECUTIVE, OREDA WILL BE AT LIBERTY TO CANCEL/MODIFY/REVISE THE WORK ORDERS OF ANY OF THE SELECTED VENDORS.**

### **ISSUE OF LETTER OF INTENTS (LOI)**

- Allocation of work will be done through specific work orders issued in the name of the select bidders.
- Prior to issue of work orders a Letter of Intent will be issued to the selected bidders detailing out the quantity and scope of the works, locations of works, Bank Guarantees and documents to be submitted before issue of work orders, other deliverables, etc.
- Upon receiving the same the bidder is required to visit the project sites along with AD(T)/Technician of the concerned districts, discuss details of the project with the concerned customers, finalize the exact sites of installation, convenient dates of installation etc. as well as all logistics details. Following this the bidder has to submit a letter of acceptance of the Lol along with the required bank guarantees, work execution schedule etc. and after of the same by Chief Executive, OREDA formal work orders will be issued.

### **10. ACCEPTANCE/REJECTION:**

OREDA reserves the right to accept / reject any or all Tenders without assigning any reason thereof and alter the quantity of materials mentioned in the Tender documents at the time of placing purchase orders. Tender will be summarily rejected if:

- i) EMD is not deposited either in shape of Bank Draft in favor of OREDA payable at Bhubaneswar or in Bank Guarantee (BG).

**Note: EMD against previous Tenders, if any, will not be adjusted towards EMD against this Tender.**

- ii) Submission of incomplete technical and /or financial bid sheets.
- iii) Non submission of any of the documents (both soft and hard) as asked for in the tender document.
- iv) Submission of Late bids.

### **11. VALIDITY OF OFFER:**

- The offer must be kept valid for a period of one year from the date of opening of the technical bid or till the completion of the project whichever is later. No

escalation clause except the admissible tax component under the period of consideration would be accepted.

## **12. WARRANTY:**

- The complete system should be warranted against any manufacturing defect or bad workmanship at least for a period of 5 (five) years from the date of commissioning of the systems.
- All component must be warranted against any manufacturing defect of bad workmanship for a period of 5 years.
- 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 OREDA.
- The warranty provided by the bidder for a particular product shall only be applicable to the tendered project even if the warranty period exceeds the period of CMC.
- As a testimony, the successful bidder must submit the warranty certificate and service agreement if any with the OEM for the tendered work.

## **13. PENALTY AND TERMINATION OF CONTRACT:**

- The systems shall be supplied, installed and commissioned within the scheduled time. If the bidder 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 the contract price of un-commissioned project or unperformed services for each week of delay until actual delivery or installation/commissioning up to a maximum deduction of 5% of the contract price for delayed goods or installation and commissioning. Once the maximum is reached (i.e 5 weeks of delay) OREDA may consider termination of the contract and forfeit the security deposit without prejudice to the other remedies of the contract.
- However, Chief Executive, OREDA may at own discretion allow reasonable time extension upon written application of the supplying firm. If the delay is considered intentional or due to the negligence of the vendor, no 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.

## **14. FORCE MAJEURE:**

The supplier of the 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 nature, acts of public enemy, acts of Government, fires, floods, epidemics, strikes, freights, embargoes and unusually severe weather.

## **15. INSPECTION:**

- All tests and inspections shall be made at the place of delivery. Officers authorized by OREDA 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.
- OREDA shall have the right to have the tests carried out at its own cost by an independent agency at any point of time.

## **16. PAYMENT:**

- **90 %** of the cost of system and installation charge along with all applicable tax shall be released upon commissioning of the systems at the location specified in the purchase order upon due verification by authorised officers and submission of following documents
  - **Performance report signed by the Assistant Director, OREDA**
  - **Joint Commissioning Certificate**
  - **Warranty certificate**
  - **GPS based photograph of the installed system with beneficiary**
  - **Web enabled generation report**
  - **I-V Curves of Solar modules**
  - **Operation manual**
  - **Dos & Don'ts in the form of a booklet**
  - **Proof of conducting training programme**
  - **Details of the Farmers/Beneficiary to use the installed unit**
- Balance **10%** cost of the supplied materials, Installation & Commissioning charges will be released after 3 months successful performance following submission of the following report
  1. **Submission of monthly report citing commodity produced by individual farmers of the co-operative, types of commodities and contribution of individual farmer, revenue form the rentals, beneficiary wise quantum of savings made.**

After completion of the testing period of 3 months, the successful bidder has to submit the monthly report to OREDA as listed in the above para.

## **17. 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. The general schedule of execution will be as follows



- Under normal circumstances all ordered systems must be installed and commissioned in all respects within 60 days of receipt of firm work order from OREDA.
- Under exceptional circumstances Chief Executive, OREDA may consider to extend the execution period by a maximum of 60 days upon written application of the vendor stating justified reasons for delay which should be supported by the concerned customer and recommended by the concerned AD(T) of OREDA.
- Upon intimation about commissioning of the systems by the executing firm a joint inspection will be carried out by the representatives of the executing firm, OREDA and User organization.
- The issuance of a JCC shall, in no way relieve the executing firm of its responsibility for satisfactory operation of the power plant/System.
- **Installation App:** It is mandatory to report the details of materials and the progress of execution in the mobile app developed for the purpose.
- To ensure due performance of the contract, Performance Security is to be obtained from the successful bidder awarded the contract.
- Bid security should be refunded to the successful bidder on receipt of Performance Security.

## **18. COMPREHENSIVE MAINTENANCE CONTRACT (CMC):**

Upon selection, the bidder must enter into a Comprehensive Maintenance Contract with OREDA for a period of 5 years from the date of commissioning of each project in the format given. Willingness to execute such CMC will have to be submitted along with the tender.

The broad scope of CMC shall cover

- i. All systems will be mandatorily maintained for a period of 5 years from the date of commissioning.
- ii. It is mandatory to undertake scheduled maintenance every three months and report details on the mobile App developed for the same.
- iii. It is mandatory to undertake all on-call maintenance within 7 days from the date of receipt of the call and report details on the mobile App developed for the same.
- iv. The period of maintenance will be extended by the No. of days of delay in attending to on-call maintenance and making the system functional.
- v. The delay is calculated from the day a ticket is raised against a vendor to the day the ticket is closed.

Performance-cum-Maintenance Security:

- To ensure proper maintenance of the systems 10% value of the contract to be submitted by the selected vendor as 5 Nos of Bank Guarantees each equivalent to 2% of the cost of the systems with validities of 1.5, 2.5, 3.5, 4.5 & 5.5 years respectively.
- It is to be submitted by the successful bidder at time of submission of acceptance to LOI.

- **If the successful bidder will not execute and maintain the project as per the tender conditions, then all the five nos of BG will be encashed.**
- Annual Maintenance Charges (AMC) will be paid annually upon successful maintenance of the systems and submission all necessary reports thereon.

**Note:**

**Execution of CMC and submission of Performance Bank Guarantees are pre conditions for release of 1<sup>st</sup> payment of 90%.**

**19. 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.

**20. 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 Odisha 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**

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**

**For any assistant, Contact:**

**E-Tendering help desk number: 080- 40482000/121/133/140(Bangalore)**

**OREDA Help Desk- 09776823641/07008521627**

## Check list of documents to be uploaded on e-tender portal

Sl. No	Particulars	Name of the file uploaded on e-tender portal
1	Cost of Tender document (Copy of Bank Draft to be uploaded & enclosed ).	
2	Acknowledgement for tender processing fee.	
3	Cost of EMD in shape of Bank Draft/ Bank Guarantee (Copy of DD/BG to be uploaded & enclosed)	
4	Forwarding letter duly signed and stamped by the bidder	
5	Undertaking duly signed and stamped by the bidder.	
6	Certificate of Unconditional Acceptance of all terms and conditions of the tender	
7	Confirmation to Technical Specification	
8	Copy of Board Resolution in the prescribed format (Applicable to Companies only)	
9	Declaration duly signed and stamped by bidder	
10	Letter of Authorization	
11	Undertaking to supply Indigenous items as per relevant guidelines of MNRE, GoI	
12	Willingness to open service centre in the state of Odisha and local registered office for execution of the works	
13	Power of attorney to sign the agreement on behalf of applicant & partnership deed articles, if any	
14	Valid document registering the status of the applicant as manufacturer /systems integrator	
15	Organizational Profile containing the original documents defining the constitution or legal status, place of registration / branches, work experience in last 3 years.	
16	Copy of GST registration certificate in the name of bidder	
17	Copy of the PAN card in the name of bidder	
18	Copy of the TIN No. in the name of bidder	
19	Copy of Tax return of the bidding company/firm	
20	Turnover certificate over last three years (2016-19) exclusively in the business of solar duly certified by Chartered Accountant.	
21	Audited Balance Sheet in exclusively solar business for 2016-17 to 2018-19	
22	Proof of cumulative number & capacity for supply of Solar Cold Storage with Work Completion Report as given format	
23	Proof of Quality assurance systems ISO 9001:2015 and ISO 14001:2015 certification	
24	Performance Report of last 3 years as given format	
25	Complete Bill of Material (BOM) of the solar cold storage unit with detailed technical specification	

**Signature of bidder with seal**

## TECHNICAL SPECIFICATION FOR SOLAR POWERED COLD STORAGE WITH THERMAL STORAGE SYSTEM FOR COLD STORAGE CAPACITY OF 5 MT

### INTRODUCTION

The cold storage unit runs on power generated from Solar Photovoltaic. During sunshine hours the electricity generated from solar photovoltaic is used to provide cooling to cold storage unit as well as charging in the Thermal Storage System. The thermal storage solution is configured in a manner that solar energy generated from solar photovoltaic panels is converted into cold form through a vapour compression cycle. This cold energy is stored in phase change material such as water or water salt eutectic mixture and transferred to the cold storage unit depending on the usage needs. During non-solar hours, the cooling needs of cold storage unit are met through the stored cooling in the thermal energy storage.

### COMPONENTS

A Solar Powered Cold Storage with Thermal Storage System of 5 MT capacity consists of following components:

#### 1. Cold Storage

The cold storage shall be configured in mild steel body of minimum 2.5 mm thickness. One option would be ISO Marine grade container. The use of all welded mild steel body will allow longer life in outdoor environment and no seepage of water inside the cold storage. The sealing of external body is not permitted through Silicone sealant. Door seals are permitted with rubber gaskets. Appropriate concrete foundation is to be provided as a base for the cold storage system. The entire cold storage system needs to be grouted in concrete foundation through appropriate fasteners.

Items	Specifications
External Body	Pre-painted Steel Body with minimum of 2.5 mm thickness
External dimensions (L x W x H)	Indicative dimensions of 20' x 8' x 8'
Internal Volume of Cold Storage	Minimum 750 CFT
Temperature range	4 – 10 °C (Setpoint control available to user)
Internal Walls & Ceiling	Minimum 100 mm Polyurethane Foam with density of 40+/-2 kg/m <sup>3</sup> and 0.5mm PPGI sheet on the inner side

Flooring	Minimum 80 mm Polyurethane Foam with density of 40+/-2 kg/m <sup>3</sup> + 1mm Anti-skid aluminium plate
Door type	Minimum Opening of 6 feet Height x 2.5 feet Width.  100 mm Polyurethane Foam with density of 40+/-2 kg/m <sup>3</sup> , and 0.5mm PPGI sheets on both sides
Door curtain	PVC curtain before the door

## 2. PV Array

The indicative solar photovoltaics system capacity shall be minimum 5 kWp. The solar photovoltaic array shall have following specifications:

- a) Crystalline silicon cell PV modules of 200Wp or higher capacity.
- b) The PV module have IEC 61215 qualification certification for solar PV modules.
- c) The PV module conforms to IEC 61730 Part-1 requirements for construction & Part-2 requirements for testing for safety qualification.
- d) The PV modules qualifies relevant IEC standard.
- e) The PV modules used in solar power plants/ systems are warranted for their output peak watt capacity, which is not less than 90% at the end of 10 years and 80% at the end of 25 years.

## 3. Mounting Structures

The PV modules are mounted on metallic structures of adequate strength and appropriate design, which can withstand load of modules and high wind velocities up to 200 km per hour. The support structure used is hot dip galvanized iron with minimum 80-micron thickness. The PV system can be installed upon the mounting structure at tilt angle as per latitude or as per the requirement of the system. The PV system shall be mounted over the cold storage body to reduce direct solar radiation over cold storage and to maximise space utilisation. The mounting structure design should be approved and duly certified by a chartered engineer certifying its wind sustainability capacity. The certificate should be submitted at time of submission of acceptance to the LOI.

## 4. Refrigeration Unit

Refrigeration system consisting of condensing unit and evaporating unit working on HFC refrigerants with zero Ozone Depletion potential. The refrigeration system shall generate minimum of 150 MJ of cooling capacity in a day with 5.5 kWh/m<sup>2</sup>-day of global tilted solar irradiance and ambient temperature of 40<sup>o</sup> C. The generated cooling capacity will be utilized for charging the thermal energy storage system through charging loop.

Refrigeration Rated Capacity	Minimum 1.8 TR @ -5 C evaporating, 50 C condensing, 0 C subcooling and 20 C suction gas temperatures
Temperature Range	4 to 10 °C by using user set point control as per requirement
Cooling System Type	Air Cooled Vapor Compression System with Variable Speed Compressor
Refrigerant	R134a / R404a / similar
Evaporator Unit	Air cooled aluminium fin and copper tube type heat exchanger with refrigerant based cooling. There should be minimum 2 x 300mm fans of minimum 1000 CFM air flow each

Once the desired temperature is achieved inside cold room, temperature variation within the air of cold room should not be more than +/- 1 °C at any location inside the cold storage. Datasheet of the compressor from the manufacturer is required to ascertain its rated capacity.

The following details should be marked indelibly on the compressor

- a) Name of the Manufacturer or Distinctive Logo.
- b) Model Number
- c) Serial Number
- d) Rated Capacity

## 5. Solar Controller for Powering Condensing Unit

The solar photovoltaic system shall run the compressor and fan of the condensing unit using variable frequency drive. Manual changeover system is required to switch the power source between solar photovoltaic and 3-phase grid electricity.

## 6. Thermal Storage System

There should be a provision to store cooling in a thermal storage system to provide cooling during the off-sunshine period and store excess solar energy in case it is not utilized. The charging and discharging of the thermal storage shall occur simultaneously. Energy storage medium should be phase change material (PCM) such as water or water salt eutectic mixture. The purpose of using phase change material is that it has longer life than electrical batteries to store energy.

In case of the use of water salt eutectic mixture, the useful life of phase change material shall be minimum 10 years to minimize long term expenditure associated with PCM replacement, and it

should be non-toxic for usage with food commodities. The supplier shall provide Material safety data sheet and life cycle test report from the original equipment manufacturer of water salt eutectic mixture.

When cold storage is not operational, thermal storage shall not be providing any cooling to the cold storage. The purpose is it to avoid energy wastage of already harvest solar energy. The energy storage capacity shall be minimum 150 MJ. It shall be estimated based on latent heat of the phase change material and overall quantity of phase change material. The need of high energy storage capacity is due to avoid wastage of solar energy on days when cold storage is not utilized for its full load capacity. The excess solar energy will be stored in thermal storage, which will be utilized to provide higher pull down (precooling) capacity or increased autonomy for cloudy/rainy days.

The energy storage capacity of thermal storage should be monitored and displayed with a minimum four linear graduations from minimum to maximum storage capacity. It will allow the user to pre-plan the cold storage operations and avoid spoilage of agriculture commodities.

Thermal Storage Medium	Water or Water Salt Eutectic Salt Mixture
Cooling Storage Capacity	Minimum 150 MJ enough to precool 1200 kg of agriculture commodities from 30 to 4 °C primarily on thermal storage system assuming door is opened for maximum 8 times in 24 hours with each opening cycle is less than 30 seconds. Potatoes is assumed for testing and qualification purposes.
Thermal Storage Capacity Indication	Linear with minimum 4 graduations between maximum and minimum thermal cooling capacity
Self-leakage from thermal storage to ambient	Maximum 300 Watt at the ambient temperature of 40 C

## 7. Solar System and Electric Battery System for Auxiliary Components

This solar photovoltaic system consists of inverter, electric batteries and MPPT (Maximum Power Point Tracking) charge controller are meant to provide electricity for auxiliary electrical loads such as fans of evaporator unit, lighting, data monitoring system and thermal storage. It should be enough to operate the entire system for minimum 24 hours with no door opening and temperature achieved to steady state prior for conducting such a testing.

Battery Type	Lead Acid Type
--------------	----------------

Electrical load on Electric Batteries	Auxiliary components such as cooling pump, evaporator fan, lighting, controller etc but not condensing unit
Capacity	Minimum of 2400 Vah

### 8. Temperature set controller

Temperature controller in the range 4-10 °C by using set point control as per requirement with minimum 1 °C of setpoint differential. The controller should be enable with various options like: Digital Human Interface with LCD display and LED indicator, App based crop selection via Bluetooth or Internet, Crop compatibility check and optimum set point control for multi crop storage etc.

### 9. Remote Monitoring system

Remote Monitoring system with data logging at minimum interval of 5 minutes, GPRS based, viewable on internet, indicating cold storage temperature, ambient temperature, thermal storage capacity, compressor speed, electric battery voltage levels and electricity generated by solar, Cold Room Humidity, Ambient Humidity, Door Status, Compressor Protection Fault Indication, GPS Location, Grid Phase loss detection, Grid Under Voltage detection, Notification for Solar Panel Cleaning, Refrigerant leak detection etc. The system will be able to send notification to the user whenever the system needs to be change over to grid assumed that thermal storage has depleted below 25% of its total storage capacity.

### WARRANTY

The PV Modules are warranted for output wattage, with not less than 90% at the end of 10 years and 80% at the end of 25 years. The entire system is warranted for 5 years. Required spares for trouble free operation during the warrantee period shall be provided along with the system.

### OPERATION AND MAINTENANCE MANUAL

An Operation and Maintenance Manual should be provided with the solar cold storage system. The manual should have information about solar energy, photovoltaic, modules, refrigeration system, solar controller, inverter, thermal storage system, mounting structures, electronics and monitoring system. It should also have clear instructions about mounting of PV module, DO's and DONT's and on regular maintenance and troubleshooting of the system. Name and address of the person or centre to be contacted in case of failure or complaint should also be provided. A warranty card for the modules and other component should also be provided.



# Annexures

## Annexure-A

### SAMPLE FORMAT FOR C.M.C

Comprehensive Maintenance Contract (CMC) for maintenance of Solar Cold Storage supplied and installed 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 - 751010, herein after called as 1<sup>st</sup> party and M/s ..... herein after called as 2<sup>nd</sup> party, for maintenance of ..... Solar Cold Storage at ..... for a period of five years with effect from ..... AD, supplied, installed and commissioned vide Letter No: ..... Date: .....

The 2<sup>nd</sup> party will maintain ..... Tonne Solar Cold Storage at ..... as per the terms and conditions mentioned here under.

1. It has been envisaged in the Letter No: ..... Date: ..... under clause No ..... that this \_\_\_\_\_ No of .... Tonne Solar Cold Storage shall be warranted against any manufacturing defect and bad workmanship at least for a period of 5 years for the system 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) at DRDA, as such are covered under warranty period up to ..... Hence, the 2<sup>nd</sup> party is fully responsible for their trouble free maintenance and the 2<sup>nd</sup> party is liable to rectify / remove any defect noticed within the aforesaid period free of cost.
2. The 2<sup>nd</sup> party will impart training to 2 designated persons from the village be able to provide first aid repair service for the systems.
3. Five numbers of bank guarantees (BG) each of value equal to 2 % of Total Project Cost shall be kept as fees towards Performance guarantee with the Chief Executive, OREDA having validity of \_\_\_\_\_ respectively from the date of commissioning of the systems which remains valid up to ....., ....., ....., ..... and ..... respectively for each year, the PGF shall be returned to the 2<sup>nd</sup> party thereafter only.
4. The CMC includes repair/ replacement of all spares and consumable & PV module during the maintenance period.
5. The 2<sup>nd</sup> party will setup a state level office in Odisha duly headed by a Service Engineer.
6. The 2<sup>nd</sup> party shall undertake corrective maintenance upon registration of complaint by consumer at CRC-OREDA. After attending to the defect 2<sup>nd</sup> party has to upload the required documents at RE-solve M-App for successful closure of the complaint. The 2<sup>nd</sup>

party shall ensure rectification of defects and restore functionality within seven days of lodging the complaints.

7. The 2<sup>nd</sup> party shall undertake scheduled maintenance work as per the prescribed format attached herewith (Annexure-B) and upload the required details and documents in the M-app strictly according to the given schedule.
8. The 2<sup>nd</sup> party shall apprise the 1<sup>st</sup> party about the requirements and supply of spares during warranty as well as CMC period.
9. Annual Report from CRC-OREDA shall be considered as token of verification of maintenance done and release of Payment of Annual Maintenance Cost.
10. 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.
11. The 2<sup>nd</sup> party may continue to maintain the gadgets after expiry of the maintenance period of 5 years, provided the beneficiaries/ 1<sup>st</sup> party desires.
12. 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.
13. 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 ..... and shall come into force from the date of its signature(s).

For and on behalf of Odisha Renewable Energy Development Agency,  
Bhubaneswar

( 1stParty) .....

For and on behalf of M/s .....

( 2<sup>nd</sup> party) .....with Seal

**Periodic Maintenance Protocol for Solar Cold Storage Unit**

<b>Task</b>	<b>Quarterly</b>	<b>Semi-annual</b>
Inspect each PV modules for damage		
Observe PV array shading and take corrective measures		
Clean array with water and remove debris around array		
Inspect array mounting structure, check for loose fasteners, corrosion, broken/ damaged concrete footings etc. and take corrective measures, if necessary.		
Check array junction box, all wires and cables and take corrective measures if necessary.		
Adjust tilt angle , if necessary		
Check array current & voltage. If required each module current, voltage & bypass diode condition.		
Check for any loose contacts in the string connection(+ve/-ve MC4 connectors)		
Check the Refrigeration unit		
Check Solar Controller for Powering Condensing Unit		
Check Thermal Storage capacity as per the rating, any alert indication.		
Check temperature set controller		
Check for continuity of lightening arrestor		
Check system earthing		
Check all SPDs		
Check all bypass/ blocking diodes and take corrective measures if necessary.		
Check Battery capacity		

**Component wise Test Reports**

<b>S/N</b>	<b>Major Component</b>	<b>Test Certificates Required</b>	<b>Test description</b>	<b>Designated Test Labs</b>
1	Crystalline Silicon Terrestrial PV Modules	IEC 61215	Design qualification	UL India( up to 400 Wp), TUV Rheinland( up to 400 Wp) , NISE(up to 100 Wp), ETDC
		IEC 61730	Safety Qualification	UL India( up to 400 Wp), TUV Rheinland( up to 400 Wp)
		IEC 61701	Salt Mist Corrosion Test	UL India( up to 400 Wp), TUV Rheinland(upto 350 Wp), ETDC ( up to 100 Wp)

**Model Bank Guarantee Format for Performance Security**

**Annexure-II of Finance Department Office Memorandum 4939 dtd 13.2.12, Govt of Odisha**

*[Ref Para 22(i1)]*

To

WHEREAS----- (name and address of the supplier) (hereinafter called "the supplier") has undertaken. in pursuance of contract no----- dated----- to supply ----- (description of goods and services) (herein after called "the contract")' AND WHEREAS it has been -stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein, as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee; NOW THEREFORE we hereby affirm that we, are guarantors and responsible to you on behalf of the supplier. Up to a total of ----- .(Amount of the guarantee in words and figures).and we undertake to pay you. Upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid. Without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your- demanding the said debt from the supplier before Presenting us with the demand.

We further agree that no change or addition to or other 'modification of the terms of the contract to be performed there under or of any of the contract documents --which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the day of-----20----- Our branch at \* (Name & Address of the \_\_\_\_ \* branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our----- \* branch a written claim or demand and received by us at our \_\_\_\_ \* branch on or before Dt. -----otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

(Signature of the authorized officer of the Bank)  
Name and designation of the officer  
Seal.name& address of the Bank and address of the Branch

**BOARD RESOLUTION**

**(To be submitted on pre-printed Corporate Letter Head)**

CERTIFIED TRUE COPY OF THE RESOLUTION PASSED IN THE MEETING OF THE BOARD OF DIRECTORS OF M/S.....

HAVING ITS REGISTERED OFFICE AT..... HELD ON DD/MM/YY AT.... HRS

Resolved that the company/firm do agree to participate in the tender invited by OREDA vide Notice No ..... Dtd..... for

\_\_\_\_\_.

RESOLVED FURTHER THAT, the company/firm does agree to unconditionally accept all terms and conditions mentioned in the aforementioned tender document.

RESOLVED FURTHER THAT, subject to eligibility, the company/firm agree to open an effective service center in the state of Odisha, preferably in the vicinity of projects so as to cater regular maintenance services to the customers of the company/firm.

RESOLVED FURTHER THAT, Ms/Mr ..... Director and/or Ms/Mr..... authorized signatory of the company be and hereby authorized to sign, execute and submit such applications, undertakings, agreements and other requisite documents writings and deeds as may be deemed necessary or expedient to implement the above assignment

AND RESOLVED FURTHER THAT, the common seal of the company is affixed, wherever necessary, in the presence of any Director of the company who shall sign the same as token of the presence.

For .....

Chairman/Company Secretary

Name of the Authorized person

Specimen Signature of Authorized person

**The above signature to be attested by the person signing the resolution**

**Format of Performance for last 3 years  
(To be submitted on letter head of company)**

<b>Sl. No</b>	<b>Particulars</b>	<b>Details to be filled up</b>
1	Name of the bidder and contact details	
2	Status of bidder (Manufacturer/System integrator)	<i>In support of this the bidder may submit valid certificate from MNRE/Other state agency/Rating agency</i>
3	Production/Integrating capacity per annum	<i>In support of this the bidder may submit valid Production/integrating certificate from NSIC/DIC/</i>
4	Total amount of solar cold storage unit installed in last 3 years.	<i>Please submit year wise installed data along with proofs thereof such as work completion reports by the concerned customer.</i>
5	Annual Turnover over last 3 years (2016-19)	
6	No. of employee currently working	
7	Awards/Honours received during 3 year	

Date:.....

(Signature).....

Place:.....

(Printed Name).....

(Designation).....

(Common Seal).....

**UNDERTAKING BY THE BIDDER**

I/we here by undertake that

1. We have thoroughly read and examined the notice inviting tender and the tender document along with all its schedules, annexure etc.
2. The rates quoted by us are firm and final and are meant for execution of the allotted supply / installation within the time frame stipulated in the tender/supply / installation order.
3. All terms and conditions of the tender including the rates quoted by us shall remain valid for a period of min one year from the date of opening of the technical bids.
4. In case our tender is incomplete in any respect or we violate any of the prescriptions given in the tender for submission of the same OREDA shall , without prejudice to any other right or remedy , be at liberty to forfeit the earnest money deposited by us.
5. In case of award of supply / installation in our favour OREDA shall have the right to convert the EMD deposited by us in to full or part (as the case may be) of the security deposit to be deposited by us against award of the supply / installation.
6. In case we fail to commence or complete the supply / installation as per the time schedules or fail to fulfill any of the terms and conditions given in the tender OREDA shall , without prejudice to any other right or remedy , be at liberty to forfeit the security deposit made by us against the award of the supply / installation.
7. I/We hereby declare that I/We shall treat the tender documents, specifications and other records connected with the supply / installation as secret/confidential and shall not communicate information derived there-from to any person other than a person to whom I/We have authorized to communicate the same or use the information in any manner prejudiced to the safety of OREDA/the State Govt.
8. I/We shall abide by all the laws prevailing at the time of the execution of the supply / installation and shall be responsible for making payments of all the taxes, duties, levies and other Govt. dues etc. to the appropriate Govt. departments.
9. The entire tender document has been discussed in the Board meeting and a resolution has been concurred for participation in the tender (copy enclosed)
10. We are not blacklisted / debarred / defaulted in any manner by any Central / State Government / Public Sector Undertaking in India.
11. In case any false documents submitted and found any time in future the firms shall be liable to be proceeded against as per prevailing laws.
12. Our state commercial tax / TIN registration no. is \_\_\_\_\_ and CST registration No. \_\_\_\_\_  
The PAN No. under the Income Tax Act is \_\_\_\_\_ and  
GST Registration No. is \_\_\_\_\_
13. I/We shall be responsible for the payment of the respective taxes to the appropriate authorities and should I/we fail to do so, I/we hereby authorize OREDA to recover the taxes due from us and deposit the same with the appropriate authorities on their demand.

**Signature of bidder with stamp & date**



**Letter of Authorization**

**(to be submitted in the letter head of the bidder)**

To,  
Chief Executive  
Odisha Renewable Energy Development Agency  
S-59, MIE, Bhubaneswar-751010  
Odisha

Sub: Design, Supply, Testing, Installation, Commissioning and Maintenance for a period of 5 years of Solar Cold Storage Unit

Ref: Tender Call **Notice No.** -----/ **OREDA, dtd** -----.

Sir,

I/we hereby authorise Ms. /Mr. \_\_\_\_\_, Designation .....of our company to sign all relevant documents on behalf of the company/firm in dealing with the above tender. She / He is also authorized to attend all meetings and submit technical and commercial information as may be required by OREDA in the course of processing of the tender.

We further authorise Ms. /Mr. \_\_\_\_\_ designation..... of our company to make technical presentation on behalf of the company.

Signature of the authorise persons

1. \_\_\_\_\_ **Yours faithfully**

**Head of the organization**

Name and designation of the attesting officer with stamp.

**DECLARATION**

**(To be submitted on the letter head of the company)**

To,

The Chief Executive,  
Odisha Renewable Energy Development Agency,  
S-59, MIE, Bhubaneswar 751 010,  
Odisha.

Sub:- Design, Supply, Testing, Installation, Commissioning and Maintenance for a period of 5 years of Solar Cold Storage Unit

Ref:- Tender call Notice No.        /OREDA, dt.

Sir,

I/we hereby declare the following in the context of the aforementioned tender that:

- a) The entire tender document has been discussed in the Board meeting and a resolution has been passed for participation in the tender (copy enclosed)
- b) We are not involved in any litigation that may have an impact of affecting or compromising the delivery of services as required under this tender
- c) We are not blacklisted / defaulted in any manner by any Central / State Government / Public Sector Undertaking in India.
- d) In case any false documents submitted and found in future the firms shall be liable to be proceeded against as per prevailing laws.

Yours faithfully,

Authorised signatory

(Stamp).

**Certificate of Unconditional Acceptance of the tender**

**(to be submitted on the letter head of the company**

**by Board Resolution)**

We \_\_\_\_\_  
a prospective bidders for the work of “Design, Supply, Testing, Installation, Commissioning and Maintenance for a period of 5 years of Solar Cold Storage Unit” here by certify that we have carefully studied and understood the contents of the entire bid document hoisted on the website of OREDA as well as tenderwizard.com/OREDA on \_\_\_\_\_ and hereby confirm our unconditional acceptance to each and every line of the said bid document.

Date:.....

(Signature).....

Place:.....

(Printed Name).....

(Designation).....

(Common Seal).....

**Confirmation to Technical Specifications**

**(to be submitted on the letter head of the company)**

Certified that we have carefully read and understood the technical specifications of the products and services to be provided under this tender and we hereby confirm our total adherence to the given technical specifications. The test certificates provided by us also base on the same technical specifications/ parameters.

Date:.....

(Signature).....

Place:.....

(Printed Name).....

(Designation).....

(Common Seal).....

**Forwarding Letter**

**(To be submitted in the letter head of the applicant)**

To,

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
S.59. MIE, Bhubaneswar -751010  
Odisha.

Sub:- Design, Supply, Testing, Installation, Commissioning and Maintenance for a period of 5 years of Solar Cold Storage Unit

Sir,

Having studied the bid document carefully I/we, the undersigned, offer to submit our bid for Design, Supply, Installation, Commissioning and Maintenance for a period of 5 years of Grid connected Rooftop Solar Projects at various Government Buildings

I/We have also read the various provisions therein and confirm that the same are acceptable to us. We further declare that any additional conditions, variations, deviations, if any, shall not be given effect to. We further understand that **any deficiency / illegibility in documents shall make our application liable for rejection.**

I/we submit our application understanding fully well that

- (a) The documents submitted along with our application are subject to verification by appropriate authorities.
- (b) OREDA reserves the right to accept or reject any application without assigning any reasons thereof and shall not be held liable for any such action.
- (c) Any genuine changes made by OREDA in the interest of the work with respect to the technical requirement during the course of project implementation will be acceptable.
- (d) All acts, rules, regulations, norms and conditions of Govt of India and Govt of Odisha shall be applicable during the period of execution of project.

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

We hereby declare that our application has been submitted in good faith and the information contained is true and correct to the best of our knowledge and belief.

**Yours faithfully,**

**Signature of bidder with seal**

# **General Guidelines for Installation and Maintenance of RE Systems under OREDA**

## **Disclaimer**

These guidelines meant for internal use of OREDA only.

These guidelines are prescribed for installation and maintenance of RE systems installed by/under OREDA only.

OREDA does neither recommend nor insist other organizations to follow these guidelines for installation or maintenance of RE systems installed by either by themselves or through any other organization other than OREDA.

The Odisha Renewable Energy Development Agency (OREDA) reserves the right to modify, amend or supplement these guidelines whenever such necessity arises.

Though adequate care has been taken for preparation of these guidelines the installation and maintenance details prescribed in this document are not the only and absolute prescriptions. Depending upon the on-site conditions, the installation/maintenance technician shall take his/her own well judged decision while installing or maintaining a given RE system.

Though safety features have not been covered under these guidelines, Indian standard safety guidelines for construction work and electrical works must be followed by all involved in with installation and maintenance of RE systems under these guidelines.

## **Declaration**

These guidelines will hereinafter be known as “General Guidelines for Installation and Maintenance of RE Systems under OREDA”

These guidelines shall be applicable to all distributed RE systems installed under the aegis of OREDA.

These guidelines shall be strictly followed by all vendors of OREDA.

These guidelines will also be strictly adhered to by all technicians and supervisory level officers of OREDA.

These guidelines will also constitute an integral part of all tenders of OREDA

The scoring system prescribed in these guidelines shall be applicable to all vendors of OREDA executing projects on behalf of OREDA.

## Intent behind framing these guidelines

These guidelines have been framed solely with the intention of improving the installation standards of RE systems and to extend quality and timely maintenance services so as to minimize system downtime and guarantee customers' satisfaction.

## Context

Last few years have witnessed tremendous rise in the number of RE installation particularly in remote, un-served and underserved parts of the state. In view of absolute need of these installations to meet the basic requirements such as lighting, supply of drinking water, irrigating farm lands etc. it is imperative on the part of OREDA to ensure proper performance of the systems which largely depends on the quality of materials, standards of installation and the certainty and frequency of maintenance.

Ministry of New and Renewable Energy, GOI normally determines the quality and standards of the materials which are elaborately reiterated in the respective tenders documents.

Project specific installation procedures are often elaborated in the respective tender documents which the vendors are expected to follow meticulously. However, it has been observed that the vendors often do not adhere to these procedures which results in poor performance of the systems. To enable the vendors to follow the procedures meticulously a specific installation App has been developed by OREDA which will be shared with the vendors on their registered mobiles meant to be used by their designated Technicians. The App has been made in such a way that as a technician proceeds for installation of a certain system/device it opens up the step by step installation procedure for the given system/device which the technicians simply has to follow and upload pictures wherever camera buttons have been provided. As a technician completes installation the entire installation report along with pictures will be ready on his mobile for submission to OREDA.

Renewable Energy systems are known for their low maintenance needs. Often this is misconceived as "no-maintenance" which results in non-performance of such high value and efficient systems. Thus all RE systems must be maintained well. When it comes to RE systems particularly solar PV systems with battery storage, maintenance assumes paramount importance because non-charging or less charging of the batteries fast degrade the batteries rendering them totally unserviceable in a matter of few days. For example when the PV panel of a streetlight accumulates dust, moisture, moss etc. its power generating capacity reduces substantially resulting in low charging of the battery. On the other hand the consumption of power from the battery increases substantially under such circumstances as the panel senses early dusk and late dawn. This results in shortening the battery cycles and ultimately the life span of the battery which constitutes almost 40% of the cost of the system. Thus effective maintenance must focus on certainty and regularity.

Though the primary responsibility of maintenance of the systems has been vested in the concerned vendor the rising number unresolved service requests at the CRC calls for some serious organizational oversight. Moreover it is presumed that many customers are also not able

to register their requests due to poor or no mobile connectivity, ignorance about CRC and its toll free number etc.

Keeping the above in view, OREDA during September 2018 introduced a Scheduled Maintenance Regime through its Customer Relationship Centre so as to introduce periodicity and certainty in the maintenance services being extended by the vendors. Like installation the scheduled maintenance has also been made mobile application based where the technician responsible for maintenance of the system can step by step follow the prescribed procedure for scheduled maintenance and upload pictures wherever camera buttons have been provided. At the end of the maintenance procedure a maintenance report can also be generated by the technicians.

This initiative is not only expected to increase the performance level of the installations but also greatly reduce service requests by customers.

## **Objectives:**

The primary objectives of this new initiative are

1. Increase economic life span of installations.
2. Ensuring better performance of RE systems.
3. Higher returns on investments.
4. Higher customer satisfaction
5. Better acceptance of decentralised RE based power systems
6. Increased response to climate change mitigation.

## **Stakeholders:**

Ensuring proper performance of RE installations calls for combined effort of all stakeholders such as Customers, Sponsors, PRIs, Vendors, Independent Service Organizations, OEMs and OREDA.

### **a. Customers:**

Customers are the ultimate users and custodians of RE systems/devices. They are required to own the systems irrespective of the systems being privately owned by them or a public property installed inside their premises. They should be responsible for safety and security of the systems as well as day to day maintenance of the systems as prescribed in the users' manual.

### **b. Sponsors**

Sponsors are the Government Departments/Organizations sponsoring the schemes/programme under which the RE systems/devices are installed. Sponsors are responsible for availing and extending maintenance contracts and organizing funds for the same. Sponsors are to be kept informed about the maintenance activities as well as emergent situations that call for material and financial resources.



**c. Panchayati Raj Institutions (PRIs)**

PRIs are supposed to be the ultimate owners of community assets such as drinking water supply systems, street lights etc. They are expected to properly register the community assets in their asset registers as well as apportion funds from their grants/income for repair and maintenance of the assets beyond the scheduled maintenance period.

**d. Vendors**

Vendors are primarily responsible for supply, installation and commissioning of the RE systems/devices. They are also responsible for effective maintenance of the systems for the first five years or as may be mentioned in the concerned tender. Vendors are required to extend scheduled maintenance services as well as on-call maintenance services to all systems installed by them. For extending such services smoothly they may establish their own service net work or avail services of Independent Service Organizations. Vendors are also required to have back-to-back agreements with their OEMs for extending guarantee, warranty, supply of spares etc. Vendors shall work in close coordination with the customers, custodians, field units, respective technical divisions and CRC of OREDA in order to deliver effective maintenance services.

**e. Original Equipment Manufacturers (OEMs)**

The Manufacturers of original equipments used in RE systems/devices are important stakeholders as far as delivery of effective maintenance services are concerned. Without proper inventory of spares at their end for the entire period of maintenance and quick response to the need of spares at the project site it is almost impossible to deliver effective maintenance services on the part of the vendors. Hence OEMs must enter in to tripartite agreements with vendors as well as OREDA with regards to adequacy and timely supply of spares. OREDA may also consider empanelling OEMs of important items such as pumps, invertors, CPUs etc.

**f. OREDA**

OREDA represented by its Technical Divisions, Field Units, CRC is the most important stakeholders in respects of

- I. Managing processes and providing oversight
- II. Establishing principles and parameters for extending maintenance services
- III. Setting up performance parameters
- IV. Monitoring , measuring and analysing stake holders' performance.
- V. Working for performance improvement
- VI. Identifying time bound and appropriate actions as well as working on the same
- VII. Developing internal preparedness to repair, re-installing systems beyond the scope of the vendors.

- VIII. Developing contingency resources and plans in force majeure situations.
- IX. Recognizing and encouraging good performance

## **Process Flow:**

The overall process of is hinged on three distinct sub processes. They are

- 1) On boarding the project**
- 2) Installation & Commissioning of the systems**
- 3) Creation of system IDs and linking to CRM**
- 4) Managing the R&M.**

The efficiency of maintenance is largely dependent on the quality and regularity of step 1,2&3.

The processes are as follows:

### **ONBOARDING:**

On-boarding refers to creation of the project specific data base comprising of the following details. On boarding of each project is to be done by the concerned Division Head of OREDA.

- a. Name of the scheme ( Generic-Specific)
- b. Name of the sponsors.
- c. Details of sanction order indicating quantity, cost, locations etc.
- d. Date of floating of tender
- e. Date of finalization of tenders.
- f. Vendor details ( name, quantity of work awarded, total cost of the work, locations assigned)
- g. Date of Issue of LOI
- h. Details of survey report submitted by vendor in response to LOI
- i. Details of project execution schedule submitted by vendor in response to LOI
- j. Date of issue of firm work order vendor wise
- k. Final date of completion of the project.

This would get populated onto the database in phases as the scheme progresses from conception to inception.

Once a scheme is on-boarded the details are to be intimated to CRC for creation of a new account.

### **PROJECT EXECUTION:**

The vendor to whom a particular work has been assigned is responsible for execution of the project. As soon as a project is on-boarded with the above details the same will appear on the dashboard of the concerned vendor(s). The vendor then has to assign the project to specific technician(s) having registered mobile phones on which the installation apps have been loaded.

The technician will then be able to see his/her assigned projects on the app provided having details such as name of the project, name of the customer, location details including GPS coordinates, capacity of the project etc. As the technician starts executing the project he/she has to upload the following details as and when it happens

- a. Date of commencement
- b. Details of all hard wares
- c. Exact location of installation
- d. Complete step by step installation details including picture as per the installation app.
- e. Date of commissioning the project

This would get populated onto the database in phases as the scheme progresses from conception to inception.

#### SUPERVISION:

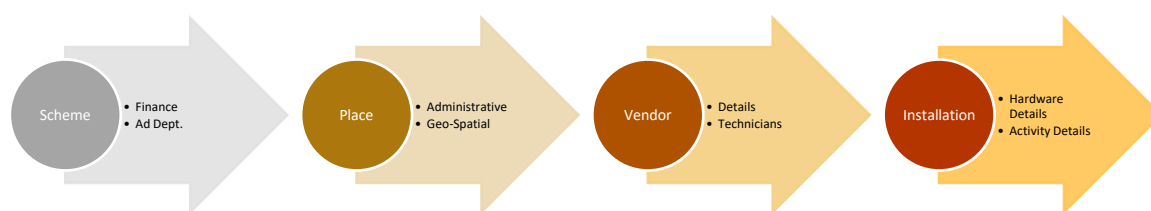
##### District Level:

As soon as the on-boarding is complete the Officer-in-charge of the District RE Cell can see the details on his dashboard. Similarly he can see the subsequent processes carried out at the vendor and technician levels. At any point of time as may be required the Officer-in-charge of the District RE Cell can undertake field visits and supervise the progress of the work, quality of work execution etc.

Once a project is commissioned the Officer-in-charge of District RE Cell can make necessary checks and upload the commissioning certificate on the App provided to him within a stipulated timeline.

##### HQR. Level

After getting the commissioning reports and necessary checks thereon the concerned division of OREDA will create the project/system ID after which the project/system will automatically get linked to the CRC which will mark the beginning of the processes at CRC such as Scheduled Maintenance and Corrective Maintenance.



#### R&M Management:

The R&M regime involves two types of efforts. The first is the **Scheduled Maintenance Activities**, which is done as a preventive action. It is expected that these periodic maintenances will drastically reduce the incidents of breakdowns. This should be done at some periodicity and in each case, a list of activities must be done. The second is the **Unscheduled Maintenance Activities** which are of corrective nature. This means when any breakdown/ malfunction is detected, the appropriate corrective action needed can be initiated.

## Scheduled (Preventive) Maintenance:



- A **master maintenance schedule** is to be drawn up for the organization covering each installation.
- This will be done by stratifying the districts into District Clusters based on logistical convenience.
- Each Cluster will be broken down into three geographical patches (comprising of Blocks/ GPs) called as Maintenance Cluster to evenly distribute the ticket load across each month within that Maintenance Cluster.
- The CRMS, well before the schedule, will fire a flurry of emails and SMS to the Vendors notifying about the list of installations they must cover in each of the Clusters within that Month. A ticket for each installation in the list will be automatically generated. It may be noted that though the list is sent in one list, separate emails will be sent for each ticket on which communication/ transactions have to be made by the Vendor
- It's the responsibility of the Vendors to track each case through their authorised technicians and report compliance throughout the month as soon as they cover the installations.
- The technicians/ SPOC of the vendor must share the documents/ evidences required for the acceptance of resolution over e-mail in the same thread the ticket was raised. No resolution mail other than that thread will be accepted. The protocol of communication may get subsequently changed to improve operational efficiency.
- The CRC as soon as it receives the resolution mail, will cross verify the claim of resolution by the technicians and may close the ticket or return for rework.
- The CRMS at the end of the month will compute the performance of the ticket/ Vendor/ Scheme and release a score card.

## Unscheduled (Corrective) Maintenance:



- Breakdown occurs at one of the installations.
- Customer calls the CRC to submit a service request.
- The agent at the CRC using the CRMS identifies the customer and registers a request called as a ticket.
- Automatically a set of e-mails are fired to the Vendor, its Technician, Administering Dept. of the Scheme and OREDA.
- The CRMS tracks each ticket and follows up each case over e-mail and voice calls.
- After the lapse of certain days, the CRMS auto escalates it to the Nodal Officer/ Scheme Officer for action.
- Vendor/ Technician resolves the ticket at the field and intimates the CRC about it through the designated communication channel as per the protocol.
- CRC cross-verifies it with the community/ customer and closes the ticket.
- CRMS measures the performance.

## Repair and Maintenance Regime:

### Scheduled Maintenance:

The schedule maintenance regime will focus on the vendor's **certainty and regularity** of visit to the installations under him as his performance parameter. He is expected to comply with minimum of 90% visit against the Scheduled Tickets within that Service Month.

### Activities under each category of Tickets:

The vendor is warranted to visit the installations and undertake a list of activities linked to that category of ticket. The ticket category can be of Quarterly, Half Yearly and Annual. To know the **installation Class** specific and **ticket Category** specific list of activities, kindly refer to Annexure – XXXX.

### Time Limit:

- It's expected that the vendor must complete the activities over the list of installations designated for that maintenance month within that calendar month itself.
- It may be noted that they can work on any day without any bias to the day being notified as holiday or otherwise.

### Route/ Sequence:

- Each installation must be visited once in every quarter, half yearly and yearly for different categories of activities.
- To maintain a uniform gap between the visits every time, the vendor is expected to stick to an optimal sequence in a route.
- The number of routes that the vendor identifies depends on how big his list and how many technicians is to be deployed. **[An example may be inserted]**
- Care must be taken so that all installations not only are resolved within a month, but also are closed.

### Score:

On successful completion of one ticket as per the service standard, the vendor will earn certain points, and for each default he will earn a negative score which is designed to be a deterrent. The scores are:

Visits	Activity Types	Earnings	Penalties
Visit - 1	Q1	3	-9
Visit - 2	Q2	3	-9
	H1	1	-3
Visit - 3	Q3	3	-9
Visit - 4	Q4	3	-9
	H2	1	-3
	A1	1	-3

## Corrective Maintenance:

### Service Standards:

While the Schedule Maintenance regime focuses on the vendor's **certainty and regularity** of visit to the installation as his performance parameter, Corrective Maintenance Regime focuses on the **Timeliness** of the vendor to respond to a breakdown situation.

The vendor upon being notified of a breakdown situation shall have to complete his assessment within 2 days and complete the repair work within next 5 days. All (100%) tickets must be resolved within the time limit given above. If the scope of repair/ replacement is found to be beyond the scope of Maintenance Contract (MC), then the vendor immediately after the field reconnaissance must report the same to the CRC.

- It is expected that at any point of time, none of the vendors would be having cases older than 7 days pending in their list.
- And, no vendor's installations under a scheme should show 'Non-Working' status of more than 2% of the installations.

### Methodology:

Corrective maintenance requires a different approach as against the scheduled maintenance methodology. While the scheduled maintenance is predictable, corrective maintenance requires case specific approach. The following are recommendations for most efficient methodology. But the vendors are free to adopt their own if they are complying to the time limit.

### Reconnaissance:

Within 2 days of ticket date.

- When a request of service is registered, the vendor as the first response must organize collection of field level information about the nature of problem.
- Based on that feedback from the field, the vendor must decide the following;
  - The genuinity of the request,
  - If the requirement of repair is beyond the scope of his MC,
  - If it is within his scope, then, he must arrange labor, spares, materials needed for the repair and mobilize them to attend the breakdown at the spot.

This will help the vendor to resolve the request in one visit. This is more necessary as at times the villagers without ascertaining the owner of the installation, registers a request in the CRC, and, as there is the possibility of multiple installations in one village and the data matches, the ticket is raised against a working installation.

## Repair:

Within 7 days of ticket date.

- The authorized technicians of the vendor must move to the location with the resources to undertake the repair.
- Upon completion of the repair the installations must be tested in the presence of the customer/ custodian.
- Requisite evidence and documentation must be completed by the technicians and immediate intimation need to be sent to the CRC.

## How to handle repair beyond the scope of MC

- At the reconnaissance stage, when the vendor realises that the requirement is beyond the scope of MC, he must request for closure giving appropriate reasons.
- He must use the same communication channel as he would have used for resolution,
- The CRC then would take it off the Vendor list and transfer to the OREDA list.
- OREDA will take this matter up with their principals for resolution.

## Score:

- Each vendor at the start will be given a Credit account of 8760 hrs (365 Days x 24 hrs) for each of the installation he is responsible for maintenance . That will be known as the **'Total Achievable Uptime'**.
- When a request for service gets registered at the CRC the clock is started from the next day. The day the Vendor responds to a ticket informing successful resolution, the Clock stops at that day.
- At the end of a period the time taken for each ticket for resolution, which is converted into hours get deducted from the **'Total Attainable Uptime'** of that Ticket.
- And if the resolution time exceeds the set time of '7 Days', the system will treat those additional days with twice the score.
- The system is so designed that the lesser the time taken to resolve, higher will be his Net Score. More he takes time to resolve; higher will be his penalty score which may erode his other good works.

## Implementation:

### *Training and Orientation:*

OREDA will conduct orientation and training sessions for the Vendors and their technicians

### *Helpdesk:*

OREDA CRC will provide support to the field personnel of the vendors to acquaint themselves with various communication and process protocol.



## Performance Evaluation:

The following paragraphs explain the way OREDA will evaluate both the performances and how it will turn it into a composite score of performance. The Scheduled Maintenance activities have been given primacy over the Corrective Maintenance activities. While the Scheduled Maintenance is given 80% weightage in the composite score, Corrective Maintenance is given 20%.

Computation of performance

Examples from the shared Excel sheets may be incorporated.

## Rewards and Recognitions

OREDA will do everything under its might to support good performance of the vendors as **achieving very high uptime of its installation and good customer relationship is its prime organizational focus**. It also will weed out non-performing vendors by penalising them for their bad performance and blacklisting them for good.

OREDA will.

- Give preference to the high performing vendors in the upcoming tenders.
- Institute Awards and Recognition during important days of OREDA
- Recover Liquidated Damages in shape of penalties
- Blacklist vendors whose past performances are not at all good

**Sample Price Bid Format**

<b>SI No</b>	<b>Particulars*</b>	<b>Price in INR</b>
1	Design and Supply of Solar Cold Storage Unit as per the technical specification given in the tender	
2	Cost of Installation and commissioning of the system	
3	<b>Cost of Comprehensive Maintenance Charges (CMC) for a period of 5 years</b>	
	Cost of Comprehensive Maintenance Charges (CMC) for Year-1	
	Cost of Comprehensive Maintenance Charges (CMC) for Year-2	
	Cost of Comprehensive Maintenance Charges (CMC) for Year-3	
	Cost of Comprehensive Maintenance Charges (CMC) for Year-4	
	Cost of Comprehensive Maintenance Charges (CMC) for Year-5	
	Total Cost (1+2+3)	

**\*Quoted Price should be exclusive of Taxes. GST shall be levied based on Applicable rates**

**List of proposed beneficiaries for installation of Solar cold storage unit**

<b>Name of the Beneficiary</b>	<b>Father / Husband's Name</b>	<b>Village</b>	<b>GP</b>	<b>Block</b>
Ghana Munda	Sanga	Dhatika	Malada	Jhumpura
Rama Munda	Ratna	Kankana	Nischintapur	Jhumpura
Rina Mahanta	W/o-Chita	Kasia	Malada	Jhumpura
Laxmidhar Naik	Makabana	Gurutuan	Jajanga	Joda
Ghasiram Munda	Guna	Deojhar	Deojhar	Joda
Gobinda Majhi	Hadibandhu	Bandhuabeda	Jajanga	Joda
Ramesh Munda	Ghasei	Bholobeda	Jajanga	Joda
Ramesh Ch. Naik	Nityananda	Jagannathpur	Palasa	Joda
Mania Munda	Malu	Kamalpur	Jajanga	Joda
Giridhari Majhi	Paru	Jagannathpur	Palasa	Joda