



**ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY**

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

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**e-TENDER CALL NOTICE**

Notice No: 1023

Date: 04/03/2021

Tender is invited through e-tender portal from eligible bidders for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha.

Details can be seen from the website [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) or [www.oredaorissa.com](http://www.oredaorissa.com). Further corrigendum, if any, will be uploaded in these websites only.

  
Chief Executive

Memo No. 1024/OREDA

Date 04/03/2021

Copy forwarded to the Principal Secretary, Energy Department, Govt. of Odisha for favour of information.

  
Chief Executive

Memo No. 1025/OREDA

Date 04/03/2021

Copy forwarded to the Principal Secretary, School and Mass Education Department, Govt. of Odisha for favour of information.

  
Chief Executive

Memo No. 1026/OREDA

Date 04/03/2021

Copy forwarded to the State Project Director, OSEPA & Nodal Officer, OMBADC Projects, S&ME Department, Unit-V, Shikha Soudha, Bhubaneswar-751001 for kind information.

  
Chief Executive



Mem No. 1027 / OREDA

Date 04/03/2021

Copy forwarded to the State Project Director, OAV, N-1/19, Nayapali, Po: Sainik School, Bhubaneswar-751001, Unit-V, Shikha Soudha, Bhubaneswar-751001 for kind information.

  
Chief Executive

Memo No. 1028 / OREDA

Date 04/03/2021

Copy forwarded to M/S KEONICS, A Govt. of Karnataka Undertaking, No.29/1, Race course Road, Bangalore- 560 001 for information and necessary action.

  
Chief Executive

Memo No. 1029 / OREDA

Date 04/03/2021

Copy forwarded to the Director (Admin) / All Divisional Heads / Publicity Wing / Notice Board / Website of OREDA i.e. [www.oredaodisha.com](http://www.oredaodisha.com) for information and necessary action. The advertisement may please be published in two Odia daily and in one English daily in all editions.

  
Chief Executive

4/3/2021



**Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha**

**NIT no.: 1023, Dated: 04.03.2021**

**Contact details:**

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

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

Email: [ceoreda@oredaorissa.com](mailto:ceoreda@oredaorissa.com)

Website: <http://oredaodisha.com/>

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# Notice Inviting Tender (NIT)

**NIT no.:** NIT 1023, Dated: 04.03.2021

**Type of bidding:** Domestic Competitive Bidding (DCB)

**Mode of bidding:** Open bidding, Single stage two envelope, E-bidding

Odisha Renewable Energy Development Agency (OREDA) invites e-tender for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Adarsha Vidyalaya premises across 4 district(s) in Odisha.

The Schedule of Events is given below:

Sl. No.	Events	Schedule
1.	Date of publication of NIT on E-procurement Website and OREDA Website	04.03.2021
2.	Due date and time for submission of online copies of Technical Bid and Price Bid	22.03.2021, Time: 5:00 PM
3.	Due date and time for submission of hard copies of Technical Bid for select Bid Forms only	23.03.2021, Time: 1:00 PM
4.	Due date and time for the opening of Technical Bid for both online copies and hard copies, except Price Bid	23.03.2021, Time: 3:00 PM
5.	Due date and time for the opening of online Price Bid, applicable only for the Bidders whose Technical Bids shall be responsive	To be intimated later

The NIT providing requisite details about the bidding process shall be made available on the E-procurement Website ([www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA)) on or before the due date mentioned above. In addition, the NIT shall be provided on the OREDA Website (<http://oredaodisha.com/>) for viewing purposes only. The Bidders may write to us at the email id [ceoreda@oredaorissa.com](mailto:ceoreda@oredaorissa.com), at any time during the office hours for any additional information.

The Bidders are also requested to contact the E-procurement Service Provider (M/s. Tender Wizard) for online registration on the E-procurement Website. The Bidders may contact the E-procurement Service Provider at 080-40482000/ 121/ 133/ 140 and +91 70085 21627 at any time during the office hours for any additional information.

**Note:** OREDA reserves all the right to annul the bidding process and invite fresh Bids without liability or obligation for such invitation and without assigning any reasons.

-Sd-

**Chief Executive**

# ***Disclaimer***

To whomsoever it may concern, kindly note the following:

1. This NIT is meant for the exclusive purpose of bidding against this NIT and shall not be transferred, reproduced, or otherwise used for purposes other than that for which it is specifically issued.
2. Though adequate care has been taken for the preparation of this NIT, the Bidder shall satisfy itself that the NIT is complete in all respect. Intimation of any discrepancy shall be given to OREDA immediately. If no intimation is received from any Bidder in their pre-bid queries, it shall be considered that the NIT is complete in all respects and has been accepted by the Bidder.
3. OREDA reserves all the right to modify, amend, or supplement this NIT by issuing Addendum from time to time in the interest of the Project.
4. OREDA reserves all the right to extend the timelines mentioned in the Schedule of Events of NIT by issuing Corrigendum from time to time in the interest of the Project.
5. While the NIT has been prepared in good faith, neither OREDA nor OREDA's employees or advisors make any representation, warranty, express or implied or accept any responsibility or liability, whatsoever, in respect of any statements or omissions or absence herein, or the accuracy, completeness or reliability of the information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability, and completeness of this NIT, even if any loss or damage is caused by any act or omission on OREDA's part.

# Exhibit

## Definitions

The following definition and abbreviation shall have the meanings hereby assigned to them, as mentioned under the description herewith:

Definitions and abbreviation	:	Description
AC	:	shall mean Alternating Current
Acceptance	:	shall mean acceptance of the Project and when the Acceptance Certificate is issued to the Successful Bidder and as per the meaning ascribed to it in SOW Clause 3.2.1.6
Acceptance Certificate	:	shall mean formal acceptance of the Project by OREDA by issuing an Acceptance Certificate, as per the meaning ascribed to it in SOW Clause 3.2.1.6
ACDB	:	shall mean Alternating Current Distribution Board
Addendum	:	shall have the meaning ascribed to it in ITB Clause 1.2.3.3
Additional Performance Security	:	shall have the meaning ascribed to it in BDS Clause 2.1.3
Amendment	:	shall have the meaning ascribed to it in GCC Clause 5.1.2
Applicable Law	:	shall mean all laws, bye-laws, statutes, treaties, ordinances, rules, policies, regulations applicable in India and the state of Odisha along with amendments, re-enactments, revisions, applications and adaptations thereto made from time to time and in force and effect, judgments, decrees, injunctions, writs and orders of any court, arbitrator or governmental agency or authority, rules, notifications, guidelines, circulars, orders and interpretations of any Government orders, court or statutory or other body having jurisdiction over the performance of the Scope of Work including applicable permits, as may be in effect at the time of performance of the Scope of Work, provided, however, that if at any time the Applicable Laws are less stringent than the standards set forth in the Work Order hereto, the standard set forth in this Work Order hereto, shall be deemed to be the standards under Applicable Laws
Authorized Signatory	:	shall mean the authorized signatory of the Bidder as per the power of attorney and Board Resolution issued by the Bidder
Bid	:	shall have the meaning ascribed to it in ITB Clause 1.3.3.1
BDS	:	shall mean Bid Data Sheet
CEA	:	shall mean Central Electricity Authority
Clarification	:	shall have the meaning ascribed to it in ITB Clause 1.2.3
Coercive Practice	:	shall have the meaning ascribed to it in ITB Clause 1.1.2
Collusive Practice	:	shall have the meaning ascribed to it in ITB Clause 1.1.2
Commissioning Report	:	shall have the meaning ascribed to it in Appendix Clause 7.5.4 and Appendix Clause 7.6.4
Commissioning	:	shall have the meaning ascribed to it in SOW Clause 3.2.2.4
Construction Manager	:	shall have the meaning ascribed to it in GCC Clause 5.4.1.2
Corrigendum	:	shall have the meaning ascribed to it in ITB Clause 1.2.3.2
Corrupt Practice	:	shall have the meaning ascribed to it in ITB Clause 1.1.2
Day	:	shall mean the calendar day
DC	:	shall mean Direct Current
DCB	:	shall mean Domestic Competitive Bidding
DCDB	:	shall mean Direct Current Distribution Board
Defect Liability	:	shall have the meaning ascribed to it in GCC Clause 5.5.3
Defect Liability Period	:	shall have the meaning ascribed to it in GCC Clause 5.5.3
Delay Liquidated Damage	:	shall have the meaning ascribed to it in GCC Clause 5.5.1
Department	:	shall mean the user department for which the Project will be developed



<b>Definitions and abbreviation</b>	<b>:</b>	<b>Description</b>
Detailed Workplan	:	shall have the meaning ascribed to it in GCC Clause 5.4.2.2
DISCOMs	:	shall mean Distribution Companies in Odisha
DRDA	:	shall mean District Rural Development Agency
DSC	:	shall mean Digital Signature Certificate
Effective Date	:	shall mean the date of issuance of the Work Order
E-procurement Service Provider	:	shall mean M/s. Tender Wizard
E-procurement Website	:	shall mean <a href="http://www.tenderwizard.com/OREDA">www.tenderwizard.com/OREDA</a>
Equipment	:	shall have the meaning ascribed to it in SOW Clause 3.2.1.2 and SOW Clause 3.2.2.2
Estimated Cost	:	shall mean the cost of the Project estimated by OREDA and shall have the meaning ascribed to it in ITB Clause 2.1.3
Fraudulent Practice	:	shall have the meaning ascribed to it in ITB Clause 1.1.2
FOR	:	shall mean Freight on Road
GCC	:	shall mean General Conditions of Contract
Generation Meter	:	shall have the meaning ascribed to it in Annexure Clause 7.5.1.13
Government	:	shall mean Government of India or Government of Odisha, as applicable
Incoterms	:	Incoterms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1er, 75008 Paris, France.
Initial Capex	:	shall have the meaning as per the formula provided in Annexure Clause 7.2.2
INR	:	shall mean Indian Rupees
Integrity Violation	:	shall have the meaning ascribed to it in ITB Clause 1.1.2
ITB	:	shall mean Instructions to Bidders
KGBV	:	shall mean Kasturba Gandhi Balika Vidyalaya
kW	:	shall mean kilo-Watt
Month	:	shall mean a calendar month
Net Meter	:	shall have the meaning ascribed to it in Annexure Clause 7.5.1.12
NIT	:	shall mean Notice Inviting Tender
CMC	:	shall mean Comprehensive Maintenance Contract
CMC Manager	:	shall have the meaning ascribed to it in GCC Clause 5.4.1.2
Mini Grids	:	shall mean any solar photovoltaic system with capacity lower than 100 kWp per system implemented for the sole purpose of mini grids
OAV	:	shall mean Odisha Aadarsha Vidyalaya
OBC	:	shall mean Other Backward Class
Obstructive Practice	:	shall have the meaning ascribed to it in ITB Clause 1.1.2
OREDA	:	shall mean Odisha Renewable Energy Development Agency
OREDA Website	:	shall mean <a href="http://oredaodisha.com/">http://oredaodisha.com/</a>
OREDA's Office Address	:	shall mean S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.
OREDA's Official Email Id	:	shall mean <a href="mailto:ceoreda@oredaorissa.com">ceoreda@oredaorissa.com</a>
PKI	:	shall mean Public Key Infrastructure
Project Manager	:	shall have the meaning ascribed to it in GCC Clause 5.4.1.2
Prudent Utility Practices	:	shall mean those practices, methods, acts, equipment specifications, techniques and standards of safety and performance, as may be followed or employed in the performance of the Scope of Work and discharge of the obligations of the Successful Bidder and which (a) are generally accepted internationally for use in the solar power generation industry, taking into account conditions in India and specific to India/ Odisha (as applicable), and includes the exercise of that degree of professional skill, diligence and judgment that would ordinarily be expected from a skilled and experienced Successful Bidder in connection with power stations of the same or similar size and type as the project, (b) are commonly used in prudent electric utility engineering, project management and operations, and (c) would be expected to result in



Definitions and abbreviation	:	Description
		performance of the Scope of Work in a manner consistent with Applicable Laws, reliability, health and safety of workers and community, environmental protection, economy and expediency;
PV	:	shall mean Photo Voltaic
QR	:	shall mean Qualification Requirement
NIT	:	shall mean Notice Inviting Tender
RSPS	:	shall mean Rooftop Solar Power System
SC	:	shall mean Scheduled Caste
SCC	:	shall mean Special Conditions of Contract
Schedule of Events	:	shall have the meaning ascribed to it in the NIT
SOW	:	shall mean the Scope of Work
SLS	:	shall mean the Street Lighting System
ST	:	shall mean Scheduled Tribe
Successful Bidder	:	shall mean the Successful Bidder who is awarded the Work Order
Tax	:	shall mean all taxes and duties pursuant to any Applicable Laws (whether currently in force or coming into force on or after the last date for submission of online Bid), including, all goods and services tax, tax on the sale of goods (which includes but is not limited to customs duty, anti-dumping duty, basic customs duty, safeguard duty and import duties), duties, but not including income tax, corporation profits tax, capital gains tax and other amounts corresponding thereto and interest, penalty or any other levy applicable on the income, profits, fringe benefits, personal taxes on salaries earned by employees and further includes any interest, surcharge, penalty or fine in connection therewith which may be payable by either Party on such transaction, property, matter mentioned above;
TDS	:	shall mean Tax Deduction at Source
Technical Specification	:	shall have the meaning ascribed to it in Appendix Form 1 under Annexure Clause 7.5.1 and Appendix Form 1 under Annexure Clause 7.6.1
Capex	:	shall mean the final price considered in the Work Order
UTR	:	shall mean Unique Transaction Reference number
Work Order	:	shall have the meaning ascribed to it in ITB Clause 1.6
Year	:	shall mean the calendar year

## ***Interpretation***

In the Bidding Document and Work Order, except where the context requires otherwise:

- 1.1.1. words indicating one gender include all genders;
- 1.1.2. words indicating the singular also include the plural and words indicating the plural also include the singular;
- 1.1.3. provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;
- 1.1.4. “written” or “in writing” means hand-written, type-written, printed, or electronically made, and resulting in a permanent record; and
- 1.1.5. The marginal words and other headings shall not be taken into consideration in the interpretation of these conditions.

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# 1. Instruction to Bidders (ITB)

Section 1 (ITB) provides a general overview and contents of NIT along with the preparation, submission, opening, evaluation, comparison of Bids, issuance of Letter of Intent and Work Order, etc. Section 1 (ITB) shall be read in conjunction with Section 2 (BDS) and other provisions listed therein, shall be a complete document expressing all terms and conditions. In case of any interpretation issues, Section 2 (BDS) including any associated Addendum, Corrigendum and Clarification will supersede Section 1 (ITB).

## 1.1. General

### 1.1.1. Scope of NIT

- 1.1.1.1. In connection with the NIT, OREDA issues this NIT containing all the terms and conditions mentioned herein.
- 1.1.1.2. The NIT along with the NIT and any Addendum, Corrigendum, and Clarification, to be issued from time to time, shall be collectively termed as the Bidding Document. Such a Bidding Document shall be published on the E-procurement Website. In addition, such a Bidding Document shall also be uploaded on OREDA Website, but for viewing purposes only.
- 1.1.1.3. The name of the SOW including the associated NIT no., NIT no. and other details are specified in Section 2 (BDS).

### 1.1.2. Integrity Violation

- 1.1.2.1. The Bidder observes the highest standard of ethics all the time.
- 1.1.2.2. OREDA defines, for the purposes of this provision, the terms set forth below as follows:
  - a) "Corrupt Practice" means the offering, giving, receiving or soliciting, directly or indirectly, anything of value to influence improperly the actions of another Party;
  - b) "Fraudulent Practice" means any act or omission including a misrepresentation that knowingly or recklessly misleads or attempts to mislead a Party to obtain a financial or other benefit or to avoid an obligation;
  - c) "Coercive Practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any Party or the property of a Party to influence improperly the actions of the other Party;
  - d) "Collusive Practice" means an arrangement between two or more Parties designed to achieve an improper purpose, including influencing improperly the actions of other Party;
  - e) "Obstructive Practice" means
    - i. deliberately destroying, falsifying, altering, or concealing of evidence material to OREDA's investigation;
    - ii. making false statements to investigators in order to materially impede OREDA's investigation;
    - iii. failing to comply with requests to provide information, documents or records in connection with OREDA's investigation;
    - iv. threatening, harassing, or intimidating any Party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
    - v. materially impeding OREDA's contractual rights of audit or access to information;

- f) "Integrity Violation" is an act which violates OREDA's policies, including (a) to (e) given above in the ITB Clause 1.1.2.2 and the following abuse, conflict of interest, retaliation against whistleblowers or witnesses, and other violations of OREDA's policies, including failure to adhere to the highest ethical standard.
- 1.1.2.3. OREDA will reject a Bid if it determines that the Bidder has, directly or indirectly through an agent, engaged in Integrity Violation including but limited to any Corrupt Practice, Fraudulent Practice, Coercive Practice, Collusive Practice and Obstructive Practice;
- 1.1.2.4. OREDA will impose remedial actions on any Bidder or an individual, at any time, in accordance with its policies and guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate in OREDA-managed, -administered, or -supported activities or to benefit from an OREDA-managed, -administered, or -supported, financially or otherwise, if it at any time determines that the Bidder or individual has, directly or through an agent, engaged in Corrupt Practice, Fraudulent Practice, Coercive Practice, Collusive Practice, Obstructive Practice or Integrity Violation; and
- 1.1.2.5. OREDA will have the right to inspect the accounts, records, other documents, etc. of the Bidders and relating to the Bid submission and to have them audited at any point in time.

## **1.2. Contents of the NIT**

### **1.2.1. Sections of the NIT**

- 1.2.1.1. The NIT consists of the following Sections as indicated below and should be read in conjunction with the NIT and any Addendum, Corrigendum and Clarification.
  - a) Exhibits
    - i. Definitions
    - ii. Interpretations
  - b) Section 1 – Instructions to Bidders (ITB)
  - c) Section 2 – Bid Data Sheet (BDS)
  - d) Section 3 – Scope of Work (SOW)
  - e) Section 4 – Qualification Requirement (QR)
  - f) Section 5 – General Conditions of Contract (GCC)
  - g) Section 6 – Special Conditions of Contract (SCC)
  - h) Section 7 – Annexure
- 1.2.1.2. OREDA is not responsible for the completeness of the Bidding Document if they were not obtained directly from E-procurement Website.
- 1.2.1.3. The Bidder is expected to examine the complete Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the Bid.

### **1.2.2. Clarification on NIT, Site Visit and Pre-Bid Meeting**

- 1.2.2.1. A prospective Bidder requiring any clarification on the NIT shall contact at OREDA's Office Address or write to OREDA's Official Email Id, prior to the pre-bid meeting, in accordance with ITB Clause 1.2.2.2. The queries shall be raised as per the format provided in Annexure Clause 7.4.

- 1.2.2.2. The pre-bid meeting shall be conducted in the manner specified in Section 2 (BDS). The Bidder's designated representative may attend the pre-bid meeting. The purpose of the pre-bid meeting will be to clarify issues and to prepare Clarification against the queries received from the Bidders on any matter that may be raised at that stage. OREDA will respond to any query for providing Clarification in writing, provided that such queries are received as per the timelines given in the NIT and any Corrigendum.
- 1.2.2.3. The Clarification against the queries raised, without identifying the source of the prospective Bidder, shall be uploaded on the E-procurement Website and OREDA Website. Any modification to the NIT shall be made by OREDA exclusively through the issue of an Addendum.
- 1.2.2.4. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
- 1.2.2.5. The Bidder is advised to visit and examine the Project site and its surroundings to obtain all information that may be necessary for the preparation of the Bids. The cost of visiting the Project site shall be at the Bidder's own expense.
- 1.2.2.6. The Bidder and any of its personnel and/ or agents will be granted permission by OREDA to enter the Project site for the purpose of such visit, but only upon the express condition that the Bidder, its personnel and/ or agents will release and indemnify OREDA and its personnel, agents, etc. from and against any liability in respect thereof, and the Bidder shall be responsible for any death or personal injury, loss of or damage to property, and any other loss, damage, costs, expenses, etc. incurred as a result of the inspection during the Project site visit.

### **1.2.3. Addendum, Corrigendum, and Clarification to the NIT**

- 1.2.3.1. At any time, prior to the deadline for submission of Bids, OREDA may issue an Addendum, Corrigendum and Clarification.
- 1.2.3.2. OREDA may, at its discretion, extend the deadline for the submission of Bids by issuing a Corrigendum in order to give prospective Bidders reasonable time in preparing their Bids. At any point in time, the latest Corrigendum will supersede the Schedule of Events mentioned in the NIT or any previously issued Corrigendum.
- 1.2.3.3. OREDA may, at its discretion, modify or change any specific provisions of terms and conditions of the NIT or any Addendum issued previously by issuing an Addendum for such specific provisions. At any point in time, the provisions provided against a specific Clause in the latest Addendum shall supersede such provisions already provided in the NIT or any previously issued Addendum.

## ***1.3. Preparation of Bids***

### **1.3.1. Cost for preparation of Bid**

- 1.3.1.1. The Bidder shall bear all the costs associated with the preparation and submission of the Bid, and OREDA shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

### **1.3.2. Language of Bid**

- 1.3.2.1. The Bid, as well as all correspondence and documents for any communications exchanged by the Bidder and OREDA, shall be written in the English language only.
- 1.3.2.2. Any supporting documents and printed literature that are part of the Bid may be submitted in another language provided they are accompanied by an accurate translation of the relevant passages in the English language only, in which case, for purposes of interpretation of the Bid, such English translation shall govern. In case of any misrepresentations in the English language vis-à-vis another language, OREDA, at its discretion, can reject the Bid submitted by the Bidder on the ground of misrepresentation of the information.

### 1.3.3. Documents comprising the Bid

1.3.3.1. The Bid shall comprise of the Technical Bid and Price Bid. The Technical Bid and Price Bid shall be submitted online pursuant to ITB Clause 1.3.3.2 and ITC Clause 1.3.3.4 respectively, as per all the terms and conditions of the Bidding Document. In addition, the select original hard copies of the Technical Bid shall be submitted pursuant to ITB Clause 1.3.3.3 at OREDA's Office Address.

1.3.3.2. The online submission of the Technical Bid shall comprise the following:

Bid Form	Particulars
Bid Form 1 (Bid Processing Fee)	<p>Copy of the “<b>e-payment</b>” for an amount and other details as mentioned in Section 2 (BDS) already made by the Bidder as per the various e-payment options (credit card, debit card, net banking, etc.) available on the E-procurement Website towards “<b>Bid Processing Fee</b>”.</p> <p>This shall be a non-refundable fee.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 1 of Section 7 (Annexure).</p>
Bid Form 2 (Cost of Bid)	<p>Copy of the “<b>Demand Draft</b>” for an amount and other details as mentioned in Section 2 (BDS) issued by a nationalized/ commercial bank in India towards “<b>Cost of Bid</b>” issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha.</p> <p>This shall be a non-refundable fee.</p> <p>This shall be payable by all the Bidders, subject to any exemption. In case of an exemption as admissible, the copy of the proof of exemption issued by an appropriate government authority (as applicable) shall be submitted.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 2 of Section 7 (Annexure).</p>
Bid Form 3 (Bid Security)	<p>Copy of the “<b>Demand Draft</b>” or “<b>Fixed Deposit Receipt</b>” or “<b>Bank Guarantee</b>” for an amount and other details as mentioned in Section 2 (BDS) issued by a nationalized/ commercial bank in India towards “<b>Bid Security</b>”.</p> <p>In case of a Demand Draft, it shall be issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha.</p> <p>In case of a Fixed Deposit Receipt, it shall be pledged in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha and unconditionally discharged on demand. The Bidders must note that in case of absence of the endorsement that “This Fixed Deposit Receipt shall be unconditionally discharged in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha on demand” on the back of the Fixed Deposit Receipt, such Bid Security shall be liable for rejection.</p> <p>In case of a Bank Guarantee, it shall be issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha with an expiry date and a claim date as mentioned in Section 2 (BDS).</p> <p>This shall be payable by all the Bidders, subject to any exemption as provided in Section 2 (BDS). In case of an exempt as admissible, the copy of the proof of exemption issued by an appropriate government authority (as applicable) shall be submitted.</p>



Bid Form	Particulars
	<p>This shall be a refundable fee, subject to the various provisions as mentioned in ITB Clause 1.3.7.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 3 of Section 7 (Annexure).</p>
Bid Form 4 (Power of Attorney)	<p>Copy of the <b>“Power of Attorney”</b> issued in the name of the Authorized Signatory of the Bidder supported by the required Board Resolution for submitting the Bid on behalf of the Bidder.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 4 of Section 7 (Annexure).</p>
Bid Form 5 (Covering Letter of Technical Bid)	<p>Copy of the <b>“Covering Letter of Technical Bid”</b> duly signed by the Authorized Signatory and stamped by the Bidder to unconditionally accept all terms of the Bidding Document along with an undertaking of select clauses of the Bidding Document.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 5 of Section 7 (Annexure).</p>
Bid Form 6 (Technical Qualification)	<p>Copy of the <b>“Technical Qualification”</b> certificate duly signed by the Authorized Signatory and stamped by the Bidder citing the Bidder’s technical qualification pursuant to the requirements mentioned under Section 4 (QR).</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 6 of Section 7 (Annexure).</p>
Bid Form 7 (Financial Qualification)	<p>Copy of the <b>“Financial Qualification”</b> certificate duly signed and stamped by a chartered accountant citing the Bidder’s financial qualification pursuant to the requirements mentioned under Section 4 (QR).</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 7 of Section 7 (Annexure).</p>
Bid Form 8 (Test Certificates)	<p>Copy of the declaration of the <b>“Test Certificates”</b> for the Equipment as issued in the name of the OEM from any valid MNRE accredited test labs as given in as mentioned in QR Clause 4.2.1 and shall be in line with Appendix Form 8 of Appendix Clause 7.5.8 and Appendix Form 8 of Appendix Clause 7.6.8.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 8 of Section 7 (Annexure).</p>
Bid Form 9 (Self-certificate)	<p>Copy of the declaration of the <b>“Self-certificate”</b> duly signed by the Authorized Signatory and stamped by the Bidder to declare that it has not been debarred/ blacklisted/ defaulted by any Government, agency, Public Sector Undertaking (PSU), institution/ autonomous organizations in the past. In case of any such events, the Bidder shall provide the case details and its current status in the format therein.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 9 of Section 7 (Annexure).</p>
Bid Form 10 (Undertaking for Indigenoussness)	<p>Copy of the <b>“Undertaking for Indigenoussness”</b> certificate duly signed by the Authorized Signatory and stamped by the Bidder to showcase the use of domestic contents of the Equipment to be supplied during the performance of the Work Order.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 10 of Section 7 (Annexure).</p>

<b>Bid Form</b>	<b>Particulars</b>
Bid Form 11 (No Deviation Certificate)	Copy of the “ <b>No Deviation Certificate</b> ” duly signed by the Authorized Signatory and stamped by the Bidder stating that the Bidder has not taken any deviation in the Bidding Document.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 11 of Section 7 (Annexure).
Bid Form 12 (Registration details)	Copy of the relevant documents issued by an appropriate Government authority in India.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 12 of Section 7 (Annexure).
Bid Form 13 (PAN)	Copy of the <b>PAN</b> card of the Bidder.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 13 of Section 7 (Annexure).
Bid Form 14 (GST Certificate)	Copy of the “ <b>GST Certificate</b> ” of the Bidder.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 14 of Section 7 (Annexure).
Bid Form 15 (Income Tax Return)	Copy of the last three (3) assessment year’s “ <b>Income Tax Return</b> ” filing document.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 15 of Section 7 (Annexure).
Bid Form 16 (Quality Assurance)	Copy of the declaration of “ <b>Quality Assurance</b> ” of the Bidder.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 16 of Section 7 (Annexure).
Bid Form 17 (Summary of the Bidder)	Copy of the “ <b>Summary of the Technical Bid</b> ” in Microsoft .xls or .xlsx format as per the checklist given therein.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 17 of Section 7 (Annexure).
Bid Form 18 (Covering letter of Price Bid)	Copy of the “ <b>Covering Letter of Price Bid</b> ” duly signed by the Authorized Signatory and stamped by the Bidder to unconditionally accept all terms of the Bidding Document.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 18 of Section 7 (Annexure).

1.3.3.3. The hardcopy submission of the Technical Bid shall comprise the following:

<b>Bid Form</b>	<b>Particulars</b>
Bid Form 2 (Cost of Bid)	Original of the “ <b>Demand Draft</b> ” for an amount and other details as mentioned in Section 2 (BDS) issued by a nationalized/ commercial bank in India towards “ <b>Cost of Bid</b> ” issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha.  This shall be a non-refundable fee.  This shall be payable by all the Bidders, subject to any exemption as provided in Section 2 (BDS). In case of an exempt as admissible, the copy of the proof of exemption issued by an appropriate government authority (as applicable) shall be submitted.  This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 2 of Section 7 (Annexure).

Bid Form	Particulars
Bid Form 3 (Bid Security)	<p>Original of the “<b>Demand Draft</b>” or the “<b>Bank Guarantee</b>” for an amount and other details as mentioned in Section 2 (BDS) issued by a nationalized/ commercial bank in India towards “<b>Bid Security</b>”.</p> <p>In case of a Demand Draft, it shall be issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha.</p> <p>In case of a Bank Guarantee, it shall be issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha with an expiry date and a claim date as mentioned in Section 2 (BDS).</p> <p>This shall be payable by all the Bidders, subject to any exemption as provided in Section 2 (BDS). In case of an exempt as admissible, the copy of the proof of exemption issued by an appropriate government authority (as applicable) shall be submitted.</p> <p>This shall be a refundable fee, subject to the various provisions as mentioned in ITB Clause 1.3.7.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 3 of Section 7 (Annexure).</p>
Bid Form 4 (Power of Attorney)	<p>Original of the “<b>Power of Attorney</b>” issued in the name of the Authorized Signatory of the Bidder supported by the required Board Resolution for submitting the Bid on behalf of the Bidder.</p> <p>This is a mandatory submission and shall be submitted as per the requirements given in Bid Form 4 of Section 7 (Annexure).</p>

1.3.3.4. The Price Bid shall comprise the following:

Bid Form	Particulars
Bid Form 19 (Price Bid – Category A Bidder)	<p>Copy of the “<b>Price Bid</b>” duly filled and to be uploaded on the e-tendering portal.</p> <p>This is a mandatory submission and shall be submitted in Microsoft xls. or .xlsx format only as per the requirements given in Bid Form 19 of Section 7 (Annexure).</p>
Bid Form 20 (Price Bid – Category B Bidder)	<p>Copy of the “<b>Price Bid</b>” duly filled and to be uploaded on the e-tendering portal declaring the acceptance to the lowest evaluated price at the L1 price as discovered during the bidding process.</p> <p>This is a mandatory submission and shall be submitted in Microsoft xls. or .xlsx format only as per the requirements given in Bid Form 20 of Section 7 (Annexure).</p>

1.3.3.5. For online submission of the Technical Bid and Price Bid, the Bidder shall submit each Bid Form as a separate copy and name the Bid Form as given under the column “Bid Form” given in ITB Clause 1.3.3.2 and ITC Clause 1.3.3.4. **For example, the name of the online copy while uploading Form 1 shall be “Bid Form 1 (Bid Processing Fee)”** to be submitted either in .pdf or .jpg or .jpeg format.

1.3.3.6. The Bid Forms must be submitted without any alterations to the text, and no substitutes shall be accepted in whatsoever condition, else the Bids shall be liable for rejection.

1.3.3.7. In case a submission is a mandatory submission as per all terms of the Bidding Document then the Bidder shall adhere to the same, else the Bids shall be liable for rejection.

#### **1.3.4. Bid Prices**

- 1.3.4.1. The Bidder shall fill in the Price Bid in line with the instructions mentioned in the Price Bid format as given under Bid Form 19 and Bid Form 20.
- 1.3.4.2. The Bid prices in the Price Bid shall be made at FOR destination at Project Site basis, which means that the Bidder shall be responsible for bringing all Equipment to be used in this Project and maintain it in their safe custody until the Acceptance of the Project is completed with the issuance of Acceptance Certificate and beyond that during the CMC Period as per the terms and conditions of the NIT.

#### **1.3.5. Currencies of Bid and Payment**

- 1.3.5.1. The Price Bid shall be quoted by the Bidder entirely in the currency "Indian Rupees" or "INR".

#### **1.3.6. Period of Validity of Bids**

- 1.3.6.1. Bids shall remain valid for the time period as specified in Section 2 (BDS) after the last date of Bid submission as prescribed in the NIT or its subsequent Corrigendum. A Bid valid for a shorter period than the above shall be liable for rejection by OREDA.
- 1.3.6.2. In exceptional circumstances, prior to the expiration of the Bid validity period, OREDA may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 1.3.7, it shall also be extended suitably beyond the deadline of the extended validity period on a mutual basis beyond the initial validity period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid.

#### **1.3.7. Bid Security**

- 1.3.7.1. The Bidder shall furnish Bid Security as per the Bid Form 3 pursuant to ITB Clause 1.3.3.2.
- 1.3.7.2. Unless otherwise specified in Section 2 (BDS), any Bid not accompanied by a fully compliant Bid Security in case one is required in accordance with ITB Clause 1.3.7.1, shall be liable for rejection by OREDA as non-responsive Bid.
- 1.3.7.3. If a Bid Security is specified pursuant to ITB Clause 1.3.7.1, the Bid Security of unsuccessful Bidders shall be returned within a maximum time period of thirty (30) Days upon the Successful Bidder submitting the required Performance Security pursuant to ITB Clause 1.6.3.
- 1.3.7.4. If a Bid Security is specified pursuant to ITB Clause 1.3.7.1, the Bid Security of the Successful Bidder shall be returned within a maximum time period of thirty (30) Days upon the Successful Bidder submitting the required Performance Security pursuant to ITB Clause 1.6.3.
- 1.3.7.5. The Bid Security received against the previous NITs shall not be adjusted towards the Bid Security to be submitted against this NIT.
- 1.3.7.6. The Bid Security shall be forfeited,
  - a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the respective Covering Letters of Technical Bid and Price Bid; or
  - b) if the Successful Bidder fails to
    - i. accept the Work Order pursuant to ITB Clause 1.6;
    - ii. furnish the Performance Security pursuant to ITB Clause 1.6.3; or
    - iii. accept the arithmetical correction of its Price Bid pursuant to ITB Clause 1.5.6;



### **1.3.8. Format and Signing of Bid**

- 1.3.8.1. The Bid Form as given in ITB Clause 1.3.3 or any electronic form, if any and as available on the E-procurement Website, or any external form in Microsoft .xls or .xlsx format for the Technical Bid and the Price Bid shall be duly filled and scanned copies or Microsoft .xls or .xlsx or electronic form as available on the E-procurement Website shall be duly uploaded as per the instructions mentioned in ITB Clause 1.4.1.1, unless a specific instruction provided therein in the NIT Document.
- 1.3.8.2. The original documents of the Bid shall be typed or written in indelible ink and shall be signed by the Authorized Signatory supported by the seal of the Bidder. In case the original documents are issued by any third party (for example - the chartered accountant, etc.) then the same shall be signed by a person duly authorized to sign on behalf of the third party supported by the seal of the third party along with other details as required.
- 1.3.8.3. The name and position held by each person signing or accepting the authorization must be typed or printed below the signature.
- 1.3.8.4. Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

## ***1.4. Submission and Opening of Bids***

### **1.4.1. Sealing and Marking of Bids**

- 1.4.1.1. The Technical Bid and Price Bid shall be submitted as per the procedures mentioned in Section 2 (BDS).

### **1.4.2. Deadline for submission of Bids**

- 1.4.2.1. The Bids must be submitted to OREDA through E-procurement Website only and no later than the date and time indicated in the NIT or any Corrigendum.
- 1.4.2.2. OREDA may, at its discretion, extend the deadline for the submission of Bids through the publication of a Corrigendum in accordance with ITB Clause 1.2.3.2, in which case all rights and obligations of OREDA and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

### **1.4.3. Late Bids**

- 1.4.3.1. OREDA shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB Clause 1.4.2. Any Bid (either online or offline) received by OREDA after the deadline for submission of Bids shall be declared as a late Bid. Such late Bids shall be liable for rejection online, and the online copy of the Bid uploaded on the E-procurement Website shall be sent unopened to "Archive" and shall not be considered at all any further for evaluation. In such a case, the hard copies in the original form shall be returned unopened to the Bidder.

### **1.4.4. Withdrawal, Substitution, and Modification of Bids**

- 1.4.4.1. A Bidder may withdraw, substitute, or modify its Technical Bid or Price Bid after it has been submitted as per the procedure mentioned in the E-procurement Website and as per the instructions mentioned in ITB Clause 1.4.1.1.
- 1.4.4.2. No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the Bid validity period specified by the Bidder on the Covering Letters of Technical Bid and Price Bid or any extension thereof as per the terms of Bidding Document.
- 1.4.4.3. Bidder may modify or withdraw their Bids through the relevant provisions on the E-procurement Website until the last date for submission of Bid as per the timelines mentioned in the NIT or any Corrigendum.

1.4.4.4. The Bidders may modify, resubmit, or withdraw their Bids as per the provisions given on the E-procurement Website.

1.4.4.5. In the case of original hard copies of the Bidder, such Bids will be considered based on the latest submission made by the Bidder. In such a case, any previous original hard copies shall be returned unopened to the Bidder.

#### **1.4.5. Acceptance/ rejection of the Bids**

1.4.5.1. The Bids submitted by the Bidders shall be liable for rejection in case

- a) Any incomplete or non-submission of any mandatory Bid Form or document mentioned under online or hardcopy submission of Technical Bid pursuant to ITB Clause 1.3.3.2 and ITB Clause 1.3.3.3.
- b) Any incomplete or non-submission of any mandatory Bid Form or document mentioned under the online submission of Price Bid pursuant to ITB Clause 1.3.3.4.
- c) Late Bids received as per ITB Clause 1.4.3.
- d) Canvassing in any manner shall not be entertained and will be viewed seriously and shall be liable for rejection.
- e) The Bids are found non-responsive pursuant to all the relevant clauses in the Bidding Document.

#### **1.4.6. Bid Opening**

##### **1.4.6.1. Technical Bid (Online and hard copies)**

a) **Online Technical Bid:**

- i. OREDA shall open the online Technical Bids on the E-procurement Website as per the timelines mentioned in the NIT or any Corrigendum.

b) **Hardcopies of Technical Bid:**

- i. OREDA shall open the hard copies of the Technical Bids at OREDA's Office Address as per the timelines mentioned in the NIT or any Corrigendum. Such Technical Bid shall be opened in the presence of Bidders' designated representatives who chooses to attend. In such cases, the Bidder's designated representative must carry a letter of authorization issued by the Bidder's Authorized Signatory.
- ii. The Bidders' representatives who are present during the opening of hard copies of the Technical Bids may be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record.

- c) OREDA shall prepare a record of the opening of Technical Bids as per the internal guidelines notified from time to time.

##### **1.4.6.2. Price Bid (online):**

- a) OREDA shall conduct the opening of the Price Bids for all Bidders who are responsive in their Technical Bids after the evaluation being conducted by OREDA pursuant to ITB Clause 1.5.
- b) The Price Bids shall be opened online after the complete evaluation of the Technical Bids by OREDA. OREDA shall open the online Price Bids on the E-procurement Website as per the timelines mentioned in the NIT or any Corrigendum.

## **1.5. Evaluation and Comparison of Bids**

### **1.5.1. Confidentiality**

- 1.5.1.1. Information relating to the examination, evaluation, comparison, and post qualification of Bids and recommendation for the issue of Work Order, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on the issuance of Work Order is communicated to all Bidders unless it is specifically required by OREDA to do such disclosure as per the specific requirements.
- 1.5.1.2. Any attempt by a Bidder to influence OREDA's decision in the evaluation of the Bids or issuance of Work Order may result in the rejection of its Bid.
- 1.5.1.3. Notwithstanding ITB Clause 1.5.1.2, from the time of Bid opening to the time of issuance of Work Order, if any Bidder wishes to contact OREDA on any matter related to the bidding process, it may do so in writing only.

### **1.5.2. Clarification of Bids**

- 1.5.2.1. To assist in the examination, evaluation, and comparison of the Technical Bid and Price Bid, OREDA may, at its discretion, ask any Bidder for a clarification of its Bid. OREDA's request for clarification and the response shall be in writing only. No change in the substance of the Technical Bid or prices in the Price Bid shall be sought, offered, or permitted. OREDA reserves all the rights to evaluate any such response received from the Bidder based on the clarification to be sought.
- 1.5.2.2. If a Bidder does not provide clarification of its Bid by the date and time set in OREDA's request for clarification, such Bid shall be liable for rejection.

### **1.5.3. Examination of Technical Bids**

- 1.5.3.1. OREDA shall examine the Technical Bid to confirm that all documents and information requested in ITB Clause 1.3.3.2 for online submission and ITB Clause 1.3.3.3 for hard copy submission have been provided in order to assess the completeness of the Technical Bid.
- 1.5.3.2. OREDA shall confirm that all the requirements have been provided in the Technical Bid in all respect. If any of the documents or information is missing, the Bid shall be liable for rejection.

### **1.5.4. Responsiveness of Technical Bid**

- 1.5.4.1. OREDA's determination of a Technical Bid's responsiveness shall be strictly based on the contents of the Technical Bid, as mentioned in ITB Clause 1.3.3.2 and ITB Clause 1.3.3.3.
- 1.5.4.2. If a Bid is not responsive to the requirements of the NIT, it shall be liable for rejection by OREDA and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

### **1.5.5. Qualification of the Bidder**

- 1.5.5.1. OREDA shall determine to its satisfaction during the evaluation of Technical Bids whether Bidders meet the qualifying requirements specified in Section 4 (QR).
- 1.5.5.2. The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 1.3.3.
- 1.5.5.3. An affirmative determination shall be a pre-requisite for the opening and evaluation of a Bidder's Price Bid. A negative determination shall result in the disqualification of the Bid.

### **1.5.6. Correction of Arithmetical Errors**

- 1.5.6.1. During the evaluation of Price Bids, OREDA shall correct arithmetical errors on the following basis:

- a) If there is a discrepancy between the unit price and the Capex that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the Capex shall be corrected.
- b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail, and the total shall be corrected.
- c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to a) and b) above.

1.5.6.2. If the Bidder that submitted the lowest evaluated (L1) Bid does not accept the correction of errors, its Bid shall be disqualified, and its Bid Security shall be forfeited.

#### 1.5.7. Evaluation and comparison of Bids

1.5.7.1. OREDA shall compare all responsive Bids to determine the lowest evaluated Bid, in accordance with ITB Clause 1.5.6.2.

#### 1.5.8. OREDA's right to accept any Bid, and to reject any or all Bids

1.5.8.1. OREDA reserves all the right to accept or reject any Bid or to annul the bidding process or reject all Bids at any time prior to the issue of Work Order, without thereby incurring any liability to Bidders. In case of annulment, the Bids shall be liable for rejection online and the online copy of the Bid uploaded on the E-procurement Website shall be sent unopened to "Archive" and shall not be considered at all any further for evaluation. In such a case, the hard copies in the original form shall be returned unopened to the Bidder.

## 1.6. Work Order

#### 1.6.1. Award Criteria

- 1.6.1.1. The various categories of the Bidders considered in this Bidding Document are mentioned in Section 2 (BDS).
- 1.6.1.2. The Successful Bidders shall be selected as per the allocation procedures mentioned in Section 2 (BDS).

#### 1.6.2. Issue of Letter of Intent

- 1.6.2.1. Prior to the expiry of the period of Bid validity, OREDA shall notify the Successful Bidder, in writing, that its Bid has been accepted. At the same time, OREDA may also notify all other Bidders of the results of the bidding. In addition, OREDA may publish the results on the OREDA Website and E-procurement Website.
- 1.6.2.2. OREDA shall issue a Letter of Intent, as per LOI Form 1 under Section 7 (Annexure), to the Bidder whose Price Bid has been determined to be the lowest evaluated (L1) Bid and is responsive to the Bidding Document, provided further that the Bidder is determined to be qualified for the issuance of Letter of Intent satisfactorily.
- 1.6.2.3. Upon receiving the Letter of Intent, the Successful Bidder shall fulfill all other requirements given under the Letter of Intent and submit the below mentioned critical documents within a maximum time period of fifteen (15) Days from the date of Letter of Intent and provide its acceptance, without any fail, else such Bids shall be liable for rejection and the Bid Security shall be forfeited.

Sl. No	Critical documents
1.	Acceptance to the Letter of Intent by signing the copy of the Letter of Intent along with an official seal, date, and submission to OREDA
2.	Submission of Performance Security as per ITB Clause 1.6.3
3.	Submission of a Detailed Workplan in line with the Project Timelines mentioned in the SOW Clause 5.4.2.2 for the implementation of RSPS and SLS separately (as applicable).



Sl. No	Critical documents
4.	Submission of a site survey report with the finalization of the exact location of the Project and the plan for the separation of loads from the existing load for the purpose of implementation of the Project for the implementation of RSPS and SLS separately (as applicable).
5.	Valid Test Certificates of the solar photovoltaic module, inverter and battery along with datasheets of all other Equipment of the Project for the implementation of RSPS and SLS separately (as applicable).
6.	Contact information of various OEMs for the solar photovoltaic module, inverter, battery, solar street lighting system and balance of systems of the Project for the implementation of RSPS and SLS separately (as applicable).
7.	Single line diagram of the Project for the implementation of RSPS and SLS separately (as applicable).
8.	Design document of the module mounting structure and pole mounting structure of the Project for the implementation of RSPS and SLS separately (as applicable) along with a STAD pro analysis report as a part of the mandatory submission.
9.	Bill of materials along with spares

### 1.6.3. Performance Security

- 1.6.3.1. Within fifteen (15) Days of the receipt of Letter of Intent from OREDA as per ITB Clause 1.6.2, the Successful Bidder shall furnish the Performance Security as per LOI Form 2 under Section 7 (Annexure).
- 1.6.3.2. The Performance Security shall be denominated in Indian Rupees only.
- 1.6.3.3. The Performance Security shall be submitted as per the details given in Section 2 (BDS). The Performance Security shall be submitted only in the form of a Bank Guarantee and the Bank Guarantee shall be issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha for an amount, expiry date and claim date as mentioned in Section 2 (BDS).

### 1.6.4. Issue of Work Order

- 1.6.4.1. Failure of the Successful Bidder to complete all the formalities mentioned in the Letter of Intent pursuant to ITB Clause 1.6.2 shall constitute sufficient grounds for the annulment of the Letter of Intent and forfeiture of the Bid Security. In that event, OREDA may issue the Letter of Intent to the next lowest evaluated (L2, L3, and so on in sequence) Successful Bidder at the same lowest evaluated (L1) price quoted by the first Successful Bidder. In all cases, the Bid of the Successful Bidder shall be responsive and is determined by OREDA to be qualified to complete the formalities satisfactorily. In case any of the Bidder from L2, L3, and so on in sequence does not accept the Letter of Intent, then OREDA shall have the right to select the Successful Bidder or annul the bidding process, at its own discretion.
- 1.6.4.2. Upon completion of all the formalities mentioned in the Letter of Intent within the stipulated timeline by the Bidder, OREDA shall issue the Work Order to the Successful Bidder within a maximum time period of fifteen (15) Days.

## 2. Bid Data Sheet (BDS)

Section 2 (BDS) shall supplement the Clauses mentioned in Section 1 (ITB). Whenever there is a conflict or interpretation issue, the provisions herein shall prevail over those in Section 2 (BDS). The Clause number of Section 2 (BDS) is the corresponding Clause number of Section 1 (ITB).

### 2.1. Specific provisions of ITB

BDS Clause reference	ITB Clause reference	Detailed Clause			
2.1.1.	ITB Clause 1.1.1.3	<b>Name of the Project:</b> Design, Engineering, Supply, Installation, Testing, Commissioning and acceptance of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha.			
2.1.2.	ITB Clause 1.2.2.2	The pre-bid meeting shall be conducted through an online pre-bid meeting.			
2.1.3.	ITB Clause 1.3.3.2 and ITB Clause 1.3.3.3	<b>Estimated Cost (INR)</b>	<b>Bid Security (INR)</b>	<b>Cost of Bid (INR)</b>	<b>Bid Processing Fee (INR)</b>
		15,72,00,000	15,72,000	10,500 + GST	1,000 + GST
		<p><b>Note:</b> The Bidder who is exempted to pay the Cost of Bid and Bid Security Fee shall produce the relevant certificates issued by the Government.</p> <p>The Bid Processing Fee shall be made in favour of “KSEDC Limited” payable at “Bengaluru”.</p> <p>In case of the Bid Security submitted is in the form of a Bank Guarantee, the expiry date, and claim date are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Expiry date:</b> One hundred and eighty (180) Days from the original last date of submission of online Technical Bid</li> <li>• <b>Claim date:</b> Twelve (12) Months from the date of expiry</li> </ul> <p>In case the Bidder is quoting a price less than the Estimated Cost in the Price Bid, then the Bidder shall mandatorily deposit an <b>Additional Performance Security</b> issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha for an amount equivalent to the difference of the amounts of Estimated Cost against the price quoted. This shall be valid for an expiry period of ten (10) Months from the last date of submission of Bid as per the NIT or any Corrigendum. The claim date shall be for a date calculate for a period of twelve (12) Months from the date of expiry. This Additional Security shall be submitted as a part of the Price Bid only and shall not be submitted under the Technical Bid by any chance, else the Bid shall be liable for rejection. This is a mandatory submission only for the Bidders who are quoting the prices less than the Estimated Cost in their Price Bid. This can be submitted as per Bid Form 3.</p>			
2.1.4.	ITB Clause 1.3.6.1	<b>Bid validity period:</b> Three Hundred Sixty Five (365) Days from the last date of Bid submission.			
2.1.5.	ITB Clause 1.4.1.1	<p><b>Procedure for submission of Bid:</b></p> <ul style="list-style-type: none"> <li>• For participating in the Bid, it is mandatory to procure the Digital Signature Certificate (DSC) of class-III only.</li> </ul>			

BDS Clause reference	ITB Clause reference	Detailed Clause
		<ul style="list-style-type: none"> <li>• The Bidders are advised to register their user id, password, and company id on the E-procurement Website by clicking on the hyperlink “Register Me” to fill in the online registration form.</li> <li>• The unregistered Bidders are required to pay a registration fee in favour of M/s. KSEDCL Limited payable at Bangalore on the E-procurement Website through e-payment mode only as per the instruction given therein.</li> <li>• As soon as the verification is done by the E-procurement Website, the user id will be enabled/ provided.</li> <li>• After viewing the NIT on the E-procurement Website, if the Bidder intends to submit its Bid, the Bidder shall use the user id and password that has been received after registration and use the DSC. The step-by-step instructions are given below: <ul style="list-style-type: none"> <li>- Insert the Public Key Infrastructure (PKI), which consists of the DSC in the system. Ensure that the necessary software of PKI has been installed.</li> <li>- Click/ Double Click to open the Microsoft Internet Explorer</li> <li>- Go to Start &gt; Programs &gt; Internet Explorer. Type the E-procurement Website address “www.tenderwizard.com/OREDA” in the address bar of Internet Explorer to access the Login Screen.</li> <li>- Enter user id and password, click on “Go”.</li> <li>- Click on “Click here to login” to select the DSC and enter the DSC Password. Re-enter the user id and password.</li> <li>- Click “Un Applied” to view/ apply for a new NIT.</li> <li>- Click on the “Request” icon for online requests. After making the request, the Bidder shall pay the requisite Bid Processing Fee (as indicated in the NIT) through e-payment mode only available on the E-procurement Website. The Bidders can download the Bidding Document by following the below steps. <ul style="list-style-type: none"> <li>◦ Click on the “Show Form” icon.</li> <li>◦ Bidding Document will appear on the screen.</li> <li>◦ Click “Click here to download” to download the Bidding Document.</li> </ul> </li> </ul> </li> <li>• <b>The Bidder shall submit the Bid either under Category A or Category B as per the terms of the Bidding Document.</b></li> <li>• All the soft copies of the Bid shall be properly scanned and shall be legible and such softcopies shall be either uploaded in .pdf or .jpg or .jpeg format.</li> <li>• Prior to submission, verify whether all the required documents as a part of Technical Bid and Price Bid have been attached and uploaded against the particular Bidding Document or not.</li> <li>• The Price Bid shall be uploaded on the E-procurement Website only in Microsoft .xls or .xlsx format only. By no other means, except online through E-procurement Website, the Price Bid shall be accepted for evaluation of the Bids.</li> <li>• The hard copies as required to be submitted shall be submitted OREDA’s Office Address as per the timelines mentioned in NIT or any Corrigendum.</li> </ul>

BDS Clause reference	ITB Clause reference	Detailed Clause									
		<ul style="list-style-type: none"> <li>• Please note down or take a print of the bid control number once it is displayed on the screen.</li> <li>• Bid opening events can be viewed online.</li> <li>• The Bids submitted by one Bidder can be viewed by other Bidders.</li> </ul>									
2.1.6.	ITB Clause 1.6.1.1	<p>The overall scope is allocated into two (2) categories of the Bidders:</p> <ul style="list-style-type: none"> <li>• <b><u>Category A:</u></b> Any Bidder who meets the Qualification Requirement as per Section 4 (QR) can participate under Category A.</li> <li>• <b><u>Category B:</u></b> The Bidders who are local MSME and registered under the MSME Development Act, 2006 in Odisha as per Section D, Division 35, Group 351 having NIC 5-digit code of 35105 (Electric power generation using solar energy) and meets other requirements as per QR clause 4.1 and meets Specific Qualification Requirement” as per QR Clause 4.2 but does not meet the “Technical Qualification Requirement” as per QR Clause 4.3 and “Financial Qualification Requirement” as per QR Clause 4.4. In case any such Bidder has participated under Category A, then such a Bidder cannot participate under Category B.</li> </ul> <p><b>Note:</b> A Bidder can either participate under Category A or under Category B. In case a Bidder participates for both Category A and Category B, then such Bids shall be summarily rejected owing to conflict of interest and may be blacklisted in the future from further participating in any bid with OREDA.</p> <p>The overall allocation of total capacity shall be made as per the following allocation under Category A and Category B.</p> <ul style="list-style-type: none"> <li>• <b>Category A:</b> Eighty percent (80%) of the capacity of RSPS and eighty percent (80%) of total no. of SLS will be reserved for Category A Bidders.</li> <li>• <b>Category B:</b> Remaining twenty percent (20%) of the capacity of RSPS and twenty percent (20%) of total no. of SLS will be reserved for Category B Bidders.</li> </ul> <p><b>Note:</b> OREDA reserves all the right to allocate the actual capacities of RSPS and actual no. of SLS to the Category A and Category B Successful Bidders at the time of issuance of Letter of Intent and finalization of Work Order.</p>									
2.1.7.	ITB Clause 1.6.1.2	<p><b>Allocation of Projects:</b></p> <ul style="list-style-type: none"> <li>• For Category A Bidders, the lowest evaluated (L1) Bidder will get an allocation as indicated in BDS Clause 2.1.6. The distribution of the work is given below:</li> </ul> <table border="1" data-bbox="587 1711 1442 1917"> <thead> <tr> <th>School</th> <th>Total No. of project to be allocated to L1 bidder of Category A</th> <th>Cumulative capacity to be allocated to L1 bidder of Category A</th> </tr> </thead> <tbody> <tr> <td>OAVs</td> <td>32</td> <td>640 KW</td> </tr> <tr> <td>KGBVs</td> <td>23</td> <td>230 KW</td> </tr> </tbody> </table>	School	Total No. of project to be allocated to L1 bidder of Category A	Cumulative capacity to be allocated to L1 bidder of Category A	OAVs	32	640 KW	KGBVs	23	230 KW
School	Total No. of project to be allocated to L1 bidder of Category A	Cumulative capacity to be allocated to L1 bidder of Category A									
OAVs	32	640 KW									
KGBVs	23	230 KW									

BDS Clause reference	ITB Clause reference	Detailed Clause																												
		<ul style="list-style-type: none"> <li>• For Category B Bidders, the overall works shall be allocated as per the draw of lots subject to the procedure as mentioned below:               <ul style="list-style-type: none"> <li>- The Category B Bidders shall need to accept the offer at the L1 price discovered under the Category A Bidders.</li> <li>- Failure on the part of such Bidder in Category B to match such an L1 price shall constitute sufficient grounds for the annulment of the offer for such Bidder without forfeiture of the Bid Security.</li> <li>- In that event, OREDA may go for a draw of lots from the remaining Bidders until a Bidder accepts the L1 price.</li> <li>- In case none of the Category B Bidders accepts the offer then such Projects will be awarded to the Successful Bidder under Category A pursuant to GCC Clause 5.7.1.3.</li> <li>- In such a case, all supply/ installation orders shall be placed with the state local registered office of the qualified vendors only.</li> <li>- The distribution of the work for category B bidder is given below.</li> </ul> <table border="1" data-bbox="587 815 1441 1178"> <thead> <tr> <th>School</th> <th>Successful Bidder</th> <th>Total No. of project to be allocated</th> <th>Cumulative capacity to be allocated</th> </tr> </thead> <tbody> <tr> <td>OAV</td> <td>A1</td> <td>2</td> <td>40 KW</td> </tr> <tr> <td>OAV</td> <td>A2</td> <td>2</td> <td>40 KW</td> </tr> <tr> <td>OAV</td> <td>A3</td> <td>2</td> <td>40 KW</td> </tr> <tr> <td>OAV</td> <td>A4</td> <td>2</td> <td>40 KW</td> </tr> <tr> <td>KGBV</td> <td>A5</td> <td>3</td> <td>30 KW</td> </tr> <tr> <td>KGBV</td> <td>A6</td> <td>3</td> <td>30 KW</td> </tr> </tbody> </table> <p>The A1 to A6 bidders will be selected through draw of lots. In case a Bidder becomes the Successful Bidder after a draw of lots, then the Successful Bidder needs to accept the offer. At the end of the process, OREDA will select six (6) unique Category B Bidders.</p> <p>Note: The allotment of the districts and the areas shall be at the discretion of OREDA only.</p> </li> </ul>	School	Successful Bidder	Total No. of project to be allocated	Cumulative capacity to be allocated	OAV	A1	2	40 KW	OAV	A2	2	40 KW	OAV	A3	2	40 KW	OAV	A4	2	40 KW	KGBV	A5	3	30 KW	KGBV	A6	3	30 KW
School	Successful Bidder	Total No. of project to be allocated	Cumulative capacity to be allocated																											
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KGBV	A5	3	30 KW																											
KGBV	A6	3	30 KW																											
2.1.8.	ITB Clause 1.6.3.3	<p><b>Performance Security:</b></p> <p>The Performance Security shall be submitted for an aggregate amount equivalent to ten percent (10%) of ordered value in five (5) parts, as given below:</p> <table border="1" data-bbox="539 1581 1441 1980"> <thead> <tr> <th>BG no.</th> <th>Amount</th> <th>Expiry date</th> <th>Claim date</th> </tr> </thead> <tbody> <tr> <td>BG 1</td> <td>Two percent (2%) of Initial Capex</td> <td>Twenty (20) Months from the date of issuing Letter of Intent</td> <td>Twelve (12) Months from the date of expiry</td> </tr> <tr> <td>BG 2</td> <td>Two percent (2%) of Initial Capex</td> <td>Thirty (30) Months from the date of issuing Letter of Intent</td> <td>Twelve (12) Months from the date of expiry</td> </tr> <tr> <td>BG 3</td> <td>Two percent (2%) of Initial Capex</td> <td>Forty-Two (42) Months from the date of issuing Letter of Intent</td> <td>Twelve (12) Months from the date of expiry</td> </tr> <tr> <td>BG 4</td> <td>Two percent (2%) of Initial Capex</td> <td>Fifty-Four (54) Months from the date of issuing Letter of Intent</td> <td>Twelve (12) Months from the date of expiry</td> </tr> </tbody> </table>	BG no.	Amount	Expiry date	Claim date	BG 1	Two percent (2%) of Initial Capex	Twenty (20) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry	BG 2	Two percent (2%) of Initial Capex	Thirty (30) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry	BG 3	Two percent (2%) of Initial Capex	Forty-Two (42) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry	BG 4	Two percent (2%) of Initial Capex	Fifty-Four (54) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry								
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BG 4	Two percent (2%) of Initial Capex	Fifty-Four (54) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry																											

BDS Clause reference	ITB Clause reference	Detailed Clause			
		BG 5	Two percent (2%) of Initial Capex	Sixty-Six (66) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry
<p>Each Bank Guarantee submitted towards the Performance Security shall be returned within a maximum period of thirty (30) Days of the expiry date of each of the Bank Guarantee.</p>					



## 3. Scope of Work (SOW)

Section 3 (SOW) contains about the Project, roles, and responsibilities of the individual Parties, Equipment requirements, Technical Specifications, Designs and Drawings, Supplementary Information, Spares, Project Timelines, etc. that describe the SOW under the NIT.

### 3.1. About the Project

#### 3.1.1. Introduction

3.1.1.1. The Kasturba Gandhi Balika Vidyalaya (KGBV) scheme was launched by the Government of India in Aug 2004 for setting up residential schools at upper primary level for girls belonging predominantly to the SC, ST, OBC and minorities in difficult areas. The objective of KGBV is to ensure that quality education is feasible and accessible to the girls of disadvantaged groups of society by setting up residential schools with boarding facilities at the elementary level. Among these 29 KGAVs situated at Jajpur, Keonjhar, Mayurbhanj and Sundargarh district has been accorded by OMBADC.

Odisha Adarsha Vidyalaya (OAV) is a chain of schools planned to be set up, one at each of 314 block headquarters. These Adarsha Vidyalayas are fully day boarding schools affiliated to CBSE. The schools provide free education and target talented students through an annual entrance examination from Class VI up to Class XII. The schools shall be administered through Odisha Adarsha Vidyalaya Sangathan and so far 160 schools have been functioning. Among these 40 OAVs situated at Jajpur, Keonjhar, Mayurbhanj and Sundargarh district has been accorded by OMBADC.

This Scope of Work shall be for the purpose of selection of EPC contractor(s) to Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Adarsha Vidyalaya premises across 4 district(s) in Odisha. The RSPS and the SLS shall be collectively called the "Project".

3.1.1.2. The summary of the Project is mentioned below:

Districts	No. of KGBV Hostels	No. of OAV	Cumulative capacity of RSPS in kWp	Cumulative no. of SLS
Jajpur, Keonjhar, Mayurbhanj, Sundargarh	29	40	1090	800

3.1.2. The type of solar projects to be installed as given below:

Type of Institutions	Type of Solar System
KGBV	10 KW Off-grid RSPS with 100% battery back-up in each school
OAV	20 KW Grid Connected RSPS with Net-metering facility and 50% battery backup and 20 no. of SLS in each school

#### 3.1.3. Objectives

The objectives of implementing this Project are to:

- 3.1.3.1. Optimize the cost of energy bills of the institutions;
- 3.1.3.2. Increase reliability of power with the introduction of onsite rooftop solar power plant;
- 3.1.3.3. Support GRIDCO in meeting the solar RPO;
- 3.1.3.4. Generate local employment.

## **3.2. Roles and Responsibilities**

### **3.2.1. Roles and Responsibilities of the Successful Bidder for the implementation of RSPS**

#### **3.2.1.1. Design and Engineering**

- a) The Successful Bidder shall complete the design and engineering of the RSPS as per the Technical Specification given in SOW Clause 3.3.1.1 using the Equipment as given in SOW Clause 3.2.1.2 and shall be developed as per the Applicable Law and the Prudent Utility Practices prevailing in Odisha.
- b) The Successful Bidder shall provide AC generation meter and Net meter as per the OERC guidelines for the net-metered project. The Successful Bidder shall ensure that the RMS facility is inbuilt in the inverter. In addition, the Successful Bidder shall share the remote communication protocol as well as the login credentials (username, password, etc.) to OREDA for each RSPS.
- c) The Successful Bidder shall ensure that the module mounting structures must be designed to be completely non-invasive (without any grouting/ chipping) on the rooftop space. In this regard, an indicative design can be considered as per the Technical Specifications given in SOW Clause 3.3.1.1.
- d) The Successful Bidder shall design for an adequate protection system as per the requirement of the site by taking lightning, wind speed, rainy season, other climatic conditions, sudden surges in voltage and current, etc.
- e) The indicative drawing and design of a module mounting structure that can withstand a wind speed up to 200 km per hour has been provided at SOW Clause 3.3.1.2. However, depending on the actual RSPS site conditions, the Successful Bidder may propose for a change in the design of module mounting structures with due certification from a chartered engineer with regards to quality, durability and wind resistance capability for the abovementioned speed and install the same only after getting due approval from the Authorized Representative of OREDA.
- f) The Successful Bidder shall mandatorily visit all the RSPS sites and submit single line diagrams for the RSPS indicating all wiring details, connectivity details, etc. as per the Applicable Law and Prudent Utility Practices, prior to the procurement of Equipment and commencement of construction works at the RSPS site.
- g) The Successful Bidder shall submit the final design, single line diagram, etc. to OREDA and obtain the approval from OREDA prior to the commencement of installation works.

#### **3.2.1.2. Supply of Equipment**

- a) The Successful Bidder shall supply all the Equipment as per the Technical Specification given in SOW Clause 3.3.1.1.
- b) The Successful Bidder shall be responsible for the supply of all Equipment including but not limited to solar photovoltaic modules, module mounting structures, inverters, batteries, net/bi-directional meter and the balance of systems. The Successful Bidder shall provide an array junction box, main junction box, inverters along with DCDB and ACDB.
- c) The Successful Bidder shall be responsible for procuring, packing, forwarding, loading, unloading, safekeeping, and handling of all Equipment including insurance coverage all the time until Acceptance of the RSPS pursuant to SOW Clause 3.2.1.6.
- d) The Successful Bidder shall provide the Spares as given in SOW Clause 3.3.1.3 and shall ensure to maintain the safety stock all the time until the expiry of the Work Order, prior to which the Successful Bidder shall handover all the Spares in full to OREDA.

### 3.2.1.3. Installation

- a) The Successful Bidder shall be responsible for carrying out the installation of all Equipment as per the design, SLDs, etc. approved by OREDA pursuant to SOW Clause 3.2.3.1.
- b) The Successful Bidder shall separate the required loads from the existing loads at each site SOW Clause 3.3.2.4 and connect the same to the ACDB of the RSPS, in consultation with the Department and the Authorized Representative of OREDA.
- c) The Successful Bidder shall ensure that there shall not be any invasion/ damage whatsoever to the rooftop due to the installation of the module mounting structures that will lead to any chances of leakage of rainwater, etc. from the rooftop on a later date.
- d) The Successful Bidder shall ensure to have a clean and tidy installation of the RSPS. The Successful Bidder shall ensure to consider the safety aspects into consideration and shall not leave any loose cables to lie on the rooftops.
- e) The Successful Bidder shall install display boards mentioning the name of the Department, Project capacity, date of Commissioning, date of Acceptance, contact details of OREDA, CRC, and Successful Bidder at prominent places nearer to the battery bank, the entrance of the RSPS and inverters.
- f) The Successful Bidder shall install danger boards, safety boards, etc. at suitable locations as per the Applicable Law and Prudent Utility Practices.
- g) The Successful Bidder shall ensure to make the inverters and control panels wall mounted / Floor Mounted..
- h) The Successful Bidder shall ensure that earthing flats do not touch the roof/ walls at any place and sufficient insulators shall be provided for the same.
- i) The Successful Bidder shall ensure the protection of life and property likely to be endangered due to the installation of RSPS.
- j) The installation process shall be documented step-by-step as per the instructions given in the ReSolve Mobile App developed by OREDA through its Customer Relationship Centre (CRC). The Successful Bidder shall mandatorily install the ReSolve Mobile Application from the CRC team and get itself trained if required. The instructions are given in SOW Clause 3.3.1.7.

### 3.2.1.4. Grid Interconnection (For RSPS on OAVs)

- a) The Successful Bidder shall be responsible for synchronization of the RSPS with DISCOMs as per prevailing regulations/ orders of Odisha Electricity Regulatory Commission (OERC) and their amendment from time to time;
- b) The Successful Bidder shall coordinate with the concerned DISCOMs and complete the net metering of the RSPS;
- c) Installation of Net/Bi-directional Meter and Solar Generation Meter in accordance with the prevailing guidelines of the concerned DISCOMs and/ or CEA and net metering regulation in OERC; and
- d) Connectivity of RSPS with the concerned DISCOMs' network.

### 3.2.1.5. Testing and Commissioning

- a) After completion of installation works, the Successful Bidder shall complete the testing and Commissioning in the presence of the Authorized Representative of OREDA and RE cell of District Rural Development Agency (DRDA) of the respective districts as well as the designated representative of the Department. The committee comprising of the above persons shall be termed as the Commissioning Committee.

- b) The Successful Bidder shall take consultation from the Commissioning Committee on finalizing a date and time of testing and Commissioning.
- c) Upon completion of testing and Commissioning, the Commissioning Committee shall issue the Joint Commissioning Certificate to the Successful Bidder as per the format given in SOW Clause 3.3.1.5.
- d) The testing and Commissioning process shall be documented step-by-step as per the instructions given in the ReSolve Mobile App developed by OREDA through CRC.
- e) The format for the Commissioning Report is given in SOW Clause 3.3.1.4.

#### **3.2.1.6. Acceptance**

- a) The performance and health of the RSPS will be monitored for a period of ninety (90) Days from the date of Commissioning.
- b) The Commissioning Report followed during Commissioning as given in SOW Clause 3.3.1.4 shall be performed again before issuance of the Acceptance Certificate as per format given in SOW Clause 3.3.1.6.
- c) Upon Acceptance of the RSPS, the Comprehensive Maintenance of the RSPS shall begin as per SOW Clause 3.2.1.7

#### **3.2.1.7. Comprehensive Maintenance**

- a) The Successful Bidder shall be required to undertake Scheduled Maintenance, Corrective Maintenance, and Breakdown Maintenance during the CMC Period.
- b) The Successful Bidder shall adhere to all maintenance procedures as required by OREDA from time to time, without any protest or hesitation.
- c) The Successful Bidder shall undertake the Scheduled Maintenance of each Project as per the standard maintenance protocol given in SOW Clause 3.3.1.8. The Scheduled Maintenance process shall be documented step-by-step as per the instructions given in the ReSolve Mobile App developed by OREDA through CRC.
- d) The Successful Bidder shall also undertake Corrective Maintenance and Breakdown Maintenance as and when required upon receipt of service request from CRC or OREDA or Department raised through ReSolve Mobile App or any other medium as suggested by OREDA or Department from time to time. Such service request shall be resolved and made functional within a maximum period of seven (7) Days from the date of such service request raised through ReSolve Mobile App, failing which might restrict the Successful Bidder in participating in the future opportunities of OREDA, subject to the final decision at the discretion of OREDA only.
- e) The Successful Bidder is required to train at least two (2) designated persons from the Department for day-to-day Comprehensive Maintenance and upkeep of the RSPS.
- f) The Successful Bidder shall maintain all the Spares as given in SOW Clause 3.3.1.3 and shall ensure to maintain the safety stock all the time until the expiry of the Work Order, prior to which the Successful Bidder shall handover all the Spares in full to OREDA.
- g) The Successful Bidder shall establish a central office at Bhubaneswar, Odisha, and also establish local offices at the concerned district so as to deliver uninterrupted and sustainable Comprehensive Maintenance during the CMC Period duly headed by a Service Engineer.

### **3.2.2. Roles and Responsibilities of the Successful Bidder for the implementation of SLS**

#### **3.2.2.1. Design and Engineering**

- a) The Successful Bidder shall complete the design and engineering of the SLS as per the Technical Specification given in SOW Clause 3.3.2.1 using the Equipment as given in SOW Clause 3.2.2.2 and shall be developed as per the Applicable Law and the Prudent Utility Practices prevailing in Odisha.
- b) The Successful Bidder shall ensure that the module mounting structures must be designed to be well connected to the top of each. In this regard, an indicative design can be considered as per the Technical Specifications given in SOW Clause 3.3.2.1.
- c) The Successful Bidder shall design for an adequate protection system as per the requirement of the site by taking lightning, wind speed, rainy season, other climatic conditions, sudden surges in voltage and current, etc.
- d) The indicative drawing and design of pole structure that can withstand wind speed up to 200 km per hour has been provided at SOW Clause 3.3.2.2. However, depending on the actual SLS site conditions, the Successful Bidder may propose for a change in the design of pole structures with due certification from a chartered engineer with regards to quality, durability and wind resistance capability for the abovementioned speed and install the same only after getting due approval from the Authorized Representative of OREDA.
- e) The Successful Bidder shall mandatorily visit all the SLS sites and indicating all wiring details, connectivity details, etc. as per the Applicable Law and Prudent Utility Practices, prior to the procurement of Equipment and commencement of construction works at the site.
- f) The Successful Bidder shall submit the final design, single line diagram, etc. to OREDA and obtain the approval from OREDA prior to the commencement of installation works.

#### **3.2.2.2. Supply of Equipment**

- a) The Successful Bidder shall supply all the Equipment as per the Technical Specification given in SOW Clause 3.3.2.1.
- b) The Successful Bidder shall be responsible for procuring, packing, forwarding, loading, unloading, safekeeping, and handling of all Equipment including insurance coverage all the time until Acceptance of the SLS pursuant to SOW Clause 3.2.2.5.
- c) The Successful Bidder shall provide the Spares as given in SOW Clause 3.3.2.3 and shall ensure to maintain the safety stock all the time until the expiry of the Work Order, prior to which the Successful Bidder shall handover all the Spares in full to OREDA.

#### **3.2.2.3. Installation**

- a) The Successful Bidder shall be responsible for carrying out the installation of all Equipment as per the design approved by OREDA pursuant to SOW Clause 3.2.3.1.
- b) The Successful Bidder shall ensure to have a clean and tidy installation of the SLS. The Successful Bidder shall ensure to consider the safety aspects into consideration and shall not leave any loose cables to lie on the SLS.
- c) The Successful Bidder shall install display boards mentioning the name of the Department, Project capacity, date of Commissioning, date of Acceptance, contact details of OREDA, CRC, and Successful Bidder at prominent places nearer to both the ends of the installation.
- d) The Successful Bidder shall install danger boards, safety boards, etc. at suitable locations.
- e) The Successful Bidder shall ensure that earthing flats do not touch the poles at any place and sufficient insulators shall be provided for the same.
- f) The Successful Bidder shall ensure the protection of life and property likely to be endangered due to the installation of SLS.

- g) The installation process shall be documented step-by-step as per the instructions given in the ReSolve Mobile App developed by OREDA through its Customer Relationship Centre (CRC). The Successful Bidder shall mandatorily install the ReSolve Mobile Application from the CRC team and get itself trained if required. The instructions are given in SOW Clause 3.3.1.7.

#### **3.2.2.4. Testing and Commissioning**

- a) After completion of installation works, the Successful Bidder shall complete the testing and Commissioning in the presence of the Authorized Representative of OREDA and RE cell of District Rural Development Agency (DRDA) of the respective districts as well as the designated representative of the Department. The committee comprising of the above persons shall be termed as the Commissioning Committee.
- b) The Successful Bidder shall take consultation from the Commissioning Committee on finalizing a date and time of testing and Commissioning.
- c) Upon completion of testing and Commissioning, the Commissioning Committee shall issue the Joint Commissioning Certificate to the Successful Bidder as per the format given in SOW Clause 3.3.2.5.
- d) The testing and Commissioning process shall be documented step-by-step as per the instructions given in the ReSolve Mobile App developed by OREDA through CRC.
- e) The format for the Commissioning Report is given in SOW Clause 3.3.2.4.

#### **3.2.2.5. Acceptance**

- a) The performance and health of the SLS will be monitored for a period of ninety (90) Days from the date of Commissioning.
- b) The Commissioning Report followed during Commissioning as given in SOW Clause 3.3.2.4 shall be performed again before issuance of the Acceptance Certificate as per format given in SOW Clause 3.3.2.6.
- c) Upon Acceptance of the RSPS, the Comprehensive Maintenance of the RSPS shall begin as per SOW Clause 3.2.2.6.

#### **3.2.2.6. Comprehensive Maintenance**

- a) The Successful Bidder shall be required to undertake Scheduled Maintenance, Corrective Maintenance, and Breakdown Maintenance during the CMC Period.
- b) The Successful Bidder shall adhere to all maintenance procedures as required by OREDA from time to time, without any protest or hesitation.
- c) The Successful Bidder shall undertake the Scheduled Maintenance of each Project as per the standard maintenance protocol given in SOW Clause 3.3.2.8. The Scheduled Maintenance process shall be documented step-by-step as per the instructions given in the ReSolve Mobile App developed by OREDA through CRC.
- d) The Successful Bidder shall also undertake Corrective Maintenance and Breakdown Maintenance as and when required upon receipt of service request from CRC or OREDA or Department raised through ReSolve Mobile App or any other medium as suggested by OREDA or Department from time to time. Such service request shall be resolved and made functional within a maximum period of seven (7) Days from the date of such service request raised through ReSolve Mobile App, failing which might restrict the Successful Bidder in participating in the future opportunities of OREDA, subject to the final decision at the discretion of OREDA only.
- e) The Successful Bidder is required to train at least two (2) designated persons from the Department for day-to-day Comprehensive Maintenance and upkeep of the SLS.



- f) The Successful Bidder shall maintain all the Spares as given in SOW Clause 3.3.1.3 and shall ensure to maintain the safety stock all the time until the expiry of the Work Order, prior to which the Successful Bidder shall handover all the Spares in full to OREDA.
- g) The Successful Bidder shall establish a central office at Bhubaneswar, Odisha, and also establish local offices at the concerned district so as to deliver uninterrupted and sustainable Comprehensive Maintenance during the CMC Period.

### 3.2.3. Roles and Responsibilities of OREDA

- 3.2.3.1. OREDA shall be responsible for providing its approval on the final Designs and Drawings consisting of the detailed designs, single line diagram, etc. after the obtaining such document from the Successful Bidder pursuant to SOW Clause 3.2.1.1 g) and 3.2.2.1 f)
- 3.2.3.2. All tests and inspections shall be made at the Project site. The Authorized Representative of OREDA shall be entitled at all reasonable times to inspect, supervise and test during the implementation of the Project. Such inspection will not relieve the Successful Bidder of their obligation in the Work Order. OREDA shall have the right to have the tests carried out at its own cost by an independent agency at any point in time.

## 3.3. Technical details of Project

### 3.3.1. Technical details of RSPS

- 3.3.1.1. **Technical Specifications:** The Technical Specification of all Equipment are provided in Annexure 7.5.1.
- 3.3.1.2. **Designs and Drawings:** The Designs and Drawings of the Project are provided in Annexure 7.5.2.
- 3.3.1.3. **Spares:** The Spares of the Project are provided in Annexure 7.5.3.
- 3.3.1.4. **Commissioning Report:** The detailed Commissioning procedure is provided in Annexure 7.5.4.
- 3.3.1.5. **Joint Commissioning Certificate:** The format of the Joint Commissioning Certificate is provided in Annexure 7.5.5.
- 3.3.1.6. **Acceptance Certificate:** The format of the Acceptance Certificate is provided in Annexure 7.5.6.
- 3.3.1.7. **CRC guidelines:** The CRC guidelines are provided in Annexure 7.7.
- 3.3.1.8. **Scheduled Maintenance:** The detailed procedure and checklist for performing Scheduled Maintenance are provided in Annexure 7.5.7.

### 3.3.2. Technical details of SLS

- 3.3.2.1. **Technical Specifications:** The Technical Specification of all Equipment are provided in Annexure 7.6.1.
- 3.3.2.2. **Designs and Drawings:** The Designs and Drawings of the Project are provided in Annexure 7.6.2.
- 3.3.2.3. **Spares:** The Spares of the Project are provided in Annexure 7.6.3.
- 3.3.2.4. **Commissioning Report:** The detailed Commissioning procedure is provided in Annexure 7.6.4.
- 3.3.2.5. **Joint Commissioning Certificate:** The format of the Joint Commissioning Certificate is provided in Annexure 7.6.5.
- 3.3.2.6. **Acceptance Certificate:** The format of the Acceptance Certificate is provided in Annexure 7.6.6.

3.3.2.7. **CRC guidelines:** The CRC guidelines are provided in Annexure 7.7.

3.3.2.8. **Scheduled Maintenance:** The detailed procedure and checklist for performing Scheduled Maintenance are provided in Annexure 7.6.7.

### **3.4. Project Timelines**

3.4.1. The following are the Project Timelines for developing the Project:

<b>Activities</b>	<b>Project Timelines</b>
Issue of Letter of Intent by OREDA	T0
Performance of Letter of Intent by the Successful Bidder	T1 = T0 + fifteen (15) Days
Issue of Work Order by OREDA	T2 = T1+ seven (7) Days
Commissioning	T3 = T2 + One hundred Twenty (120) Days
Acceptance	T4 = T3 + ninety (90) Days
CMC start date	T5 = T3 + one (1) Days
CMC end date	T6 = T5 + five (5) Years

T0: start date

## 4. Qualification Requirement (QR)

Section 4 (QR) contains all the Qualification Requirements that OREDA shall use to evaluate the Technical Bids and qualify Bidders for during the evaluation of Technical Bids.

The Bidder shall fulfill the below Qualification Requirement in order to submit the Bid. Any discrepancy or deviation from the stated Qualification Requirement shall make the Bidder ineligible to submit the Bid and such Bid shall be liable for rejection.

### 4.1. General Qualification Requirement

Clause no.	Qualification Requirement	Support document
4.1.1.	<p><b>Applicability:</b> For Category A and Category B Bidders</p> <p>The Bidder must be a</p> <p>4.1.1.1. company registered under The Indian Companies Act, 1956/ 2013; or</p> <p>4.1.1.2. partnership firm registered under The Indian Partnership Act, 1932; or</p> <p>4.1.1.3. sole proprietorship firm under the relevant laws in India.</p> <p><b>Note: Joint venture, consortium and subcontracting are not allowed.</b></p>	<p>The Bidder must submit a copy of the relevant documents issued by an appropriate Government authority in India.</p> <p>The Bidder must submit Bid Form 12.</p>
4.1.2.	<p><b>Applicability:</b> For Category B Bidders only</p> <p>In case the Bidder is a local MSME registered in Odisha, the Bidder must be registered under the MSME Development Act, 2006 in Odisha under Section D, Division 35, Group 351 having NIC 5-digit code of 35105 (Electric power generation using solar energy).</p> <p>Such Bidder under Category B shall be exempted from meeting “Technical Qualification Requirement” as per QR Clause 4.3 and “Financial Qualification Requirement” as per QR Clause 4.4, but shall comply “Specific Qualification Requirement” as per QR Clause 4.2 and 4.1.3. The local MSME only can apply for the Projects as mentioned in Section 2 (BDS).</p>	<p>The Bidder being a local MSME must submit a copy of the certificate of registration issued by an appropriate authority. This is applicable only for the MSMEs. The Bidders, other than an MSME, cannot apply for such Projects.</p> <p>The Bidder must submit Bid Form 12.</p>
4.1.3.	<p><b>Applicability:</b> For Category A and Category B Bidders</p> <p>The Bidder must not be debarred/ blacklisted/ defaulted by any Government, agency, Public Sector Undertaking (PSU), institution/ autonomous organizations in the past.</p>	<p>The Bidder shall submit a self-certification by an authorized person duly notarized to this effect.</p> <p>The Bidder must submit Bid Form 9.</p>

## 4.2. Specific Qualification Requirement

Clause no.	Qualification Requirement	Support document
4.2.1.	<p><b>Applicability:</b> For Category A and Category B Bidders</p> <p>The Bidder must be in possession of the valid test certificates of solar photovoltaic modules, inverters, batteries and street lighting systems from MNRE/ BIS/ NABL authorized test laboratories only. Such test certificates must have the IEC and IP standards from any valid MNRE accredited test labs as given in Appendix Form 8 of Appendix Clause 7.5.8 and Appendix Form 8 of Appendix Clause 7.6.8.</p>	<p>The Bidder must declare that it will possess the test reports and data sheets in the name of OEM only along with the authorization letter from Original Equipment Manufacturer (OEM). The test reports and datasheets for particular Equipment must be submitted in the name of a single OEM only. However, the change of OEM is permissible during the course of work on assigning sufficient reason for the same and submission of the latest datasheets and test reports from MNRE approved labs.</p> <p>The Bidder must submit Bid Form 8 of Section 7 (Annexure).</p> <p><b>Note:</b> The proof of all documents showcasing the possession of such copies of the Test Certificates by the Bidder shall be submitted as per the instructions given under the Letter of Intent and not at the time of bidding.</p>
4.2.2.	<p><b>Applicability:</b> For Category A and Category B Bidders</p> <p>The Bidder must have established high quality, environment management system, and information security standards in place and must have ISO 9001 and ISO 14001 certifications for solar photovoltaic modules, inverters, batteries and street lighting system.</p>	<p>The Bidder shall declare that it has a copy of the ISO certificate for ISO 9001 and will possess a copy of the ISO 14001 certificate in the name of the Original Equipment Manufacturer (OEM), supported by a letter of authorization from the OEM.</p> <p>The Bidder must submit Bid Form 16 of Section 7 (Annexure).</p> <p><b>Note:</b> The documentary evidence shall be submitted as a part of the response to the Letter of Intent and prior to issuance of the Work Order, and not at the time of bidding.</p>

### 4.3. Technical Qualification Requirement

Clause no.	Qualification Requirement	Support document
4.3.1.	<p><b>Applicability:</b> For Category A Bidders only</p> <p>The Bidder must have the experience of installing and commissioning RSPS in at least 100 Nos of schools recognized by Govt. of Odisha during last five (5) years from the last date of online submission of the Technical Bid in Odisha.</p>	<p>The Bidder shall submit the letter of awards/ work orders/ contract agreement along with the Joint Commissioning Certificate issued by Government. The Bidder must submit Bid Form 6 of Section 7 (Annexure). Note:</p> <ol style="list-style-type: none"> <li>1. The letter of awards/ work orders/ contract agreement along with any amendments issued shall be submitted in full without deleting/ hiding any information.</li> <li>2. The joint commissioning certificate shall clearly mention the capacity and the date of commissioning. The Joint Commissioning Certificate issued by only the concerned government authority in Odisha.</li> </ol> <p>The Bidder must submit Bid Form 6 of Section 7 (Annexure).</p>
4.3.2.	<p><b>Applicability:</b> For Category A Bidders only</p> <p>The Bidder must have a good track record of maintenance of the solar power plants installed in Odisha for 5 years.</p> <p>The bidder must have properly maintained the solar PV systems installed and commissioned in the above 100 schools. The average functionality rate as on the last date of submission of the bids must be more than 90%. In order to establish such functionality rate, the bidder must submit relevant information in the given format at 7.11.</p>	<p>The Bidder shall submit the letter of awards/ work orders/ contract agreement along with the experience certificate /Joint Commissioning Certificate issued by Government. However, experience in private or any other sector can be considered if the same is done under any Central/ State Government programs/ schemes and is certified by the concerned Government department responsible for implementing such renewable projects. Note:</p> <ol style="list-style-type: none"> <li>1. The letter of awards/ work orders/ contract agreement along with any amendments issued shall be submitted in full without deleting/ hiding any information.</li> <li>2. The experience certificate/joint commissioning certificate shall clearly mention the capacity and the date of commissioning. The Joint Commissioning Certificate issued by only the concerned government authority as per the Prudent Utility Practices followed in Odisha.</li> </ol> <p>The bidder has to submit a self-declaration against this along with the detailed of the project installed and maintained for minimum 5 years.</p>

## 4.4. Financial Qualification Requirement

Clause no.	Qualification Requirement	Support document
4.4.1.	<p><b>Applicability:</b> For Category A Bidders only</p> <p>The Bidder must have an aggregate average annual turnover of not less than 6 Cr INR in the last three (3) financial years from FY17-18, FY18-19 and FY19-20 from the solar business only.</p>	<p>The Bidder shall submit a turnover certificate issued by a chartered accountant, as per Bid Form 7 of Section 7 (Annexure).</p> <p>It is important to note that the annual turnover for each financial year shall be the income/ earning/ revenue from the solar business only; and other income (if any) shall not be considered for evaluation.</p>
4.4.2.	<p><b>Applicability:</b> For Category A Bidders</p> <p>The Bidder must have a positive net worth in the last financial year FY19-20.</p> <p>For company, as per the section 2 (57) of The Indian Companies Act, 2013, net worth means the aggregate value of the paid-up share capital and all reserves created out of the profits (securities premium account and debit or credit balance of profit and loss 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.</p> <p>For partnership firm and sole proprietorship firm, as per the methodology certified by the chartered accountant based on the Applicable Law in India.</p>	<p>The Bidder shall submit a net worth certificate issued by a chartered accountant, as per Bid Form 7 of Section 7 (Annexure).</p>



# 5. General Conditions of Contract (GCC)

Section 5 (GCC) contains all general terms and conditions to be applied to the Work Order along with other associated documents mentioned therein. Section 5 (GCC) shall be read in conjunction with Section 6 (SCC) and other documents listed therein, should be a complete document expressing all terms and conditions of the Work Order.

## 5.1. General

### 5.1.1. Work Order

- 5.1.1.1. All documents forming part of the Work Order including any Amendment to the Work Order as per GCC Clause 5.1.2, and all parts thereof, are intended to be correlative, complementary, and mutually explanatory.
- 5.1.1.2. The Work Order constitutes all the terms and conditions for the Successful Bidder with respect to the Commissioning, and Acceptance of the Project along with its CMC Period. The CMC shall be executed between OREDA and the Successful Bidder as per the sample format provided in Annexure Clause 7.3.3.
- 5.1.1.3. The Work Order including any Amendment supersedes all communications, negotiations, and agreements (whether written or oral) made prior to the date of issuance of Work Order in case of any confusion with the Bidding Document at any point in time.
- 5.1.1.4. The Work Order shall be read as a whole.

### 5.1.2. Amendment

- 5.1.2.1. No Amendment to the Work Order shall be made effective unless it is in writing, is dated, expressly refers to the Work Order, and is signed duly and issued by OREDA based on any amended terms mutually agreed between OREDA and the Successful Bidder or as it is required in the interest of the Project.

### 5.1.3. Independent Successful Bidder

- 5.1.3.1. The Successful Bidder shall be completely independent in performing all its obligations under the Work Order. The Work Order does not create any agency, partnership, joint venture, or other joint relationship with OREDA. Subject to the provisions of the Work Order, the Successful Bidder shall be solely responsible for the manner in which all the obligations will be performed. All employees and representatives engaged by the Successful Bidder in connection with the performance of the Work Order shall be under the complete control of the Successful Bidder only and shall not be deemed to be employees of OREDA at any point in time, and nothing contained in the Work Order or in any subcontract awarded by the Successful Bidder to anyone shall be construed to create any contractual relationship between OREDA and any such employees, representatives, engaged by the Successful Bidder.

### 5.1.4. Non-waiver

- 5.1.4.1. Any waiver of Successful Bidder's rights, powers, or remedies under the Work Order must be in writing, must be dated and signed duly and issued by OREDA in granting such waiver, and must specify the right and the extent to which it is being waived.

### 5.1.5. Severability

- 5.1.5.1. If any provision or condition of the Work Order is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Work Order.

### 5.1.6. Communications

5.1.6.1. Wherever these conditions provide for issuing approvals, certificates, consents, determinations, notices, requests, and discharges, these communications shall be:

- a) in writing along with a copy being sent to the other Party and delivered against its receipt; and
- b) delivered, sent, or transmitted to the address of either Party, as stated in Work Order.

### 5.1.7. Law

5.1.7.1. The Work Order shall be governed by and interpreted in accordance with the laws of India.

### 5.1.8. Language

5.1.8.1. The ruling language of the Work Order shall be in English only.

### 5.1.9. Integrity Violation

5.1.9.1. The Successful Bidder shall observe the highest standard of ethics during the performance of the Work Order.

5.1.9.2. Applicable as per ITB Clause 1.1.2.2

## 5.2. Payment

### 5.2.1. Capex

5.2.1.1. The Capex shall be as specified in the Work Order.

5.2.1.2. Unless an escalation clause is provided in GCC Clause 5.2.2, the Capex shall be a firm lump sum amount, non-escalating, and not subject to any alteration, except in the event of a Change Order for the Project issued by OREDA.

5.2.1.3. Subject to SOW Clause 3.2.2, the Successful Bidder shall be deemed to have satisfied itself as to the correctness and sufficiency of the Capex, which shall, except as otherwise provided for in the Work Order, cover all its obligations under the Work Order.

### 5.2.2. Terms of Payment

5.2.2.1. The terms of payment outlining the procedures to be followed are mentioned in Section 6 (SCC).

5.2.2.2. No payment made by OREDA herein shall be deemed to constitute acceptance by OREDA of the Project or any part(s) thereof, until the issuance of Acceptance Certificate by OREDA in writing.

5.2.2.3. The payment against the undisputed invoice shall be made by OREDA based on the internal processes.

5.2.2.4. The currency in which payments are made to the Successful Bidder under this Work Order shall be in Indian Rupees only.

### 5.2.3. Taxes

5.2.3.1. The Tax on the Capex shall be paid as per the prevailing rules in India at the time of invoicing.

5.2.3.2. The Tax Deduction at Source (TDS) shall be deducted as per the prevailing rules in India at the time of the payment.

### 5.2.4. Performance Security

5.2.4.1. The Successful Bidder shall submit the Performance Security as per ITB Clause 1.6.3.

- 5.2.4.2. In case of any forfeiture, in full or parts, made on the Performance Security, the Successful Bidder shall be liable to replenish the Performance Security to its original amount within a maximum time period of seven (7) Days from the aforesaid date of such forfeiture in full or parts. In case the Successful Bidder fails to do the aforesaid replenishment within the prescribed timelines then the Work Order shall be cancelled, and OREDA may take suitable action against the Successful Bidder.
- 5.2.4.3. In case the Performance Security requires any extension of the expiry date and/ or claim date, the same shall be extended suitably by the Successful Bidder as per the instructions of OREDA.
- 5.2.4.4. The Performance Security shall be returned to the Successful Bidder within thirty (30) Days after its expiration, pursuant to GCC Clause 5.2.4.1.

#### **5.2.5. Incoterms**

- 5.2.5.1. Unless inconsistent with any provision of the Work Order, the meaning of any trade term and the rights and obligations of Parties thereunder shall be as prescribed by Incoterms.

### ***5.3. Intellectual Property***

#### **5.3.1. License/ Use of Technical Information**

- 5.3.1.1. For the Commissioning until Acceptance of the Project and during the CMC Period, the Successful Bidder hereby grants a non-exclusive and non-transferable license (without the right to sub-license) to OREDA under the patents, utility models or other industrial property rights owned by the Successful Bidder or by a third party from whom the Successful Bidder has received the right to grant licenses thereunder, and shall also grant to OREDA a non-exclusive and non-transferable right (without the right to sub-license) to use the know-how and other technical information disclosed to OREDA under the Work Order. Nothing contained herein shall be construed as transferring ownership of any patent, utility model, trademark, design, copyright, know-how, or other intellectual property rights from the Successful Bidder or any third party to OREDA.
- 5.3.1.2. The copyright in all drawings, documents and other materials containing data and information furnished to OREDA by the Successful Bidder herein shall remain vested in the Successful Bidder or, if they are furnished to OREDA directly or through the Successful Bidder by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

#### **5.3.2. Confidential Information**

- 5.3.2.1. The Parties shall keep confidential and shall not, without the written consent of the other Party, divulge to any third party any documents, data or other information furnished directly or indirectly by the other Party hereto, whether such information has been furnished prior to, during or following termination of the Work Order. Notwithstanding the above, a Party may furnish to its third parties such documents, data and other information it receives from the other Party to the extent required for the third parties to perform all the obligations under the Work Order, in which event the Party shall obtain from such third parties an undertaking of confidentiality similar to that imposed on the Party under this GCC Clause 5.3.2 and submit a copy of the same to the other Party with an immediate effect.
- 5.3.2.2. A Party shall not use such documents, data, and other information received from the other Party for any purpose other than for this Project and services as are required for the performance of the Work Order.
- 5.3.2.3. The obligation of a Party under GCC Clauses 5.3.2.1 and 5.3.2.2 above, however, shall not apply to that information which
  - a) now or hereafter enters the public domain through no fault of that Party;
  - b) can be proven to have been possessed by that Party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other Party hereto; and

- c) otherwise lawfully becomes available to that Party from a third party that has no obligation of confidentiality.

5.3.2.4. The above provisions of this GCC Clause 5.3.2 shall not in any way modify any undertaking of confidentiality given by either of the Parties hereto prior to the date of the Work Order in respect of the Project or any part thereof.

5.3.2.5. The provisions of this GCC Clause 5.3.2 shall survive termination, for whatever reason, of the Work Order.

## **5.4. Execution of the Project**

### **5.4.1. Representatives**

#### **5.4.1.1. Authorized Representative of OREDA**

- a) The name of the Authorized Representative of OREDA shall be generally mentioned in the Work Order. If the Authorized Representative of OREDA is not named in the Work Order, then within seven (7) Days of the Effective Date, OREDA shall appoint and notify the Successful Bidder in selecting an Authorized Representative of OREDA. OREDA may from time to time appoint some other person as the Authorized Representative of OREDA as deemed necessary in place of the person previously so appointed and shall give notice of the name of such other person as Authorized Representative of OREDA to the Successful Bidder as required. Such an appointment shall only take effect upon the date of issuance of such notice by OREDA. The Authorized Representative of OREDA shall represent and act for OREDA at all times during the performance of the Work Order. All notices, instructions, orders, certificates, approvals and all other communications under the Work Order shall be given by the Authorized Representative of OREDA, except as herein otherwise provided.
- b) All notices, instructions, information, and other communications given by the Successful Bidder to OREDA under the Work Order shall be given to the Authorized Representative of OREDA, except as herein otherwise provided.

#### **5.4.1.2. Project Manager, Construction Manager, and CMC Manager**

- a) The name of the Project Manager representing the Successful Bidder shall be generally mentioned in the Work Order. If the Successful Bidder's representative as Project Manager is not named in the Work Order, then within seven (7) Days of the Effective Date, the Successful Bidder shall appoint the Project Manager and shall request OREDA in writing to approve the Project Manager so appointed. If OREDA makes no objection to the appointment within seven (7) Days, the Project Manager shall be deemed to have been approved. If OREDA objects to the appointment within seven (7) Days, then the Successful Bidder shall appoint a replacement within seven (7) Days of such objection, and the foregoing provisions of this GCC Clause 5.4.1.2 a) shall apply thereto.
- b) The Project Manager shall represent and act for the Successful Bidder at all times during the performance of the Work Order and shall give to the Authorized Representative of OREDA all the Successful Bidder's notices, instructions, information, and all other communications under the Work Order.

All notices, instructions, information, and all other communications given by OREDA or the Authorized Representative of OREDA to the Successful Bidder under the Work Order shall be given to the Project Manager or, in its absence, its deputy, except as herein otherwise provided.

The Successful Bidder shall not revoke the appointment of the Project Manager without OREDA's prior written consent. If OREDA consents thereto, the Successful Bidder shall appoint some other person as the Project Manager, pursuant to the procedure set out in GCC Clause 5.4.1.2 a).

- c) The Project Manager may, subject to the written approval of OREDA, at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time; however, any such delegation or revocation shall be subject to a prior notice signed by the Project Manager and shall specify the powers, functions and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until a copy thereof has been delivered to the Authorized Representative of OREDA.
- d) Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this GCC Clause 5.4.1.2 c) shall be deemed to be an act or exercise by the Project Manager.
- e) From the commencement of works of the Project at the site until installation, Commissioning and Acceptance, the Project Manager shall additionally appoint a suitable person as the Construction Manager. The Construction Manager shall supervise all work done at the site by the Successful Bidder and shall be present at the site as required during the performance of the Work Order in accordance with the terms of the Work Order. Whenever the Construction Manager is absent from the site, the Project Manager shall appoint a suitable person to act as the Construction Manager's deputy with prior notice of seven (7) Days before such a replacement and shall inform OREDA in writing prior to such changes.
- f) From the commencement of the CMC Period until its expiry, the Project Manager shall appoint a suitable person as the CMC Manager. The CMC Manager shall supervise all work done at the site by the Successful Bidder and shall be present at the site as required during the performance of the Work Order in accordance with the terms of the Work Order. Whenever the CMC Manager is absent from the site, the Project Manager shall appoint a suitable person to act as the CMC Manager's deputy with prior notice of seven (7) Days before such a replacement and shall inform OREDA in writing prior to such changes.
- g) OREDA may by notice to the Successful Bidder object to any representative or person employed by the Successful Bidder in the execution of the Work Order who, in the reasonable opinion of OREDA, may behave inappropriately, may be incompetent or negligent, or may commit a serious breach of the site regulations. OREDA shall provide writing of the same, whereupon the Successful Bidder shall remove such person from the Project with an immediate effect.
- h) If any representative or person employed by the Successful Bidder is removed in accordance with GCC Clause 5.4.1.2 g), the Successful Bidder shall, where required, promptly appoint a replacement; failure to which will lead to a material breach in the Work Order.

#### **5.4.2. Work program**

##### **5.4.2.1. Successful Bidder's Organization**

Within thirty (15) Days from the Effective Date, the Successful Bidder shall submit to OREDA an organization chart showing the proposed team to be established by the Successful Bidder for carrying out work on the Project within the Project Timelines for achieving Commissioning and Acceptance as mentioned in SOW Clause 3.4. The organization chart shall include the identities of the key personnel and the short curricula vitae of such key personnel to be employed. The Successful Bidder shall promptly inform the Authorized Representative of OREDA in writing of any revision or alteration of such an organization chart, as applicable.

##### **5.4.2.2. Detailed Workplan**

Within thirty (15) Days from the Effective Date, the Successful Bidder shall submit to the Authorized Representative of OREDA a Detailed Workplan, made in a form acceptable to the Authorized Representative of OREDA and showing the sequence in which it proposes to achieve the Commissioning and Acceptance in line with the Project Timelines.

The Successful Bidder shall update the actual achievement against the Detailed Workplan as and when appropriate or when required by the Authorized Representative of OREDA, but without modification in the Project Timelines and any extension granted in accordance with GCC Clause 5.7.2 and shall submit all such revisions to the Authorized Representative of OREDA.

#### 5.4.2.3. Progress of Detailed Workplan

If at any time the Successful Bidder's actual progress falls behind the Detailed Workplan, or it becomes apparent that it will so fall behind, the Successful Bidder shall promptly prepare and submit to the Authorized Representative of OREDA a revised Detailed Workplan without changing any timelines with reference to the Project Timelines, taking into account the prevailing circumstances, and shall notify the Authorized Representative of OREDA of the steps being taken to expedite progress so as to achieve the Commissioning and Acceptance of the Project within the Project Timelines, any extension thereof entitled under GCC Clause 5.7.2, or any extended period as may otherwise be notified by OREDA.

## **5.5. Guarantees and Liabilities**

### **5.5.1. Delay Liquidated Damages**

- 5.5.1.1. The Successful Bidder guarantees that it shall achieve the Commissioning of the Project as per the Project Timelines or any extension thereof entitled under GCC Clause 5.7.2.
- 5.5.1.2. In case of failure on the part of the Successful Bidder to achieve the Commissioning timelines pursuant to GCC Clause 5.5.1.1, the Successful Bidder shall pay to OREDA a Delay Liquidated Damage for a sum equivalent to one percent (1%) of the Capex for each week of the delay from the target date of Commissioning, to be calculated on pro-rata basis for each Day of delay, subject to a maximum of five percent (5%) of the Capex.
- 5.5.1.3. Once the maximum limit of five (5%) is reached, OREDA may consider terminating the Work Order and forfeit the Performance Security without prejudice to the other remedies of the Work Order. However, the Chief Executive, OREDA may at own discretion allow reasonable time extension upon the written application of the Successful Bidder. If the delay is considered intentional or due to the negligence of the Successful Bidder, no extension can be allowed with the imposition of Delay Liquidated Damages. If the delay is considered to be genuine, then a suitable time extension can be allowed with/ without the imposition of the delay Liquidated Damages, to be evaluated on a case-to-case basis.
- 5.5.1.4. The payment of liquidated damages shall not in any way relieve the Successful Bidder from any of its obligations to complete the Project or from any other obligations and liabilities of the Successful Bidder under the Work Order.
- 5.5.1.5. The Delay Liquidated Damages shall be inclusive of all applicable taxes as applicable under the laws of India and such applicable taxes shall be borne by the Successful Bidder only.
- 5.5.1.6. The Successful Bidder acknowledges that the Delay Liquidated Damages payable by the Successful Bidder under this Work Order are a genuine pre-estimate of the losses suffered by OREDA and the compensation as contemplated is reasonable and not by way of any penalty.

### **5.5.2. Warranty**

- 5.5.2.1. The details of the provisions related to the Warranty of the Equipment under the Project are mentioned in Section 6 (SCC).

### **5.5.3. Defect Liability**

- 5.5.3.1. The Successful Bidder warrants that the Project or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Project supplied and of the work executed.
- 5.5.3.2. The Defect Liability Period shall be five (5) Years from the date of Acceptance of the Project.



- 5.5.3.3. If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Project supplied or of the work executed by the Successful Bidder, the Successful Bidder shall promptly, in consultation and agreement with OREDA regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good such defect as well as any damage to the Project caused by such defect.
- 5.5.3.4. OREDA shall give the Successful Bidder a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. OREDA shall afford all reasonable opportunities for the Successful Bidder to inspect any such defect.
- 5.5.3.5. The Successful Bidder may, with the consent of OREDA, remove from the site any Project or any part of the Project that are defective if the nature of the defect, and/or any damage to the Project caused by the defect, is such that repairs cannot be expeditiously carried out at the site.
- 5.5.3.6. If the repair, replacement or making good is of such a character that it may affect the efficiency of the Project or any part thereof, OREDA may give to the Successful Bidder a notice requiring that tests of the defective part of the Project shall be made by the Successful Bidder immediately upon completion of such remedial work, whereupon the Successful Bidder shall carry out such tests.  
  
If such part fails the tests, the Successful Bidder shall carry out further repair, replacement or making good, as the case may be, until that part of the Project passes such tests. The tests shall be agreed upon by OREDA and the Successful Bidder.
- 5.5.3.7. If the Successful Bidder fails to commence the work necessary to remedy such defect or any damage to the Project caused by such defect within a reasonable time (which shall in no event be considered to be less than seven (7) Days), OREDA may, following notice to the Successful Bidder, proceed to do such work through a third party, and the reasonable costs incurred by OREDA in connection therewith shall be paid to OREDA by the Successful Bidder or may be deducted by OREDA from any monies due to the Successful Bidder or claimed under the Performance Security.
- 5.5.3.8. If the Project or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Project or such part, as the case may be, shall be extended by a period equal to the period during which the Project or such part cannot be used by OREDA because of any of the aforesaid reasons.
- 5.5.3.9. Except as provided in GCC Clauses 5.5.2 and GCC Clause 5.6.3, the Successful Bidder shall be under no liability whatsoever and howsoever arising, and whether under the Work Order or at law, in respect of defects in the Project or any part thereof, the design or engineering or work executed that appear after Acceptance of the Project or any part thereof, except where such defects are the result of the gross negligence, fraud, criminal or willful action of the Successful Bidder.

#### **5.5.4. Patent Indemnity**

- 5.5.4.1. The Successful Bidder shall, subject to OREDA's compliance with GCC Clause 5.5.4.2, indemnify and hold harmless OREDA and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which OREDA may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Work Order by reason of Commissioning and Acceptance of the Project.

Such indemnity shall not cover any use of the Project or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Work Order, any infringement resulting from the use of the Project or any part thereof, or any products produced thereby in association or combination with any other equipment, plant or materials not supplied by the Successful Bidder, pursuant to the Work Order.

5.5.4.2. If any proceedings are brought or any claim is made against OREDA arising out of the matters referred to in GCC Clause 5.5.4.1, OREDA shall promptly give the Successful Bidder a notice thereof, and the Successful Bidder may at its own expense and in OREDA's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Successful Bidder fails to notify OREDA within seven (7) Days after receipt of such notice that it intends to conduct any such proceedings or claim, then OREDA shall be free to conduct the same on its own behalf. Unless the Successful Bidder has so failed to notify OREDA within the seven (7) Day period, OREDA shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

OREDA shall, at the Successful Bidder's request, afford all available assistance to the Successful Bidder in conducting such proceedings or claim, and shall be reimbursed by the Successful Bidder for all reasonable expenses incurred in so doing or may be deducted by OREDA from any monies due to the Successful Bidder or claimed under the Performance Security.

#### **5.5.5. Limitation of Liability**

5.5.5.1. Except in cases of criminal negligence or willful misconduct,

- a) the Successful Bidder shall not be liable to OREDA, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Successful Bidder to pay the Delay Liquidated Damages to OREDA; and
- b) the maximum liability of the Successful Bidder to OREDA, whether under the Work Order, in tort or otherwise, shall not exceed twenty four percent (24%) of the Capex.

## ***5.6. Risk Distribution***

#### **5.6.1. Transfer of Ownership**

5.6.1.1. The ownership of the Project shall pass on to OREDA on fulfillment of the following:

- a) Issuance of a certificate by the Successful Bidder stating that the Successful Bidder is free and clear from any and all claims, liens, security interest, encumbrances, unpaid vendors'/ suppliers' lien or otherwise, arising out of or in connection to the performance of the Work Order as per Annexure Clause 7.8; and
- b) Issuance of Acceptance Certificate by OREDA.

#### **5.6.2. Risk**

5.6.2.1. Notwithstanding anything to the contrary in this Contract, the care, custody and the risk in relation to the entire Project shall pass on to OREDA on fulfillment of the following:

- a) Issuance of Acceptance Certificate by OREDA; and
- b) Issuance of release and waiver of lien-free certificate by the Successful Bidder.

#### **5.6.3. Loss of or Damage to Property; Accident or Injury to Workers; Indemnification**

5.6.3.1. The Successful Bidder shall indemnify and hold harmless OREDA and its employees, officers and advisors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property other than the Project, arising in connection with the implementation of the Project and by reason of the negligence of the Successful Bidder.

5.6.3.2. If any proceedings are brought or any claim is made against OREDA that might subject the Successful Bidder to liability under GCC Clause 5.6.3.1, OREDA shall promptly give the Successful Bidder a notice thereof and the Successful Bidder may at its own expense and in OREDA's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Successful Bidder fails to notify OREDA within seven (7) Days after receipt of such notice that it intends to conduct any such proceedings or claim, then OREDA shall be free to conduct the same on its own behalf. Unless the Successful Bidder has so failed to notify OREDA within the seven (7) Day period, OREDA shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

OREDA shall, at the Successful Bidder's request, afford all available assistance to the Successful Bidder in conducting such proceedings or claim, and shall be reimbursed by the Successful Bidder for all reasonable expenses incurred in so doing or may be deducted by OREDA from any monies due to the Successful Bidder or claimed under the Performance Security.

#### 5.6.4. Insurance

5.6.4.1. The Successful Bidder shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect until the issuance of the Acceptance Certificate, the insurances set forth below in the sums and with the deductibles and other conditions. The identity of the insurers and the form of the policies shall be subject to the approval of OREDA, who should not unreasonably withhold such approval.

- a) Cargo Insurance During Transport: Covering loss or damage occurring while in transit from the Successful Bidder's works or stores, etc. until arrival at the Project site valid all the time starting from Effective Date until Commissioning.
- b) Installation All Risks Insurance: Covering physical loss or damage to the Project at the Project site valid all the time starting from Effective Date until Commissioning.
- c) Automobile Liability Insurance: Covering the use of all vehicles used by the Successful Bidder, whether or not owned by them, in connection with the execution of the Work Order valid all the time starting from Effective Date until Commissioning.
- d) Workers' Compensation: In accordance with the statutory requirements applicable in India valid all the time starting from Effective Date until the end of the CMC Period.

5.6.4.2. OREDA shall be named as co-insured under all insurance policies taken out by the Successful Bidder pursuant to GCC Clause 5.6.4.1, except for the Third Party Liability, Workers' Compensation and the Successful Bidder's employees and representatives shall be named as co-insureds under all insurance policies taken out by the Successful Bidder pursuant to GCC Clause 5.6.4.1 except for the Cargo Insurance During Transport and Workers' Compensation. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Work Order shall be waived under such policies.

5.6.4.3. The Successful Bidder shall deliver to OREDA certificates of insurance or copies of the insurance policies as evidence that the required policies are in full force and effect.

5.6.4.4. If the Successful Bidder fails to take out and/or maintain in effect the insurances referred to in GCC Clause 5.6.4.1, OREDA may take out and maintain in effect any such insurances and may from time to time deduct from any amount due to the Successful Bidder under the Work Order any premium that OREDA shall have paid to the insurer, or may otherwise recover such amount from any monies due to the Successful Bidder or claimed under the Performance Security.

5.6.4.5. Unless otherwise provided in the Work Order, the Successful Bidder shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GCC Clause 5.6.4, and all monies payable by any insurers shall be paid to the Successful Bidder. OREDA shall give to the Successful Bidder all such reasonable assistance as may be required by the Successful Bidder.

#### **5.6.5. Change in Laws and Regulations**

5.6.5.1. If, after the last date of online Bid submission, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Successful Bidder and/or the time for achieving the Commissioning and Acceptance along with the Work Order price shall be correspondingly increased or decreased, and/ or the Time for achieving Commissioning and Acceptance shall be reasonably adjusted to the extent that the Successful Bidder has thereby been affected in the performance of any of its obligations under the Work Order. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable.

#### **5.6.6. Force Majeure**

5.6.6.1. "Force Majeure" shall mean any event beyond the reasonable control of OREDA or of the Successful Bidder, as the case may be, and which is unavoidable notwithstanding the reasonable care of the Party affected, and shall include, without limitation, the following:

- a) war, hostilities or warlike operations whether a state of war be declared or not, invasion, an act of foreign enemy and civil war;
- b) rebellion, revolution, insurrection, mutiny, usurpation of a civil or military government, conspiracy, riot, civil commotion and terrorist acts;
- c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority;
- d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, pandemics, lockdowns, quarantine and plague;
- e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disasters; and
- f) shortage of labor, materials or utilities where caused by circumstances that are themselves Force Majeure.

5.6.6.2. If either party is prevented, hindered or delayed from or in performing any of its obligations under the Work Order by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within seven (7) Days after the occurrence of such event.

5.6.6.3. The Party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Work Order for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with GCC Clause 5.7.2.

5.6.6.4. The Party or Parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Work Order and to fulfill its or their obligations under the Work Order, but without prejudice to either party's right to terminate the Work Order under GCC Clause 5.6.6.6.

- 5.6.6.5. No delay or nonperformance by either party hereto caused by the occurrence of any event of Force Majeure shall
- a) constitute a default or breach of the Work Order, or  
if and to the extent that such delay or nonperformance is caused by the occurrence of an event of Force Majeure.
- 5.6.6.6. If the performance of the Work Order is substantially prevented, hindered or delayed for a single period of more than sixty (60) Days or an aggregate period of more than one hundred and twenty (120) Days on account of one or more events of Force Majeure during the currency of the Work Order, the Parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Work Order by giving notice to the other, but without prejudice to either party's right to terminate the Work Order.
- 5.6.6.7. In the event of termination pursuant to GCC Clause 5.6.6.6, the rights and obligations of OREDA and the Successful Bidder shall be as specified in GCC Clause 5.7.4.

## **5.7. Change in Work Order Elements**

### **5.7.1. Change Order**

- 5.7.1.1. A Change Order shall be issued only by OREDA. Any change made necessary because of a default by the Successful Bidder in the performance of its obligations shall not be considered a Change Order.
- 5.7.1.2. Change Orders may be initiated by OREDA at any time by the issuance of a Change Order notice to the Successful Bidder. The Successful Bidder shall not make any alteration and/or modification of the Project unless the OREDA instructs or approves a Change Order in writing.
- 5.7.1.3. If the Owner issues a Change Order notice, the variations could in the range of  $\pm$ (fifty percent) 50% of the total bidding quantum and there shall be no change in the prices as quoted by the Bidder in its Price Bid. There shall be no change in Project Timelines.

### **5.7.2. Extension of achieving Commissioning and Acceptance**

- 5.7.2.1. The Project Timelines as specified in the SOW Clause 3.4 shall be extended if the Successful Bidder is delayed or impeded in the performance of any of its obligations under the Work Order by reason of any of the following:
- b) any occurrence of Force Majeure as provided in GCC Clause 5.6.6,
  - c) by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Successful Bidder, subject to the final decision of Chief Executive, OREDA.

### **5.7.3. Suspension**

- 5.7.3.1. OREDA may request, by notice to the Successful Bidder, to order the Successful Bidder to suspend performance of any or all of its obligations under the Work Order. Such notice shall specify the obligation of which performance is to be suspended, the effective date of the suspension and the reasons therefor. The Successful Bidder shall thereupon suspend performance of such obligation, except those obligations necessary for the care or preservation of the Project, until ordered in writing to resume such performance by OREDA.
- 5.7.3.2. If the Successful Bidder's performance of its obligations is suspended or the rate of progress is reduced pursuant to GCC Clause 5.7.3, then the Project Timeline shall be extended in accordance with GCC Clause 5.7.2.1.
- 5.7.3.3. During the period of suspension, the Successful Bidder shall not remove from the site any Project, any part of the Project or any Successful Bidder's tools and tackles, without the prior written consent of OREDA.

## 5.7.4. Termination

### 5.7.4.1. Termination for OREDA's Convenience

- a) OREDA may at any time terminate the Work Order for any reason by giving the Successful Bidder a notice of termination that refers to this GCC Clause 5.7.4.1.
- b) Upon receipt of the notice of termination as per the GCC Clause 5.7.4.1 a), the Successful Bidder shall either immediately or upon the date specified in the notice of termination
  - i. cease all further work, except for such work as OREDA may specify in the notice of termination for the sole purpose of protecting that part of the Project already executed, or any work required to leave the site in a clean and safe condition,
  - ii. terminate all subcontracts, except those to be assigned to OREDA pursuant to GCC Clause 5.7.4.1a)i(b),
  - iii. remove all Successful Bidder's tools and tackles from the site, repatriate the Successful Bidder's and its personnel from the site, remove from the site any wreckage, rubbish and debris of any kind, and leave the whole of the site in a clean and safe condition, and
  - iv. subject to the payment specified in GCC Clause 42.1.3,
    - (a) deliver to OREDA the parts of the Project executed by the Successful Bidder up to the date of termination, and
    - (b) deliver to OREDA all non-proprietary drawings, specifications and other documents prepared by the Successful Bidder as on the date of termination in connection with the Project.
- c) In the event of termination of the Work Order under GCC Clause 5.7.4.1 a), OREDA shall pay to the Successful Bidder the following amounts:
  - i. the Work Order Price, properly attributable to the parts of the Project executed by the Successful Bidder as of the date of termination

### 5.7.4.2. Termination for Successful Bidder's Default

- a) OREDA, without prejudice to any other rights or remedies it may possess, may terminate the Work Order forthwith in the following circumstances by giving a notice of termination and its reasons therefor to the Successful Bidder, referring to this GCC Clause 5.7.4.2:
  - i. if the Successful Bidder becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Successful Bidder is a corporation, a resolution is passed or order is made for its winding up, other than a voluntary liquidation for the purposes of amalgamation or reconstruction, a receiver is appointed over any part of its undertaking or assets, or if the Successful Bidder takes or suffers any other analogous action in consequence of debt
  - ii. if the Successful Bidder assigns or transfers the Work Order or any right or interest therein in violation of the provision of GCC Clause 5.7.5.
  - iii. if the Successful Bidder, in the judgment of OREDA has engaged in Integrity Violation practices, as defined in GCC Clause 5.1.9.
- b) If the Successful Bidder
  - i. has abandoned or repudiated the Work Order

- ii. has without valid reason failed to commence work on the Project promptly or has suspended the progress of Work Order performance for a prolonged period even after receiving a written instruction from OREDA to proceed
- iii. persistently fails to execute the Work Order in accordance with the Work Order or persistently neglects to carry out its obligations under the Work Order without just cause
- iv. refuses or is unable to provide sufficient materials, services or labour to execute and complete the Project in the manner specified in the Project Timelines as per SOW Clause 3.4 at rates of progress that give reasonable assurance to OREDA that the Successful Bidder can attain Commissioning and Acceptance of the Project,

then OREDA may, without prejudice to any other rights it may possess under the Work Order, give notice to the Successful Bidder stating the nature of the default and requiring the Successful Bidder to remedy the same. If the Successful Bidder fails to remedy or to take steps to remedy the same within fourteen (14) Days of its receipt of such notice, then OREDA may terminate the Work Order forthwith by giving a notice of termination to the Successful Bidder that refers to this GCC Clause 5.7.4.2.

- c) Upon receipt of the notice of termination under GCC Clause 5.7.4.2, the Successful Bidder shall, either immediately or upon such date as is specified in the notice of termination,
  - i. cease all further work, except for such work as OREDA may specify in the notice of termination for the sole purpose of protecting that part of the Project already executed, or any work required to leave the site in a clean and safe condition,
  - ii. terminate all subcontracts, except those to be assigned to OREDA pursuant to GCC Clause 5.7.4.1(b),
  - iii. deliver to OREDA the parts of the Project executed by the Successful Bidder up to the date of termination complete in all respect, and
  - iv. deliver to OREDA all drawings, specifications and other documents prepared by the Successful Bidder as on the date of termination in connection with the Project.
- d) OREDA may enter upon the site, expel the Successful Bidder, and complete the Project itself or by employing any third party. OREDA may, to the exclusion of any right of the Successful Bidder over the same, take over and use with the payment of a fair rental rate to the Successful Bidder, with all the maintenance costs to the account of OREDA and with an indemnification by OREDA for all liability including damage or injury to persons arising out of OREDA's use of such Equipment, any Successful Bidder's equipment owned by the Successful Bidder and on the site in connection with the Project for such reasonable period as OREDA considers expedient to achieve the Commissioning and Acceptance.

Upon completion of the Project or at such earlier date as OREDA thinks appropriate, OREDA shall give notice to the Successful Bidder that such Successful Bidder's equipment will be returned to the Successful Bidder at or near the site and shall return such Successful Bidder's equipment to the Successful Bidder in accordance with such notice. The Successful Bidder shall thereafter without delay and at its cost remove all Successful Bidder's tools and tackles from the site, repatriate the Successful Bidder's personnel from the site, remove from the site any wreckage, rubbish and debris of any kind, and leave the whole of the site in a clean and safe condition.



- e) Subject to GCC Clause 5.7.4.2 f), the Successful Bidder shall be entitled to be paid the Work Order price attributable to the Project executed as of the date of termination, the value of any unused or partially used Project on the site, and the costs, if any, incurred in protecting the Project and in leaving the site in a clean and safe condition pursuant to GCC Clause 5.7.4.2 c) i. Any sums due to OREDA from the Successful Bidder accruing prior to the date of termination shall be deducted from the amount to be paid to the Successful Bidder under this Work Order.
- f) If OREDA completes the Project, the cost of completing the Project by OREDA shall be determined.

If the sum that the Successful Bidder is entitled to be paid, pursuant to GCC Clause 5.7.4.2 e), plus the reasonable costs incurred by OREDA in completing the Project, exceeds the Capex mentioned in the Work Order, the Successful Bidder shall be liable for such excess.

If such excess is greater than the sums due to the Successful Bidder under GCC Clause 5.7.4.2 e), the Successful Bidder shall pay the balance to OREDA.

OREDA and the Successful Bidder shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

5.7.4.3. In this GCC Clause 5.7.4, the expression "Project executed" shall include all work executed, Installation Services provided, and all Project acquired, or subject to a legally binding obligation to purchase, by the Successful Bidder and used or intended to be used for the purpose of the Project, up to and including the date of termination.

5.7.4.4. In this GCC Clause 5.7.4, in calculating any monies due from OREDA to the Successful Bidder, the account shall be taken of any sum previously paid by OREDA to the Successful Bidder under the Work Order.

#### **5.7.5. Assignment**

5.7.5.1. No Party shall, without the prior consent of the other Party, assign to any Person any benefit of or obligation under this Work Order in whole or in part. Such an assignment, if approved by the other Party, shall not relieve the assigning Party from any obligations, duty, or responsibility under this Work Order.

5.7.5.2. The Successful Bidder consents to the creation by OREDA of security over or assignment of its rights and obligations under this Work Order including the Performance Security provided hereunder by the Successful Bidder in favour of OREDA.

## ***5.8. Disputes and Arbitration***

### **5.8.1. Mutual Settlement**

5.8.1.1. If any dispute or difference shall arise between OREDA and the Successful Bidder out of, relating to or in connection with the Work Order (including its existence, breach, termination or validity) or the performance of the Comprehensive Maintenance under the Work Order, it shall, in the first instance be referred to the Chief Executive, OREDA and the Successful Bidder's senior management. The Chief Executive, OREDA shall make every effort to amicably resolve the dispute or differences arising between the Parties and provide its written decision within a maximum time period of fifteen (15) Days of the dispute being referred to it by either Party.

5.8.1.2. If the Chief Executive, OREDA has given its written decision to the Parties and no claim to arbitration has been communicated to it by either Party within two (2) Days from receipt of such notice, the said decision shall become final and binding on the Parties.

- 5.8.1.3. In the event that the Chief Executive, OREDA fails to provide its decision within the above said period after being requested as aforesaid, or in the event that either OREDA or the Successful Bidder is dissatisfied with any such decision, either Party may, within fifteen (15) Days after the date on which such decision is required to be provided in accordance with GCC Clause 5.8.1.1, whether the decision is provided by the Chief Executive, OREDA during such period or not, refer the matter to the Energy Secretary to the Government of Odisha for a resolution.
- 5.8.1.4. The Energy Secretary to the Government of Odisha shall make every effort to amicably resolve the dispute or differences arising between the Parties and provide its written decision within a maximum time period of seven (7) Days of the dispute being referred to it by either Party.
- 5.8.1.5. In the event that the Energy Secretary to the Government of Odisha fails to provide its decision within the above said period after being requested as aforesaid, or in the event that either OREDA or the Successful Bidder is dissatisfied with any such decision, either Party may, within fifteen (15) Days after the date on which such decision is required to be provided in accordance with GCC Clause 5.8.1.4, whether the decision is provided by the concerned Secretary of the admin department to the Government of Odisha during such period or not, refer the matter in dispute to arbitration as hereinafter provided in GCC Clause 5.8.2.
- 5.8.1.6. The Successful Bidder shall continue to perform its obligations under this Contract during this mutual settlement.

#### **5.8.2. Arbitration**

- 5.8.2.1. If disputes or differences between the Parties are not resolved under Clause 5.8.1, the same shall be referred for arbitration under the Indian Arbitration and Conciliation Act, 1996.
- 5.8.2.2. The arbitral tribunal shall consist of a sole arbitrator, who shall be appointed by the Parties mutually, in accordance with the Arbitration and Conciliation Act, 1996.
- 5.8.2.3. The Successful Bidder shall continue to perform its obligations under this Contract during the arbitration proceedings.
- 5.8.2.4. The arbitration proceedings shall be in English and shall take place in Bhubaneswar, Odisha. The courts in Bhubaneswar, Odisha shall have jurisdiction on any matter connected with or arising under this Contract. The law governing the arbitration and the process shall be Indian law only.
- 5.8.2.5. The arbitration shall be the sole and exclusive remedy between the Parties regarding the dispute referred to arbitration and any claims, counterclaims, issues or accountings presented to the tribunal in connection with such dispute.
- 5.8.2.6. The award rendered in any arbitration commenced hereunder shall be final, conclusive, and binding on the Parties.
- 5.8.2.7. The Parties hereby undertake to implement the award with an immediate effect.

# 6. Special Conditions of Work Order (SCC)

Section 6 (SCC) shall supplement the Clauses mentioned in Section 5 (GCC). Whenever there are a conflict or interpretation issues, the provisions herein shall prevail over those in Section 6 (SCC). The Clause number of Section 6 (SCC) is the corresponding Clause number of Section 5 (GCC).

## 6.1. Specific provisions of GCC

SCC Clause reference	GCC Clause reference	Detailed Clause									
6.1.1.	GCC Clause 5.2.2.1	<p><b>Payment:</b></p> <p>The payment shall be made in the following manner:</p> <table border="1"> <thead> <tr> <th>Milestone</th> <th>Payment term</th> <th>Support documents</th> </tr> </thead> <tbody> <tr> <td>On achievement of Commissioning of the Project</td> <td>Ninety percent (90%) of the Initial Capex along with applicable tax at the time of invoicing, as specified in the Works Order.</td> <td> <p>The payment shall be made upon due verification by OREDA on the following documents:</p> <ul style="list-style-type: none"> <li>Joint Commissioning Certificate (JCC)</li> <li>Warranty certificates</li> <li>GPS based photograph</li> <li>Web-enabled generation report</li> <li>I-V &amp; P-V Curves of Solar photovoltaic modules</li> <li>Submission of the executed version of CMC as per the sample format provided in Annexure Clause 7.3.3</li> <li>CMC Manual</li> <li>Dos &amp; Don'ts in the form of a booklet</li> <li>Proof of conducting the training programs</li> <li>Photographs of all installations in a specified manner</li> <li>Compliance to CRC process using the ReSolve Mobile Application</li> <li>Commissioning Report</li> </ul> </td> </tr> <tr> <td>On achievement of Acceptance of the Project</td> <td>Ten percent (10%) of the Initial Capex along with applicable tax at the time of invoicing, as specified in the Works Order.</td> <td> <ul style="list-style-type: none"> <li>Acceptance Certificate</li> <li>Submission of monthly/ hourly power consumption reports supported by the meter reading of the DC side of the solar photovoltaic modules given with the RSPS in the format therein.</li> </ul> </td> </tr> </tbody> </table>	Milestone	Payment term	Support documents	On achievement of Commissioning of the Project	Ninety percent (90%) of the Initial Capex along with applicable tax at the time of invoicing, as specified in the Works Order.	<p>The payment shall be made upon due verification by OREDA on the following documents:</p> <ul style="list-style-type: none"> <li>Joint Commissioning Certificate (JCC)</li> <li>Warranty certificates</li> <li>GPS based photograph</li> <li>Web-enabled generation report</li> <li>I-V &amp; P-V Curves of Solar photovoltaic modules</li> <li>Submission of the executed version of CMC as per the sample format provided in Annexure Clause 7.3.3</li> <li>CMC Manual</li> <li>Dos &amp; Don'ts in the form of a booklet</li> <li>Proof of conducting the training programs</li> <li>Photographs of all installations in a specified manner</li> <li>Compliance to CRC process using the ReSolve Mobile Application</li> <li>Commissioning Report</li> </ul>	On achievement of Acceptance of the Project	Ten percent (10%) of the Initial Capex along with applicable tax at the time of invoicing, as specified in the Works Order.	<ul style="list-style-type: none"> <li>Acceptance Certificate</li> <li>Submission of monthly/ hourly power consumption reports supported by the meter reading of the DC side of the solar photovoltaic modules given with the RSPS in the format therein.</li> </ul>
Milestone	Payment term	Support documents									
On achievement of Commissioning of the Project	Ninety percent (90%) of the Initial Capex along with applicable tax at the time of invoicing, as specified in the Works Order.	<p>The payment shall be made upon due verification by OREDA on the following documents:</p> <ul style="list-style-type: none"> <li>Joint Commissioning Certificate (JCC)</li> <li>Warranty certificates</li> <li>GPS based photograph</li> <li>Web-enabled generation report</li> <li>I-V &amp; P-V Curves of Solar photovoltaic modules</li> <li>Submission of the executed version of CMC as per the sample format provided in Annexure Clause 7.3.3</li> <li>CMC Manual</li> <li>Dos &amp; Don'ts in the form of a booklet</li> <li>Proof of conducting the training programs</li> <li>Photographs of all installations in a specified manner</li> <li>Compliance to CRC process using the ReSolve Mobile Application</li> <li>Commissioning Report</li> </ul>									
On achievement of Acceptance of the Project	Ten percent (10%) of the Initial Capex along with applicable tax at the time of invoicing, as specified in the Works Order.	<ul style="list-style-type: none"> <li>Acceptance Certificate</li> <li>Submission of monthly/ hourly power consumption reports supported by the meter reading of the DC side of the solar photovoltaic modules given with the RSPS in the format therein.</li> </ul>									

SCC Clause reference	GCC Clause reference	Detailed Clause	
			<ul style="list-style-type: none"> <li>• Performance report of SLS duly signed by the authorized representative of the KGBV or OAV.</li> <li>• Acceptance Report</li> <li>• Copy of Net Metering Agreement (for On-Grid Projects)</li> </ul>
		On Successful Completion of CMC for each year (Year 1 to Year 5)	<p>Two percent (2%) of the Initial Capex along with applicable tax at the time of invoicing, as specified in the Works Order.</p> <ul style="list-style-type: none"> <li>• Performance report of RSPS and SLS duly signed by representatives of the KGBV or OAV.</li> </ul>
6.1.2.	GCC Clause 5.5.2.1	<p><b>Warranty:</b></p> <p>The Warranty in respect of the Equipment shall be as follows:</p> <ul style="list-style-type: none"> <li>• <b>Solar photovoltaic modules:</b> Performance Warranty with guaranteed ninety percent (90%) production at the end of 10<sup>th</sup> year of operation and 80% (eighty percent) at the end of the 25<sup>th</sup> year of operation from the date of Commissioning of the Project. Product Warranty for a period of five (5) years from the date of Commissioning of the Project.</li> <li>• <b>Inverter:</b> Product Warranty period of five (5) years from the date of Commissioning of the Project.</li> <li>• <b>Module mounting structures:</b> Product Warranty period of five (5) years from the date of Commissioning of the Project.</li> <li>• <b>Balance of system:</b> Product Warranty period of five (5) years from the date of Commissioning of the Project.</li> <li>• <b>Solar Street Lighting System including battery:</b> Product Warranty period of five (5) years from the date of Commissioning of the Project.</li> </ul> <p>As a testimony, the Successful Bidder must submit the Warranty certificate and service agreement with the OEM/ suppliers prior to achieving Commissioning of the Project. Any defect noticed during the Warranty period should be rectified/ replaced by the Successful Bidder either through OEM/ suppliers or by itself, free of cost, upon due intimation by OREDA.</p> <p>In case any OEM/ supplier provides a Warranty period more than five (5) years from the date of Commissioning of the Project, then the Successful Bidder shall provide the same to OREDA even if the Warranty period exceeds the CMC Period.</p>	

# 7. Annexure

## 7.1. Bid Forms – Technical Bid

### 7.1.1. Bid Form 1 (Bid Processing Fee)

#### Bid Processing Fee

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the copy of the Bid Processing Fee paid to the E-procurement Website “www.tenderwizard.com/OREDA”.

The Unique Transaction Reference (UTR) no. is [insert the UTR no.], dated [DD MMM YYYY].

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

**7.1.2. Bid Form 2 (Cost of Bid)**

**Cost of Bid**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the copy of the Cost of Bid submitted in the form of Demand Draft.

The Demand Draft no. is [insert], dated [DD MMM YYYY].

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

### 7.1.3. Bid Form 3 (Bid Security)

#### Bid Security

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the copy of the Bid Security submitted in the form of [Demand Draft/ Fixed Deposit Receipt/ Bank Guarantee].

The Demand Draft no. is [insert], dated [DD MMM YYYY] (in case of a demand draft), or

The Fixed Deposit Receipt no. is [insert], dated [DD MMM YYYY]. (in case of an FDR)

The Bank Guarantee no. is [insert], dated [DD MMM YYYY]. (in case of a Bank Guarantee)

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]



### **Bid Security (applicable only in case of Bank Guarantee)**

(To be submitted on a non-judicial stamp paper of appropriate value as per The Indian Stamp Act, 1899 relevant to the place of execution. The stamp paper shall be purchased in the name of the issuing bank only.)

Bank Guarantee (BG) no.: [insert BG no.]

Date: [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

WHEREAS M/s. [insert name of the Bidder] having its registered office at [insert address] (hereinafter called "the Bidder") wish to submit its Bid for the selection as an Engineering, Procurement and Construction (EPC) Successful Bidder for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha with reference to NIT no. [insert NIT no.] dated [DD MMM YYYY].

AND WHEREAS it has been stipulated by OREDA in the said NIT that the Bidder shall furnish OREDA with a Bank Guarantee from a nationalized or scheduled commercial bank for the sum specified therein, as Bid Security for compliance with its obligations in accordance with the Bidding Document.

AND WHEREAS we have agreed to give the Bidder such a Bid Security in the form of this Bank Guarantee. NOW THEREFORE we hereby affirm that we are the guarantors and responsible to OREDA on behalf of the Bidder for an amount up to a total of INR [Amount of the Bank Guarantee in words] ([Indian Rupees in figures]) only and we undertake to pay OREDA upon OREDA's first written demand declaring the Bidder to be in default under the various provisions of the Bidding Document and without cavil or argument, any sum or sums within the limits of the amount of Bank Guarantee, as aforesaid, without OREDA's need to prove or to show grounds or reasons for the demand or the sum specified therein. We hereby waive the necessity of your demanding of the said demand from the Bidder before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Bidding Document to be performed thereunder or any of the contract documents which may be made between you and the Bidder shall in any way release us from any liability under this Bank Guarantee and we hereby waive notice of any such change, addition or modification.

This Bank Guarantee shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the issuing bank.

This Bank Guarantee shall be a primary obligation of the issuing bank and accordingly OREDA shall not be obliged before enforcing this Bank Guarantee to take any action in any court or arbitral proceedings against the Bidder, to make any claim against or any demand on the Bidder or to give any notice to the Bidder or to enforce any security held by OREDA or to exercise, levy or enforce any distress, diligence or other processes against the Bidder.

This Bank Guarantee shall be interpreted in accordance with the laws of India and the courts at Bhubaneswar, Odisha shall have exclusive jurisdiction.

This Bank Guarantee shall be effective only when the Bank Guarantee is issued to the account holder "Orissa Renewable Energy Development Agency" in the bank and branch "Axis Bank Ltd., Mancheswar Branch, Bhubaneswar" having the account no. 918010103435005 IFSC code UTIB0001973.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to INR [insert] (Indian Rupees [in words]) only and it shall remain with an expiry date up to [DD MMM YYYY, [insert] months from the original last date of submission of Bid] with a claim date up to [DD MMM YYYY, 12 months from the date of expiry] and shall be extended from time to time for such period, as may be desired by M/s. [insert the Bidder name] whose behalf this guarantee has been given.

Our branch at [Name and address of the branch] is liable to pay the guaranteed amount depending on the filing of the claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our [Name and address of the branch] branch a written claim or demand and received by us at our [Name and address of the branch] branch, otherwise the bank shall be discharged of all liabilities under this guarantee thereafter.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on [DD MMM YYYY] at [insert location of signing].

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name and address of the Bank and address of the Branch

Power of attorney no.:

WITNESSES

Signature:

Name:

Address:

Signature:

Name:

Address:

Note:

1. This Bank Guarantee format is prepared in line with the Annexure-II of Finance Department Office Memorandum 4939 dated 13 Feb 2012, Govt of Odisha [Ref Para 22(i1)].
2. Please ensure that each page of the Bank Guarantee is duly signed by the authorized signatory of the issuing bank and stamp of the issuing bank is affixed thereon.
3. Please ensure whether the last page is signed with full particulars including two witnesses under the seal of Bank as required in the prescribed format.
4. Please ensure that the date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of the stamp paper under the signature of the stamp vendor. The date of purchase of stamp paper shall be not later than the date of execution of the Bank Guarantee.
5. In case of any overwriting, cutting, etc. on the Bank Guarantee have been properly authenticated under signature and seal of the authorized office of the issuing bank.

### **Additional Performance Security (as applicable)**

(To be submitted on a non-judicial stamp paper of appropriate value as per The Indian Stamp Act, 1899 relevant to the place of execution. The stamp paper shall be purchased in the name of the issuing bank only.)

Bank Guarantee (BG) no.: [insert BG no.]

Date: [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

WHEREAS M/s. [insert name of the Successful Bidder] having its registered office at [insert address] (hereinafter called "the Successful Bidder") has been selected as the Successful Bidder for the selection as an Engineering, Procurement and Construction (EPC) Successful Bidder for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha with reference to NIT no. [insert NIT no.] dated [DD MMM YYYY] and Letter of Intent (LOI) no. [insert LOI no.] dated [DD MMM YYYY].

AND WHEREAS it has been stipulated by OREDA in the said Bidding Document that the Successful Bidder shall furnish OREDA with a Bank Guarantee from a nationalized or scheduled commercial bank for the sum specified therein, as Performance Security for compliance with its obligations in accordance with the Bidding Document, the Letter of Intent and the Work Order to be issued by OREDA.

AND WHEREAS we have agreed to give the Successful Bidder such a Performance Security in the form of this Bank Guarantee. NOW THEREFORE we hereby affirm that we are the guarantors and responsible to OREDA on behalf of the Successful Bidder for an amount up to a total of INR [Amount of the Bank Guarantee in words] ([Indian Rupees in figures]) only and we undertake to pay OREDA upon OREDA's first written demand declaring the Successful Bidder to be in default under the various provisions of the Bidding Document and/ or the Work Order to be issued by OREDA and without cavil or argument, any sum or sums within the limits of the amount of Bank Guarantee, as aforesaid, without OREDA's need to prove or to show grounds or reasons for the demand or the sum specified therein. We hereby waive the necessity of your demanding of the said demand from the Successful Bidder before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Bidding Document and/ or the Work Order to be issued by OREDA to be performed thereunder or any of the contract documents which may be made between you and the Successful Bidder shall in any way release us from any liability under this Bank Guarantee and we hereby waive notice of any such change, addition or modification.

This Bank Guarantee shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the issuing bank.

This Bank Guarantee shall be a primary obligation of the issuing bank and accordingly OREDA shall not be obliged before enforcing this Bank Guarantee to take any action in any court or arbitral proceedings against the Successful Bidder, to make any claim against or any demand on the Successful Bidder or to give any notice to the Successful Bidder or to enforce any security held by OREDA or to exercise, levy or enforce any distress, diligence or other processes against the Successful Bidder.

This Bank Guarantee shall be interpreted in accordance with the laws of India and the courts at Bhubaneswar, Odisha shall have exclusive jurisdiction.

This Bank Guarantee shall be effective only when the Bank Guarantee is issued to the account holder “Orissa Renewable Energy Development Agency” in the bank and branch “Axis Bank Ltd., Mancheswar Branch, Bhubaneswar” having the account no. 918010103435005 IFSC code UTIB0001973.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to INR [insert] (Indian Rupees [in words]) only and it shall remain with an expiry date up to [DD MMM YYYY, [insert] months from the original last date of submission of Bid] with a claim date up to [DD MMM YYYY, 12 months from the date of expiry] and shall be extended from time to time for such period, as may be desired by M/s. [insert the Successful Bidder name] whose behalf this guarantee has been given.

Our branch at [Name and address of the branch] is liable to pay the guaranteed amount depending on the filing of a claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our [Name and address of the branch] branch a written claim or demand and received by us at our [Name and address of the branch] branch, otherwise the bank shall be discharged of all liabilities under this guarantee thereafter.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on [DD MMM YYYY] at [insert location of signing].

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name and address of the Bank and address of the Branch

Power of attorney no.:

WITNESSES

Signature:

Name:

Address:

Signature:

Name:

Address:

Note:

1. This Bank Guarantee format is prepared in line with the Annexure-II of Finance Department Office Memorandum 4939 dated 13 Feb 2012, Govt of Odisha [Ref Para 22(i1)].
2. Please ensure that each page of the Bank Guarantee is duly signed by the authorized signatory of the issuing bank and stamp of the issuing bank is affixed thereon.
3. Please ensure whether the last page is signed with full particulars including two witnesses under the seal of Bank as required in the prescribed format.
4. Please ensure that the date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of the stamp paper under the signature of the stamp vendor. The date of purchase of stamp paper shall be not later than the date of execution of the Bank Guarantee.
5. In case of any overwriting, cutting, etc. on the Bank Guarantee have been properly authenticated under signature and seal of the authorized office of the issuing bank.

#### 7.1.4. Bid Form 4 (Power of Attorney)

##### Power of Attorney

(To be submitted on a non-judicial stamp paper of appropriate value as per The Indian Stamp Act, 1899 relevant to the place of execution. The stamp paper shall be purchased in the name of the Bidder only.)

Signature and stamp of the notary of the place of execution [insert place] dated [DD MMM YYYY]

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

Know all men by these presents, We, [name of the executant(s)], do hereby constitute, appoint and authorize [name of the Authorized Signatory] as the Authorized Signatory presently residing at [residential address of Authorized Signatory] and having PAN [insert PAN no. of Authorized Signatory] who is presently employed with us and holding the designation of [designation of the Authorized Signatory] as our true and lawful representative, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for the selection as an Engineering, Procurement and Construction (EPC) Successful Bidder for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha with reference to the NIT no. [insert NIT no.] dated [DD MMM YYYY] issued by Odisha Renewable Energy Development Agency ("OREDA").

The Authorized Signatory shall represent us and shall be responsible for the signing of the Bid, submission of the Bid and executing all other documents related to this Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which OREDA may require us to submit. The Authorized Signatory is further authorized to make representations to OREDA and provide information/ responses to OREDA, representing us in all matters before OREDA, and generally dealing with OREDA in all matters in connection with our Bid and during the performance of the Work Order.

We hereby agree to ratify all acts, deeds and things are done by our said Authorized Signatory pursuant to this Power of Attorney and that all acts, deeds and things are done by our aforesaid Authorized Signatory shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the Bidding Document.

Signature of the executant

Name:

Designation:

Address:

Company:

Accepted by

Signature of the Authorized Signatory

Name:

Designation:

Address:

Company:

Common seal of [name of the Bidder] is affixed in [my/our] presence pursuant to the provisions mentioned in the clause under "Seal" of the Article of Association.

Board resolution dated [DD MMM YYYY] is attached below.

WITNESS

Signature:

Name:

Address:

Signature:

Name:

Address:

Notes:

1. The mode of execution of the power of attorney shall be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and the same shall be under the common seal of the executant affixed in accordance with the applicable procedure. Further, the person whose signatures are to be provided on the power of attorney shall be duly authorized by a Board Resolution.
2. The person authorized under this Power of Attorney shall be a person holding the responsible post and designation in the company.
3. The Board Resolution forms a part of the Power of Attorney.

## Board Resolution

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.]

CERTIFIED TRUE COPY OF THE RESOLUTION PASSED IN THE MEETING OF THE BOARD OF DIRECTORS OF M/S. [insert name of the Bidder] HAVING ITS REGISTERED OFFICE AT [insert office address of the Bidder] HELD ON [DD MMM YYYY] AT [HHMM] HRS.

Resolved that we, [insert name of the Bidder], do agree to participate in the NIT invited by OREDA vide NIT no. [insert NIT no.] dated [DD MMM YYYY] for the selection as an Engineering, Procurement and Construction (EPC) Successful Bidder for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha.

RESOLVED FURTHER THAT, [insert name of the Bidder] agrees to unconditionally accept all terms and conditions mentioned in the aforementioned Bidding Document.

RESOLVED FURTHER THAT, Ms./ Mr. [Name of the Authorized Signatory] [is/ are] presently residing at [residential address of Authorized Signatory] and having PAN [insert PAN no. of Authorized Signatory] who is presently employed with us and holding the designation of [designation of the Authorized Signatory] is the Authorized Signatory of [insert name of the Bidder] 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 Project.

AND RESOLVED FURTHER THAT, the common seal of the company is affixed, wherever necessary, in accordance with the applicable procedure laid down by the applicable law and the charter documents.

For [insert name of the Bidder]

Chairman/ Director/ Company Secretary  
(Signatory of the Board Resolution)

Name of the Authorized Signatory  
Specimen signature of Authorized Signatory

Note: The above signature(s) to be attested by the person signing the resolution



### 7.1.5. Bid Form 5 (Covering Letter of Technical Bid)

#### Covering Letter of Technical Bid

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

Email: ceoreda@oredaorissa.com

Sub: Submission of Technical Bid for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha

Dear [Sir/ Madam],

Having examined the Bidding Document carefully, We, the undersigned, offer to submit herewith the Technical Bid as per the subject line and NIT no. mentioned above.

We are submitting our Bid under [select either Category A or Category B] and we have applied for the following Project:

Districts	No. of KGBV Hostels	No. of OAV	Cumulative capacity of RSPS in kW	Cumulative no. of SLS	Applied for the Project
Jajpur, Keonjhar, Mayurbhanj, Sundargarh	29	40	1,090	800	[Yes/ No]

We hereby undertake the following:

1. We have read all the provision of the Bidding Document and confirm that notwithstanding anything stated elsewhere in our Technical Bid to the contrary, the provisions of the Bidding Document are acceptable to us and we further confirm that we have not taken any deviation to the provision of the NIT anywhere in our Bid. Acceptance of the above attribute shall be considered as our confirmation that any deviation, variation or additional condition, etc. or any mention, contrary to the provisions of Bidding Document found anywhere in our Technical Bid implicit or explicit shall stand unconditionally withdrawn, without any cost implication whatsoever to OREDA.
2. We further declare that any additional conditions, variations, deviations, if any, in our Bid shall not be given effect to. We further understand that any deficiency or illegibility in our Technical Bid shall result in rejection of our Technical Bid.
3. 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 and rejection of our Technical Bid. In case of any false documents submitted and found any time in the future, we shall be liable to be proceeded as per Applicable Law.
4. We confirm that we have submitted the Technical Bid as per the instructions given in the Bidding Document.
5. We hereby declare and confirm that only we are submitting our Bid and that our parent, affiliate, the ultimate parent or any group companies with which we have direct or indirect relationships are not separately submitting their Bid.

6. 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.
7. We confirm that the Technical Bid submitted are subject to the verification solely by appropriate authorities of OREDA as per all the terms of the Bidding Document and agree that the decision taken by OREDA shall be final and binding on us.
8. We declare that our Technical Bid is fully compliant to the qualification requirement mentioned under Section 4 (QR) and we have not misrepresented any information provided in our Bid.
9. We confirm that any genuine changes made by OREDA in the interest of the Project with respect to the Technical Specifications, Designs and Drawings during the course of performance of the Work Order shall be fully acceptable to us without any cost implication whatsoever to OREDA.
10. We confirm that we will comply with all the Applicable Laws and Prudent Utility Practices all the time during the performance of the Work Order.
11. We confirm that we have submitted the Technical Bid as per the forms given in Bid Form (Technical Bid) and/ or the instructions given in the NIT or E-procurement Website; failure to which our Technical Bid shall be considered as non-responsive and shall be liable for rejection.
12. We agree that We have not submitted any conditional or alternative Technical Bid and in case of any deviation, then our Technical Bid shall be considered as non-responsive and shall be liable for rejection.
13. We confirm that we do not have any conflict of interest in accordance with the provisions of the NIT.
14. We confirm that in case we are directly or indirectly through an agent engaged in Corrupt Practice, Fraudulent Practice, Coercive Practice, Collusive Practice, Obstructive Practice or Integrity Violation, then our Technical Bid shall be considered as non-responsive and shall be liable for rejection.
15. We confirm that OREDA reserves all the right to accept or reject any Technical Bid without assigning any reasons thereof and shall not be held liable for any such action and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
16. We confirm that in case our Bid is accepted, we undertake to provide Contract Performance Securities as specified in the NIT, else our Bid Security shall be forfeited.
17. We agree that this Technical Bid shall remain valid for a period of **One Hundred and Eighty (180)** Days from the original last date of online Bid submission and such further period as may be mutually agreed upon.
18. The Bidding Document has been discussed in the Board meeting and a Board Resolution (BR) no. **[insert BR no.]** dated **[DD MMM YYYY]** has been concurred for submission of our Bid and is enclosed as a part of Bid Form 4 (Power of Attorney).
19. We undertake that OREDA shall, without prejudice to any other right or remedy, be at liberty to forfeit the Bid Security deposited by us in case of any default as per the Bidding Document.
20. In case we fail to achieve the milestones of Commissioning and Acceptance of the Project as per the Project Timelines, OREDA shall, without prejudice to any other right or remedy, be at liberty to forfeit the Performance Security.
21. We confirm that we shall establish a central office at Bhubaneswar, Odisha and also establish local offices at the concerned district so as to deliver uninterrupted and sustainable Comprehensive Maintenance during the CMC Period.
22. We understand that you are not bound to accept any Technical Bid you may receive.

Place: **[insert place]**

**[sign here]**

Signature

Name of Authorized Signatory: **[insert name]**

Designation: **[insert designation]**

Name of the Bidder: **[insert Bidder's legal entity name]**

Seal: **[insert seal of the Bidder]**

**7.1.6. Bid Form 6 (Technical Qualification)**

**Technical Qualification – rooftop solar photovoltaic projects**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We confirm that we meet the Qualification Requirement mentioned in QR Clause 4.3 of Section 4 (QR) and we have the experience of commissioning rooftop solar photovoltaic projects for a cumulative capacity as mentioned under the “Our experience in number of projects commissioned” for which it is submitting its Bid, in the last five (5) years from the last date of online submission of the Technical Bid in Odisha as the EPC contractor.

As per QR Clause 4.3.1, and Clause 4.3.2 our experiences are as follows:

Technical Qualification	Number of Projects Commissioned	Reference project no.
Our experience of commissioning RSPS at schools/ colleges/ educational institutions		
Our experience successfully completing 5 years of comprehensive maintenance of RSPS		

The details pertaining to the reference projects are given below:

Sr. No.	Item Description	Reference project [insert]**
1.	Project capacity in kW	[capacity as per Joint Commissioning Certificate] kW
2.	Title of the project with a brief of scope	
3.	Actual project cost	[insert] Lakh INR
4.	Name of the client with the full address including the contact no. and email id of the client	Name of the client: Address: Contact no.: Email id:
5.	Name of the ultimate user of solar energy	
6.	Project arrangement	[On-grid net metering, Off-grid, or other (please specify)]
7.	Location of the project and GPS/ Google coordinate	Address of the plant: GPS/ Google coordinate:
8.	I have attached the relevant letter of awards/ work orders/ contract agreement along with any amendments issued in full without deleting/ hiding any information	[Yes/ No]
9.	Details of the letter of awards/ work orders/ contract	Work order no.: Date of work order: [DD MMM YYYY] Whether any liquidated damages been charged by the client? [Yes/ No]. In case of yes, please provide the details.

Sr. No.	Item Description	Reference project [insert]**
10.	I have attached the Joint Commissioning Certificate issued by the concerned government authority as per the Prudent Utility Practices followed in Odisha	[Yes/ No]
11.	Details of the Joint Commissioning Certificate	Name of the government authority in Odisha issuing the Joint Commissioning Certificate: [insert] Target date of commissioning: [DD MMM YYYY] Actual date of commissioning: [DD MMM YYYY]

\*\* in case of multiple reference projects, please keep on adding separate columns.

The scan copies of the letter of awards/ work orders/ contract along with the associated Joint Commissioning Certificates are enclosed below:

[Please attached the proof of documents]

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

**Technical Qualification – rooftop solar photovoltaic projects (Applicable for Category B Bidders)**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

Email: ceoreda@oredaorissa.com

This Form is not applicable to us, since we are submitting the Bid under Category B.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

### 7.1.7. Bid Form 7 (Financial Qualification)

#### Financial Qualification

(To be submitted on the letterhead of the chartered accountant)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

Email: ceoreda@oredaorissa.com

I, [insert name of the chartered accountant], confirm that the Bidder, [insert name of the Bidder], meets the Financial Qualification Requirement as mentioned in QR Clause 4.4 of Section 4 (Qualification Requirement). The compliance to the Financial Qualification Requirement is mentioned below, as per our detailed evaluation of the Bidder's latest certified true copy of the audited annual accounts and their work orders related to the solar business.

**Average annual turnover** (as per QR Clause 4.4.1),

Particulars	Unit	FY16-17	FY17-18	FY18-19
Annual turnover from solar business only#	Lakh INR	[insert]	[insert]	[insert]
Average annual turnover from solar business only#	Lakh INR			[insert]

# other income is not considered

**Net Worth** (as per QR Clause 4.4.2) (applicable in case of companies),

Particulars	Unit	FY16-17	FY17-18	FY18-19
Aggregate value of the paid-up share capital	Lakh INR	[insert]	[insert]	[insert]
Add: all reserves created out of the profits and securities premium account.	Lakh INR	[insert]	[insert]	[insert]
Subtract: Accumulated losses	Lakh INR	[insert]	[insert]	[insert]
Subtract: Deferred expenditure	Lakh INR	[insert]	[insert]	[insert]
Subtract: Miscellaneous expenditure not written off	Lakh INR	[insert]	[insert]	[insert]
<b>Net Worth*</b>	<b>Lakh INR</b>	<b>[insert]</b>	<b>[insert]</b>	<b>[insert]</b>

Note: It does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.

[For partnership firm and sole proprietorship firm, as per the methodology certified by the chartered accountant based on the Applicable Law in India.]

I hereby declare that all the information and statements made in this certificate are complete, true and correct and also accept that any misinterpretation contained in it may lead to cancellation of my CA membership, and I shall be liable to be proceeded as per the Applicable Law.

Place: [sign here]  
[insert Signature  
place] Name of Chartered Accountant (CA): [insert name]  
Designation: [insert designation]  
Name of the firm of the CA: [insert Bidder's legal entity name]  
CA membership no.: [insert CA membership no.]  
Registration no. of the CA's firm:  
Seal: [insert seal of the Bidder]

## Financial Qualification (Applicable for Category B Bidders)

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

This Form is not applicable to us, since we are submitting the Bid under Category B.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]



### 7.1.8. Bid Form 8 (Test Certificates)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

Email: ceoreda@oredaorissa.com

We, the undersigned, declare that the “**Test Certificates**” for the Equipment will be issued to us from the valid MNRE/ NABL/ BIS authorized Test Labs, pursuant to the requirements as mentioned in QR Clause 4.2.1.

Sl. No.	Major Component	Test Certificates Required	Test description	Designated Test Labs
1	Crystalline Silicon Terrestrial PV Modules	IEC 61215	Design qualification	MNRE/NABL/BIS authorized Test Labs
		IEC 61730	Safety Qualification	MNRE/NABL/BIS authorized Test Labs
		IEC 61701	Salt Mist Corrosion Test	MNRE/NABL/BIS authorized Test Labs
2	Power Conditioning Units (PCU)/ Inverter*	IEC 61683	Efficiency Test	MNRE/NABL/BIS authorized Test Labs
		IEC 60068	Environmental Test	MNRE/NABL/BIS authorized Test Labs
		IEC 62116	Anti-Islanding Protection	MNRE/NABL/BIS authorized Test Labs
		IEC 61727	Grid Interconnection	MNRE/NABL/BIS authorized Test Labs
		IP 65/56	Ingress Protection for Outdoor/Indoor Enclosure	MNRE/NABL/BIS authorized Test Labs
3	Battery (Stationary T-Gel/VRLA Lead Acid)	IS 15549 – 2005	As per IS 15549/ IEC 61427	MNRE/NABL/BIS authorized Test Labs
4	SLS			MNRE/NABL/BIS authorized Test Labs

**Note:** The proof of all documents showcasing the possession of such copies of the Test Certificates by the Bidder shall be submitted as per the instructions given under the Letter of Intent and not at the time of bidding.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

### 7.1.9. Bid Form 9 (Self-certificate)

#### Self-certificate

(To be submitted on a non-judicial stamp paper of appropriate value as per The Indian Stamp Act, 1899 relevant to the place of execution. The stamp paper shall be purchased in the name of the Bidder only.)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, confirm and certify that we have not been debarred/ blacklisted/ defaulted by any Government, agency, Public Sector Undertaking (PSU), institution/ autonomous organizations in the past. We have not acted in concert or in collusion with any other Bidder or other person(s) and also not done any act, deed or thing which is or could be regarded as anti-competitive.

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

In case of any false documents submitted and found in the future, we shall be liable to be proceeded against as per the Applicable Law.

In case of any such events, we have provided the case details and their current status below. ~~strike-off this line, in case it is not applicable~~.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

#### 7.1.10. Bid Form 10 (Undertaking for Indigenousness)

##### Undertaking for Indigenousness

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

Email: ceoreda@oredaorissa.com

We, [insert the Bidder name], hereby certify and confirm that all the Equipment to be supplied under this Project shall be indigenous and not fully imported, as per the relevant guidelines of the Ministry of New and Renewable Energy (MNRE), Government of India.

The relevant certificates are enclosed herewith.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

7.1.11. Bid Form 11 (No Deviation Certificate)

**No Deviation Certificate**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, [insert the Bidder name], hereby certify and confirm that we have read the clauses and provisions of the NIT, Addendums, Corrigendum, etc. issued thereafter and the stipulation of all clauses and provisions are acceptable to us, and we have not taken any deviation whatsoever to any of the clauses and provisions.

\*In case the Bidder has taken any deviation, then the same shall be mentioned here.

Clause No.	Deviations considered, if any

[\*strike-off, if not applicable]

We further confirm that we are aware that our Bid would be liable for rejection in case any material misrepresentation is made or discovered with regard to the requirements of this NIT at any stage of the bidding process or thereafter during the performance of the Work Order.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

### 7.1.12. Bid Form 12 (Registration details)

#### Registration details

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the Certificate of Incorporation, Memorandum of Association (MOA) and Article of Association (AOA) [applicable in case of companies]. The **AOA** (if applicable) shall mention the company's operations and defines the company's purpose from the SOW point of view

or

We, the undersigned, attaching the Partnership Deed [applicable in case of partnership firm].

or

We, the undersigned, attaching the proof of having the bank account or any other document as issued by the Government [applicable in case of sole proprietorship firm].

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

7.1.13. **Bid Form 13 (PAN)**

**PAN**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the copy of the PAN card.

The PAN is [insert PAN].

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

**7.1.14. Bid Form 14 (GST Certificate)**

**GST Certificate**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the copy of the GST Certificate.

The GST no. is [insert GST no.] and the place of GST registration is for the state of [insert state name].

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]



7.1.15. **Bid Form 15 (Income Tax Return)**

**Income Tax Return**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the copy of the Income Tax Return for the last three (3) assessment years for AY2020, AY2019 and AY2018.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

7.1.16. **Bid Form 16 (Quality Assurance)**

**Quality Assurance**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, declare that we have a copy of the ISO certificate for ISO 9001 and will submit the copy of the ISO 14001 certificate in the name of the Original Equipment Manufacturer (OEM), supported by a letter of authorization from the OEM, as per QR Clause 4.2.2.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

Note: The documentary evidence shall be submitted as a part of the response to the Letter of Intent and prior to issuance of the Work Order, and not at the time of bidding.

**7.1.17. Bid Form 17 (Summary of the Bidder)**

**Summary of the Bidder**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

We, the undersigned, attaching the summary of [insert name of the Bidder] in excel format.

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

## **7.2. Bid Forms – Price Bid**

### **7.2.1. Bid Form 18 (Covering Letter of Price Bid)**

#### **Covering Letter of Price Bid**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive

Odisha Renewable Energy Development Agency (OREDA)

Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.

Email: ceoreda@oredaorissa.com

Sub: Submission of Price Bid for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha

Dear [Sir/ Madam],

Having examined the Bidding Document carefully, We, the undersigned, offer to submit herewith the Price Bid as per the subject line and NIT no. mentioned above.

We agree that this Price Bid shall remain valid for a period of **One Hundred and Eighty (180)** Days from the original last date of online Bid submission and such further period as may be mutually agreed upon.

We have read all the provision of the Bidding Document and confirm that notwithstanding anything stated elsewhere in our Price Bid to the contrary, the provisions of the Bidding Document are acceptable to us and we further confirm that we have not taken any deviation to the provision of the NIT anywhere in our Bid. Acceptance of the above attribute shall be considered as our confirmation that any deviation, variation or additional condition, etc. or any mention, contrary to the provisions of Bidding Document found anywhere in our Price Bid implicit or explicit shall stand unconditionally withdrawn, without any cost implication whatsoever to OREDA.

We further declare that any additional conditions, variations, deviations, if any, in our Bid shall not be given effect to. We further understand that any deficiency or illegibility in our Price Bid shall result in rejection of our Price Bid.

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 and rejection of our Price Bid.

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.

We agree with the following:

1. We confirm that the Price Bid submitted are subject to the verification solely by appropriate authorities of OREDA as per all the terms of the Bidding Document and agree that the decision taken by OREDA shall be final and binding on us.
2. We declare that our Price Bid is fully compliant as per the terms of the Bidding Document.
3. We confirm that we have submitted the Price Bid in Indian Rupees only and the Price Bid will be considered up to two places of decimal only.

4. We confirm that any genuine changes made by OREDA in the interest of the Project with respect to the Technical Specifications, Designs and Drawings during the course of performance of the Work Order shall be fully acceptable to us without any cost implication whatsoever to OREDA.
5. We confirm that we will comply with all the Applicable Laws and Prudent Utility Practices all the time during the performance of the Work Order.
6. We confirm that we have submitted the Price Bid as per the forms given in Bid Form (Price Bid) and/ or the instructions given in the NIT or E-procurement Website; failure to which our Price Bid shall be considered as non-responsive and shall be liable for rejection.
7. We agree that We have not submitted any conditional or alternative Price Bid and in case of any deviation, then our Price Bid shall be considered as non-responsive and shall be liable for rejection.
8. We confirm that we have not mentioned the Price Bid anywhere other than the Price Bid on the E-procurement Website for further evaluation. If we submit the Price Bid on the E-procurement Website that is not in line with the instructions mentioned therein, then the Price Bid shall be considered as non-responsive and shall be liable for rejection.
9. We confirm that we do not have any conflict of interest in accordance with the provisions of the NIT.
10. We confirm that in case we are directly or indirectly through an agent engaged in Corrupt Practice, Fraudulent Practice, Coercive Practice, Collusive Practice, Obstructive Practice or Integrity Violation, then our Price Bid shall be considered as non-responsive and shall be liable for rejection.
11. We understand that you are not bound to accept any Price Bid you may receive.
12. We confirm that OREDA reserves all the right to accept or reject any Price Bid without assigning any reasons thereof and shall not be held liable for any such action and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
13. We confirm that in case our Bid is accepted, we undertake to provide Contract Performance Securities as specified in the NIT, else our Bid Security shall be forfeited.
14. The rates quoted by us are firm, final and are meant for execution of the allotted supply/ installation within the time frame stipulated in the tender/ supply/ installation order.
15. 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.

Place: [\[insert place\]](#)

[\[sign here\]](#)

Signature

Name of Authorized Signatory: [\[insert name\]](#)

Designation: [\[insert designation\]](#)

Name of the Bidder: [\[insert Bidder's legal entity name\]](#)

Seal: [\[insert seal of the Bidder\]](#)

7.2.2. Bid Form 19 (Price Bid - Category A Bidder)

Price Bid - Category A Bidder

(Sample Format)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

Particulars		Description				
Name of the Project		Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha				
Name of the Bidder/Consortium		[insert the Bidders name]				
Category of Bidder		Category A				
Price Bid						
Sl. No	Particulars	Label	Price in INR per kW	Price in INR per kW (in Words)	Volume/ Capacity	Total Cost
1	Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya premises across 4 district(s) in Odisha as per the Technical Specification in the NIT inclusive of Taxes	A			290	To be Auto Calculated
2	Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) along with Comprehensive Maintenance for Five (5) years at 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha as per the Technical Specification in the NIT inclusive of Taxes	B			800	To be Auto Calculated

3	Design, Engineering, Supply, Installation, Testing and Commissioning of Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha as per the Technical Specification in the NIT inclusive of Taxes	C			800	
Price Bid - Project						
4	Total Cost for the Project	$D = A+B+C$				To be Auto Calculated
5	Estimated Project Cost	E				To be mentioned as given in the RFP
6	Additional Performance Security amount if applicable (if $H < I$ )	$F = E - D$ (if $D < E$ )				To be Auto Calculated

**Note:**

1. This format to be uploaded on the E-procurement Website as per the instruction given in the NIT.
2. GST rates should be inclusive in the quoted price as per the prevailing tax rules in India.
3. Additional Performance Security amount to be deposited as mentioned in the NIT if applicable.

### 7.2.3. Bid Form 20 (Price Bid - Category B Bidder)

#### Price Bid - Category B Bidder

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

Particulars	Description
Name of the Project	Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha
Name of the MSME Bidder	[insert the Bidder name]
Category of the Bidder	Category B
Whether the Bidder is willing to accept the L1 price quoted by Category A Bidder	[Please select either Yes or No]

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]



## 7.3. Letter of Intent Forms

### 7.3.1. LOI Form 1 (Letter of Intent)

#### Letter of Intent

(To be submitted on the letterhead of OREDA)

Letter of Intent no.: [insert Letter of Intent no.] dated [DD MMM YYYY]

From

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

To

[Bidder name]

[Address]

**Sub:** Letter of Intent to the Successful Bidders for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Adarsha Vidyalaya premises across 4 district(s) in Odisha

#### Reference:

NIT no. [insert NIT no.] dated [DD MMM YYYY]

With reference to the above, you have been selected as the Successful Bidder and you are requested to submit the following critical documents within a maximum period of fifteen (15) Days from the date of issue of this Letter of Intent, without any fail, else your Bid shall be liable for rejection and the Bid Security submitted to us shall be forfeited.

Sl. No	Critical documents
1.	Acceptance to the Letter of Intent by signing the copy of the Letter of Intent along with an official seal, date, and submission to OREDA
2.	Submission of Performance Security as per ITB Clause 1.6.3
3.	Submission of a detailed Workplan in line with the Project Timelines mentioned in the SOW Clause 5.4.2.2 for the implementation of RSPS and SLS separately (as applicable).
4.	Submission of a site survey report with the finalization of the exact location of the Project and the plan for the separation of loads from the existing load for the purpose of implementation of the Project for the implementation of RSPS and SLS separately (as applicable).
5.	Valid Test Certificates of the solar photovoltaic module, inverter and battery along with datasheets of all other Equipment of the Project for the implementation of RSPS and SLS separately (as applicable).
6.	Contact information of various OEMs for the solar photovoltaic module, inverter, battery, solar street lighting systems and balance of systems of the Project for the implementation of RSPS and SLS separately (as applicable).

Sl. No	Critical documents
7.	Single line diagram of the Project for the implementation of RSPS and SPP separately (as applicable).
8.	Design document of the module mounting structure and pole mounting structure of the Project for the implementation of RSPS and SLS separately (as applicable) along with a STAD pro analysis report as a part of the mandatory submission.
9.	Detailed bill of materials along with spares

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

### 7.3.2. LOI Form 2 (Performance Security)

#### Performance Security (in the form of a Bank Guarantee)

(To be submitted on a non-judicial stamp paper of appropriate value as per The Indian Stamp Act, 1899 relevant to the place of execution. The stamp paper shall be purchased in the name of the issuing bank only.)

Bank Guarantee (BG) no.: [insert BG no.]

Date: [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

WHEREAS M/s. [insert name of the Successful Bidder] having its registered office at [insert address] (hereinafter called "the Successful Bidder") has been selected as the Successful Bidder for the selection as an Engineering, Procurement and Construction (EPC) Successful Bidder for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha with reference to NIT no. [insert NIT no.] dated [DD MMM YYYY] and Letter of Intent (LOI) no. [insert LOI no.] dated [DD MMM YYYY].

AND WHEREAS it has been stipulated by OREDA in the said Bidding Document that the Successful Bidder shall furnish OREDA with a Bank Guarantee from a nationalized or scheduled commercial bank for the sum specified therein, as Performance Security for compliance with its obligations in accordance with the Bidding Document, the Letter of Intent and the Work Order to be issued by OREDA.

AND WHEREAS we have agreed to give the Successful Bidder such a Performance Security in the form of this Bank Guarantee. NOW THEREFORE we hereby affirm that we are the guarantors and responsible to OREDA on behalf of the Successful Bidder for an amount up to a total of INR [Amount of the Bank Guarantee in words] ([Indian Rupees in figures]) only and we undertake to pay OREDA upon OREDA's first written demand declaring the Successful Bidder to be in default under the various provisions of the Bidding Document and/ or the Work Order to be issued by OREDA and without cavil or argument, any sum or sums within the limits of the amount of Bank Guarantee, as aforesaid, without OREDA's need to prove or to show grounds or reasons for the demand or the sum specified therein. We hereby waive the necessity of your demanding of the said demand from the Successful Bidder before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Bidding Document and/ or the Work Order to be issued by OREDA to be performed thereunder or any of the contract documents which may be made between you and the Successful Bidder shall in any way release us from any liability under this Bank Guarantee and we hereby waive notice of any such change, addition or modification.

This Bank Guarantee shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the issuing bank.

This Bank Guarantee shall be a primary obligation of the issuing bank and accordingly OREDA shall not be obliged before enforcing this Bank Guarantee to take any action in any court or arbitral proceedings against the Successful Bidder, to make any claim against or any demand on the Successful Bidder or to give any notice to the Successful Bidder or to enforce any security held by OREDA or to exercise, levy or enforce any distress, diligence or other processes against the Successful Bidder.

This Bank Guarantee shall be interpreted in accordance with the laws of India and the courts at Bhubaneswar, Odisha shall have exclusive jurisdiction.

This Bank Guarantee shall be effective only when the Bank Guarantee is issued to the account holder “Orissa Renewable Energy Development Agency” in the bank and branch “Axis Bank Ltd., Mancheswar Branch, Bhubaneswar” having the account no. 918010103435005 IFSC code UTIB0001973.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to INR [insert] (Indian Rupees [in words]) only and it shall remain with an expiry date up to [DD MMM YYYY, [insert] months from the original last date of submission of Bid] with a claim date up to [DD MMM YYYY, 12 months from the date of expiry] and shall be extended from time to time for such period, as may be desired by M/s. [insert the Successful Bidder name] whose behalf this guarantee has been given.

Our branch at [Name and address of the branch] is liable to pay the guaranteed amount depending on the filing of the claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our [Name and address of the branch] branch a written claim or demand and received by us at our [Name and address of the branch] branch, otherwise the bank shall be discharged of all liabilities under this guarantee thereafter.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on [DD MMM YYYY] at [insert location of signing].

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name and address of the Bank and address of the Branch

Power of attorney no.:

WITNESSES

Signature:

Name:

Address:

Signature:

Name:

Address:

Note:

1. This Bank Guarantee format is prepared in line with the Annexure-II of Finance Department Office Memorandum 4939 dated 13 Feb 2012, Govt of Odisha [Ref Para 22(i1)].
2. Please ensure that each page of the Bank Guarantee is duly signed by the authorized signatory of the issuing bank and stamp of the issuing bank is affixed thereon.
3. Please ensure whether the last page is signed with full particulars including two witnesses under the seal of Bank as required in the prescribed format.
4. Please ensure that the date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of the stamp paper under the signature of the stamp vendor. The date of purchase of stamp paper shall be not later than the date of execution of the Bank Guarantee.
5. In case of any overwriting, cutting, etc. on the Bank Guarantee have been properly authenticated under signature and seal of the authorized office of the issuing bank.

### 7.3.3. LOI Form 3 (Sample format for CMC)

#### Sample format for Comprehensive Maintenance Contract (CMC)

CMC ref no: [insert]

Date: [DD MMM YYYY]

Sub: CMC for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha.

Ref:

1. NIT no. [insert] dated [DD MMM YYYY]
2. Letter of Intent no. [insert] dated [DD MMM YYYY]
3. Work Order no. [insert] dated [DD MMM YYYY]

The Comprehensive Maintenance Contract (CMC) is signed jointly between the two (2) Parties on this [insert] day of [insert] month in the year [insert] at Bhubaneswar, Odisha and shall come into force from the date of its signing.

CMC for maintenance of Project consisting of Rooftop Solar Power System (RSPS) and solar Street Lighting System (SLS) supplied and installed by M/s [insert the name of the Successful Bidder] for a CMC Period of five (5) years from the date of Commissioning of the Project.

This CMC is executed between Odisha Renewable Energy Development Agency (OREDA) having registered office at S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha, hereinafter called as the First Party and M/s [insert the name of the Successful Bidder] having registered office at [insert address of the Successful Bidder] hereinafter called as Second Party, for the maintenance of the Project for a period of five (5) years from the date of Commissioning of the Project, provided herein:

Districts	No. of KGBV	No of OAV	Cumulative capacity of RSPS in kW	Cumulative no. of SLS
[insert]	[insert]	[insert]	[insert]	[insert]

The Second Party will maintain the Project as per the terms and conditions mentioned hereunder:

1. It has been envisaged in the Work Order under Article [insert] that the Project shall be warranted against any manufacturing defect and bad workmanship during the CMC Period of five (5) years from the date of Commissioning of the Project. As these Projects have been Commissioned after issuance of a Commissioning Certificate. Hence, the Second Party is fully responsible for their trouble-free maintenance and the Second Party is liable to rectify/ remove any defect noticed within the aforesaid CMC Period, free of cost.
2. The Second Party will impart training to at least two (2) designated persons from the organization to be able to provide first aid repair service for the SPV systems.
3. The Performance Security has been submitted only in the form of the Bank Guarantee and the Bank Guarantees were issued in favour of Chief Executive, OREDA payable at Bhubaneswar, Odisha for an amount, expiry date and claim date as mentioned below:

The Performance Security has been submitted for an aggregate amount equivalent to ten percent (10%) of the Initial Capex in five (5) parts, as given below:

BG no.	Amount	Expiry date	Claim date
BG 1	Two percent (2%) of Initial Capex	Twenty (20) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry
BG 2	Two percent (2%) of Initial Capex	Thirty (30) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry
BG 3	Two percent (2%) of Initial Capex	Forty-Two (42) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry
BG 4	Two percent (2%) of Initial Capex	Fifty-Four (54) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry
BG5	Two percent (2%) of Initial Capex	Sixty-Six (66) Months from the date of issuing Letter of Intent	Twelve (12) Months from the date of expiry

Each Bank Guarantee submitted towards the Performance Security shall be returned within a maximum period of thirty (30) Days of the expiry date of each of the BG.

4. The CMC includes repair/ replacement of all spares, consumable and all the Equipment including but not limited to solar photovoltaic module, inverter, battery, solar street lighting system and balance of systems during the CMC Period.
5. The Second Party shall establish a central office at Bhubaneswar, Odisha, and also establish local offices at the concerned district so as to deliver uninterrupted and sustainable Comprehensive Maintenance during the CMC Period duly headed by a Service Engineer.
6. The Second Party shall undertake corrective maintenance upon registration of complaints by consumers at CRC-OREDA. After attending to the defect, the Second Party shall upload the required documents at ReSolve mobile application for successful closure of the complaints. The Second Party shall ensure rectification of defects and restore functionality within seven (7) Days of lodging the complaints.
7. The Second Party shall undertake scheduled maintenance work as per the prescribed format attached in Annexure Clause 7.5.7 and 7.6.7 and upload the required details and documents in the ReSolve mobile application strictly according to the given schedule.
8. The Second Party shall apprise the First 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 a token of verification of maintenance done and release of an annual payment of CMC in arrears upon completion of each year of the CMC Period.
10. It will be the liberty of the First Party to crosscheck the systems maintained by the Second Party. Random verification of the maintenance may be carried out by the First Party wherever necessary.
11. The Second Party may continue to maintain the gadgets after the expiry of the CMC Period of ten (10) years from the date of Commissioning of the Project, provided the Department/ First Party desires.
12. For the adjudication of any dispute between the two (2) Parties arising on the 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, Bhubaneswar only.

For and on behalf of Odisha Renewable Energy Development Agency (First Party),

Place: [\[insert place\]](#)

[\[sign here\]](#)

Signature

Name of Authorized Signatory of OREDA: [\[insert name\]](#)

Designation: [\[insert designation\]](#)

Odisha Renewable Energy Development Agency

Seal: [insert seal of the Bidder]

For and on behalf of M/s ..... (Second Party)

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

## 7.4. Pre-bid Form

### Pre-bid queries

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

To

The Chief Executive  
Odisha Renewable Energy Development Agency (OREDA)  
Address: S-3/59, Mancheswar Industrial Estate, Bhubaneswar - 751010, Odisha.  
Email: ceoreda@oredaorissa.com

Sub: Submission of pre-bid queries for Design, Engineering, Supply, Installation, Testing and Commissioning of Rooftop Solar Power System (RSPS) and Solar Street Lighting System (SLS) along with Comprehensive Maintenance for Five (5) years at 29 Kasturba Gandhi Balika Vidyalaya and 40 Odisha Aadarsha Vidyalaya premises across 4 district(s) in Odisha.

We are pleased to submit the following pre-bid queries:

Sl. No.	Clause no.	Page no.	Clause	Clarification sought	Rationale
1					
2					
3					
4					
5					

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]



## 7.5. Appendix to SOW - RSPS

### 7.5.1. Appendix Form 1 (Technical Specifications)

#### 7.5.1.1. Solar photovoltaic (PV) modules:

- a) The solar PV modules to be used shall be made in India only. The PV modules shall qualify for the latest edition of the IEC PV module qualification test or equivalent BIS standards of crystalline silicon solar cell modules IEC 61215 and IS14286. In addition, the solar PV modules shall conform to the IEC 61730 Part-2 requirements for construction and Part-2 requirements for testing, safety qualification or equivalent IS. The solar PV module shall also conform to the IEC 61701 (salt mist corrosion testing) standards.
- b) The total solar PV array capacity shall not be less than the required capacity and should comprise of solar crystalline PV modules of minimum 300Wp and above wattage each with 72 cells.
- c) Protective devices against surges at the solar PV module shall be provided. Low voltage drop bypass diodes shall also be provided.
- d) Solar PV modules shall be tested and approved by one of the MNRE/ IEC authorized test centers.
- e) The module frame shall be made of corrosion-resistant materials, having anodized aluminum and should have a minimum thickness of 1.5 mm and width 40 mm for sustainability.
- f) Other general specification for the PV modules and subsystems shall be the Following as
  - i. The rated output power of any supplied module shall have a tolerance of +/-3%.
  - ii. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series-connected modules) shall not vary by more than 2 (two) percent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
  - iii. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for the provision of the by-pass diode. The box shall have hinged, weatherproof lid with captive screws and cable gland entry points or may be of a sealed type and IP-21/20 rated.
  - iv. I-V & P-V curves at STC will be provided after installation.
  - v. PV modules used in solar power plants must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.
- g) Modules should have an RF identification tag. The following information will be mentioned in the RFID used on each module (This can be inside or outside the laminate but must be able to withstand harsh environmental conditions).
  - i. Name of the manufacturer of the PV module
  - ii. Name of the manufacturer of Solar Cells.
  - iii. Month & year of the manufacture (separate for solar cells and modules)
  - iv. Country of origin (separately for solar cells and module)
  - v. I-V curve for the module Wattage,  $I_m$ ,  $V_m$  and FF for the module
  - vi. Unique Serial No and Model No of the module

- vii. Date and year of obtaining the IEC PV module qualification certificate.
- viii. Name of the test lab issuing IEC certificate.
- ix. Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001.

**7.5.1.2. ARRAY/MODULE MOUNTING STRUCTURE:**

- a) Hot-dip galvanized MS/Aluminum mounting structures shall be used for mounting the modules/ panels/arrays. Each structure will have an angle of inclination as per the site conditions to take maximum insolation.
- b) The Mounting structure must be Non-invasive Ballast Type and any sort of penetration of the roof to be avoided. The design details are as follows:
  - i. The inclination of the module or tilt angle should be within 10-15 degrees.
  - ii. The upper edge of the module must be covered with a windshield so as to avoid bulk air ingress below the module. Slight clearance must be provided on both edges (upper & lower) to allow air for cooling.
  - iii. An indicative drawing is shown at Appendix Form 2.
- c) The mounting structure should be as per the latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance with the latest IS 4759.
- d) The fasteners should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.
- e) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m<sup>2</sup>. The load shall be well distributed so that point loads are well within the limits.
- f) The minimum clearance of the structure from the roof level should be in between 70-150 mm.
- g) The structures should be laid on the rooftop on weather-resistant FRP mountings which should be non-penetrating type and proper drainage of rainwater over the terrace through the installation area should be maintained.
- h) The structures should be suitably loaded with reinforced concrete blocks of appropriate weight made out of the M25 concrete mixture.
- i) Special care should be taken while designing all structures for modules to cater to heavy rainfall.
- j) The array shall be located sufficiently inside the boundary wall of the terrace (parapet wall) and should not be projecting out. PV array shall be installed in the terrace space free from any obstruction and/or shadow. PV array shall be installed utilizing optimum terrace space to minimize the effects of shadows due to adjacent PV panel rows.
- k) Adequate spacing shall be provided between two-panel frames and rows of panels to facilitate personnel protection, ease of installation, replacement, cleaning of panels and electrical maintenance.
- l) Additional waterproofing shall be provided in the areas where RCC blocks are placed on the terrace.
- m) The minimum clearance between the lower edge of PV panel and terrace ground level shall be 150 mm to allow ventilation for cooling, also ease of cleaning and maintenance of panels as well as cleaning of the terrace.
- n) The PV array structure design shall be appropriate with a factor of safety of min. 1.5.

- o) Each array may be provided with two bird repellents spikes at a level higher than the upper edge of the array. The location of the spike should be selected for the minimum shadow effect.
- p) The support structure shall be free from corrosion when installed.
- q) PV modules shall be secured to support structure using screw fasteners and/or metal clamps. Screw fasteners shall use existing mounting holes provided by module manufacturers. No additional holes shall be drilled on module frames. Module fasteners/clamps shall be adequately treated to resist corrosion.
- r) Adequate spacing shall be provided between any two modules secured on PV array for improved wind resistance.
- s) The structure shall be designed to withstand operating environmental conditions for a period of a minimum of 25 years.
- t) The structure should be appropriately designed to withstand high wind velocities more than 200 km per hour. (The bidder is required to submit a certificate from an authorized chartered engineer with regards to the strength and durability of the structure)

**7.5.1.3. ARRAY/ MAIN JUNCTION BOXES (JBs):**

- a) The Junction Boxes (JBs) made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement shall be provided. All wires/cables shall be terminated through Copper cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door/ Screw based cover with EPDM rubber gasket to prevent water entry. Single/ double compression cable glands.
- c) Fuse protection should be provided for each string for +ve cables.
- d) Each Junction Box shall have High-quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- e) Suitable markings should be provided on the bus bar for easy identification and suitable cable glands with ferrules must be fitted at the cable termination points for identification.
- f) Array Junction Box should be IP 65(for outdoor)/ IP 54(for indoor) as per IEC 60529 and should be provided with fuses and Isolators of suitable ratings.
- g) ACDB should have a surge protection device of class 2 as per IEC 60947/60364-5-53, to protect inverters from surges in the AC line.
- h) AJBs/ MJBs may be kept below the modules. In case of need, this can be installed on the wall or rooftop. ACDB should be put at safe distance from DCDB/ AJBs/ MJBs to avoid Eddy current interference. However, in the case of an integrated product where ACDB and DCDB are already placed together shall be acceptable.

**7.5.1.4. BATTERY BANK:**

There will be one battery bank comprising of appropriate capacity for respective SPV Power Plant. The batteries should be T-Gel/VRLA Type and shall have a long service life. The cells should confirm IS 15549/ IEC 61427 and as per specification given below shall be provided.

**For KGBV:**

Battery Bank Capacity	7.2 VAh/Wp (Details as below)
-----------------------	-------------------------------

	<b>Capacity of Solar Plant (kWp)</b>	<b>Battery Bank Voltage (V)</b>	<b>Minimum Battery Bank Capacity (Ah)</b>
	10	120	600
Terminals	Made of lead alloy suitable for bolted connection. The terminals should be greased with petroleum gel.		
Electrolyte	Battery grade Sulphuric acid		
Self-Discharge	Less than 3% per month at 30 degrees C		
Life expectancy	1500 cycle duty at 27degree C at 80% depth of discharge 3000 cycle duty at 50% discharge.		
Battery Voltage	2 Volt		
Approval	Batteries shall have to be approved by MNRE/NABL/BIS authorized test centers		
Service Life	Should perform satisfactorily for a minimum period of 5 years under operating conditions as mentioned.		

**For OAV:**

Battery Bank Capacity	7.2 VAh/Wp (Details as below)			
	<b>Capacity of Solar Plant (kWp)</b>	<b>Capacity of UPS for Back-up (KW)</b>	<b>Battery Bank Voltage (V)</b>	<b>Minimum Battery Bank Capacity (Ah)</b>
	20	10	120	600
Terminals	Made of lead alloy suitable for bolted connection. The terminals should be greased with petroleum gel.			
Electrolyte	Battery grade Sulphuric acid			
Self-Discharge	Less than 3% per month at 30 degrees C			
Life expectancy	1500 cycle duty at 27degree C at 80% depth of discharge 3000 cycle duty at 50% discharge.			
Battery Voltage	2 Volt			
Approval	Batteries shall have to be approved by MNRE/NABL/BIS authorized test centers			
Service Life	Should perform satisfactorily for a minimum period of 5 years under operating conditions as mentioned.			

**7.5.1.5. HYBRID POWER CONDITIONING UNIT (PCU)**

As SPV array produces direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels before powering equipment designed for nominal mains AC supply. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit" OR simply PCU. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to maximize Solar PV array energy input into the System. PCU should conform IEC 61683, IEC 60068, IEC 62116as per specifications.

PCU refers to a combination of the charge controller, inverter and AC charger and shall be supplied as an integrated unit or separate units.

- a) Inverter:

The inverter will be highly efficient. The inverter should confirm IEC 61683 /IS 61683, IS 16169/IEC 62116, IEC 60068 and should be based on MPPT design. Inverters would display its own parameters and the parameters of the battery bank connected to the inverter. Beyond the maximum load, the inverters will trip. The inverters should be designed to be completely compatible with the charge controllers and distribution panels and are of integrated design.

Salient features of the Inverters shall be as follows:

The PCU should be designed to be completely compatible with the SPV array voltage.

- i. A central inverter with MPPT shall be used with the power plant for maximum efficiency and shall be efficient based on PWM with IGBT/ reliable power-based design.
- ii. The sine wave output of the inverter shall be 230V, Single phase, 50 HZ AC 415 V, 3 phase, 50 Hz AC.
- iii. There should be provision to charge the battery using Grid power as long as grid voltage is between 170V-265V. In case of Grid voltage falls below 170V up to 130V, Grid charging shall stop but load shall continue to run using Grid supply, not by Solar.
- iv. The peak inverter efficiency inclusive of built-in isolation transformer shall exceed 85% at full load
- v. There should be provision to export excess PV power to the grid in case the load consumption is less than the actual generation. This is a futuristic feature and provision should be there to enable or disable this export feature.
- vi. Inverter shall provide display of PV array DC voltage & current, Battery Voltage & Current, Inverter Voltage & Current, Grid voltage & Current, Battery charging status and required parameters when a fault occurs. Remote monitoring of inverter parameters should be possible.
- vii. Operating temperature range shall be 0 to 55 deg C
- viii. Maximum Power Point Tracker (MPPT) shall be integrated into the power conditioner unit to maximize energy drawn from the Solar PV array.
- ix. The charge controller/ MPPT units should qualify for IEC standards.
- x. Online microprocessor-based Data Acquisition Systems and Remote Monitoring facility for 365 Days with data Recovery from a remote location should equip.

Inverter Capacity	1-Phase, 230 V or 3 Phase, 415 V		
Phase	<b>Capacity of Plant (kWp)</b>	<b>Phase</b>	
	10 (KGBV)- Off-Grid	1 phase	
	20 (OAV)-On-Grid with Net-metering	3 phase	
Output frequency	50 Hz +/- 0.5 Hz		
Overload Capacity	150% for 10 Second		
Efficiency	80% at 50% of load and More than 90% at full load 0.8 PF		
Short Circuit Protection	Circuit Breaker and Electronics protection against sustained fault.		
Low Battery Voltage	Automatic Shut Down		
Total Harmonic Distortion	Less than 3%		
Over Voltage	Automatic Shut Down		
AC over Current/Load	Automatic Shut Down		

Protection	<ul style="list-style-type: none"> <li>• Over Voltage both at Input &amp; Output</li> <li>• Over Current both at Input &amp; Output</li> <li>• Over Frequency</li> </ul> Surge voltage inducted at the output due to external source.
Protection Degree	IP20/IP21
Instrumentation & Indication	Input & Output voltage, Input & Output Current, Frequency, Power output, different status of inverter, kind of fault by the audio signal.

b) Charge Controller Unit:

The Charge Controller shall be dual input type, where under normal condition the input is fed from an SPV panel and in the absence of SPV power or low SPV power conditions an external single-phase AC source can be used for battery charging. A selector switch shall be provided for choosing between those modes. When the batteries are charged from external AC sources, the charging current should be set manually depending on the capacity of the source and the charging requirement of the batteries. The charge controller shall be of MPPT type / PWM type employing IGBT switching elements. The charge controller should conform IEC 62093 / IEC 60068 as per specification.

The charging sequence from SPV array or external AC source shall be as follows:

i. From SPV Array:

The battery shall be charged at the maximum rate depending on the solar radiation until the battery terminal voltage reaches 2.25 volts per cell. The battery charging should be automatically terminated when the rate of increase in battery voltage is steady (dv/dt sensing). The charger shall switch on the trickle charge after this.

ii. From AC Source:

The battery shall be charged at the rate manually set depending on the battery condition or capacity of the AC source. The maximum rate shall be internally pre-set.

The battery charging should be automatically terminated when the rate of increase in battery voltage is steady (dv / dt sensing) or when the battery terminal voltage reaches 2.75 volts per cell.

Salient features of the Charge Controller shall be as follows:

Switching elements	IGBT/MOSFET
Type of Charger	PWM
Input	From Solar PV array
Output Voltage	Suitable for charging nominal battery bank from the respective capacity of SPV array.
Protections	Short Circuit, Deep Discharge, Input Surge Voltage, Over Current (load), Battery Reverse Polarity, Solar array reverse polarity.
Indication	String „ON“, Main „ON“, Charging „ON“, 80% Charged, 100% Charged, Charger Overload, Battery On Trickle

Battery disconnected / Fault Battery Reverse Polarity, Low Solar Power, System Fault and Charger over Temperature and Input Over / Under Voltage (for AC).

MIMIC Diagram: To indicate power flow and operation of the charge controller/ battery charger; shall have provision for visual indications of existing power input/output through the MIMIC diagram.

You may design the Power Conditioning Unit (PCU), which consists of a solar charge controller & inverter as per the design mentioned above. In addition, it should have a Grid Charger.

It provides the facility to charge the battery bank either through Solar or Grid set. The PCU continuously monitors the state of Battery Voltage, Solar Power output and the loads. Due to sustained usage of power, when the Battery Voltage falls below a pre-set level, the PCU will automatically transfer the load to the grid power and also charge the Batteries through the in-built Grid Charger. Once the batteries are charged to the present level, the PCU cuts off the Grid power from the system and will restore to feeding the loads from the battery bank & continue to charge the battery bank from the available solar power.

The PCU always gives preference to solar power and will use Grid power only when the solar power/ battery charge is insufficient to meet the load requirement.

**Salient Features:**

- Priority of charging is from Solar panels.
- Overheating Protection.
- Dual Display Showing PV & Inverter output, or common display in case MPPT is inbuilt in PCU, as applicable
- Short circuit & Overload Protection.
- Inbuilt Heavy Duty Solar Charge Controller.
- No Load Shut Down for load = 5% not applicable for > 1 kVA systems) Fully equipped with powerful Grid Charger.
- User-friendly client and Web-based Software.

c) DC DISTRIBUTION BOARD:

- i. Dust & vermin proof Enclosures of Polycarbonate/GRP/FRP/Powder coated Aluminium/ Cast Aluminium Alloy & should have IP 65(outdoor)/54(indoor) compliant to IEC 60529.
- ii. The bus bars are made of copper of the desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.
- iii. Suitable cable entry points with cable glands and ferrules should be provided.
- iv. DC SPD of type 2 compliant to IEC 60497 with fuse should be provided.
- v. Design ambient temperature should be 0-60 deg C.

d) AC DISTRIBUTION PANELBOARD:

- i. AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter and should have necessary over current & surge protection.
- ii. All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- iii. All the Panels should be metal clad, totally enclosed, rigid, wall/floor mounted, air-insulated, cubical type suitable for operation on three-phase / single phase, 415 or 230 volts, 50 Hz.

- iv. Suitable cable entry points with cable glands and ferrules should be provided.
- v. DC SPD of type 2 compliant to IEC 60497 with fuse should be provided.
- vi. Design ambient temperature should be 0-60 deg C.
- vii. The panels should be designed for the minimum expected ambient temperature of 45 degrees Celsius, 80 percent humidity and dusty weather.
- viii. All indoor panels should have the protection of IP20 or better. All outdoor panels will have the protection of IP21 or better.
- ix. Should confirm to Indian Electricity Act & rules (till the last amendment)
- x. All the 415 V or 230 V devices/ equipment like bus support insulators, circuit breakers, SPDs, VTs, etc. mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in Supply Voltage	+/- 10%
Variation in Supply frequency	+/- 3 Hz

#### 7.5.1.6. PROTECTION:

The SPV power plant should be provided with Lightning and over-voltage protection, connected with proper earth pits. The main aim of overvoltage protection is to reduce the overvoltage to a tolerable level before it reaches the PV or other sub-system components. The source of overvoltage can be lightning or other atmospheric disturbance.

##### a) Lightning

- i. The lightning Conductors shall be made of a minimum 25 mm diameter and minimum 3000 mm long GI spike as per provisions of IS 2309-1969. A necessary concrete foundation for holding the lightning conductor in position should be made after giving due consideration to maximum wind speed and maintenance requirements at the site in the future. The lightning conductor should be earthed through 20 mm X 3 mm thick GI flat earth pits/earth bus with proper Insulation. Height of Lightning Conductors from Array Structure should be minimum 4 metres.
- ii. Most areas of the State being prone to lightning, Type-II SPDs shall be included as a mandatory requirement.
- iii. Similarly Type I+II SPD should also be provided on the grid side in ACDB or PCU to protect the PCU from damage

##### b) Earthing

- i. Earthing should confirm to IS 3043.
- ii. Earth Continuity wire/conductor should be 3-8 SWG. The thickness of the Conductor should be more than half of the thickest wire used in electric wiring. The total resistance of the continuity conductor should be less than 1 ohms.
- iii. Earthing lead can be of GI/Copper Strip. For each Earth Electrode 2 Leads must be provided.
- iv. Earth Electrode can be of GI Pipe/Plate. Pipe Electrode should be of 40 mm diameter, 4.75 m length (for rocky soil)/2.75 m (for ordinary soil). Plate Electrode should be of 60 cm\*60 cm at a depth of 3 m. The thickness of the plate should be 3.18 mm (copper)/6.35 mm (GI). Moistened land should be preferred for Earthing.



- v. Charcoal along with Salt and Lime mixture/ Bentonite in a granular form mixed with water/ Marconite/ Chemical Earthing (Bentonite based/ Graphite based with Aluminium Silicates & Metal Powder) should be provided. The mixture should be inserted into the pipe or put around the plate. The Electrode system should be covered with a cast iron cover plate with a locking arrangement. (Marconite is recommended due to its Very Low resistivity)
  - vi. No. of Earthing points to be used:
  - vii. One Earthing for all the Structural Conducting Parts
    - One Earthing for Inverter with ACDB, Array JB & Main JB.
    - One Earthing for Lightning Arrester.
  - viii. Each array structure of the SPV yard will be grounded properly. The array structures and the lightning conductors are to be connected to earth through a 25 mm X 5mm GI strip.
  - ix. The inverters and all equipment inside the control room shall be connected to earth through 25 mm X 5mm tinned copper/GI strip including supplying of material and soldering. Earth bus should be provided inside the control room with 25 mm X 5mm tinned copper/GI strip.
  - x. In compliance with Rule 61 of Indian Electricity Rules, 2004 (as amended up to date), all non-current carrying metal parts should be earthed with two separate and distinct earth continuity wires.
- c) Surge Protection Devices (SPD):
- i. Surge protection devices should be provided on both the DC side and the AC side of the solar PV system. It should have a protection voltage of 2.5 kV & Nominal Discharge current of 5 kA (8/20)  $\mu$  sec.
  - ii. The DC surge protection devices (SPDs) should be installed in the DC distribution box adjacent to the solar inverter.
  - iii. The AC SPDs shall be installed in the AC distribution box adjacent to the solar inverter.
  - iv. The SPD's earthing terminal should be connected to earth through the abovementioned dedicated earthing system.

#### 7.5.1.7. CABLES & WIRINGS

- a) The Cable & Wires should comply with IEC60227 or IS694 & IEC60502 or IS1554 BSEL50618 (for DC cables for PV systems).
- b) All copper flexible cables should comply with IS651 and make should be Polycab, Havells or equivalent.
- c) Color code should be followed for overall wiring i.e., red for positive, black for negative, green for the earth.
- d) All cables should run in suitable PVC Conduits. No cable should be directly exposed to sunlight.
- e) Cable Sizes should be as per the Current and Voltage ratings.

#### 7.5.1.8. DISPLAY BOARD:

A display board of size 3 ft x 3 ft that gives a detailed circuit diagram of the system with its description should be provided.

#### 7.5.1.9. DANGER PLATES

The bidder has to provide at least 8 Danger Notice Plates of 200 mm X 150 mm made of mild steel sheet, minimum 2 mm thick and vitreous enameled white on both sides and with inscription in signal red color on the front side as required. The inscription shall be in English and the local language. Out of eight, four danger notice shall have to be provided at PV Power plant & Four-danger notice at Control Room & Battery room.

#### 7.5.1.10. REMOTE MONITORING SYSTEM:

The Solar PV Power plant must be provided with a remote monitoring system embedded in the Generation Meter. The RMS must be capable of providing ONLINE Generation data (daily, monthly, yearly & total). The features of the RMS along with operational details must be submitted along with the Bid.

These systems should work using GSM/GPRS data communication service (GSM/GPRS service shall be provided by the Vendor for 5 years including data charges) or SMS (Short Message Service). They must provide data on power generation every 15 minutes indicating all spikes, dips, etc.

Important features:

- a) Cloud-based Communication
- b) Dashboard display either on PC, Laptop, Tab, smartphone
- c) Internal communication protocols.

#### 7.5.1.11. DRAWINGS & MANUALS:

Two copies of Engineering, electrical drawings, Installation and CMC manuals are to be supplied. Bidders shall provide complete technical datasheets for each equipment giving details of the specifications along with make/makes in their bid along with the basic design of the power plant and power evacuation, synchronization and distribution for street lighting system along with protection equipment.

#### 7.5.1.12. NET METER (For OAVs):

The On-grid Solar power plant will be connected to the grid through a net meter as per the single line diagram indicated in this document. The indicative specification of the Net-meter is as follows:

##### **Three Phase Meter:**

- Three Phase Four wire, 3x240VAC, 20-100Amps ISI marked Direct current operated bidirectional Energy Meter, DLMS CatB having calibration LED, Battery back up, AMR compliance & front sealing facility to be used as a NET meter for less than 20KW LT consumer with Accuracy: 1.0.
- Transparent Box of Engineering Plastic to house above meter with all accessories

#### 7.5.1.13. GENERATION METER (For OAVs):

##### Three Phase Meter:

- Three Phase Four wire, 3 x 240VAC, 20-100Amps ISI marked Direct current operated Energy Meter, DLMS CatC having calibration LED, Battery back up, AMR compliance & front sealing facility to be used as generation meter up to 20KW with Accuracy: 1.0.
- GPRS/GSM Modem with connecting cable & antenna for running smoothly up to 5 years for AMR facility

#### 7.5.1.14. UPS WITH BATTERY BACK UP (For OAVs):

For powering the emergency load, a UPS system with battery back-up to be provided as per the OERC approved single line diagram as mentioned above.

This UPS should be Grid Synchronised smart type with communication port and should be capable of establishing communication with the Grid- Tie Inverter specified above and in case of Grid failure/ out of range, this UPS Inverter should talk to Grid-Tie Inverter and both should continue to supply Solar power with Battery floated without any interruption on load points. Thus, there should be no waste to Solar power. At nights this shall work as UPS.

The emergency load to be separated before connecting to the UPS system. The indicative specification is as follows:

Inverter capacity	10 KW
Rated Power	> 80% of rated capacity
Output	1-phase/3-Phase
Protections	Current Sensor Fail, DC Low Voltage / Over Voltage, Feedback Fail, High Temperature, Input Phase Reversal, Mains Low / High Cut, Overload, Reverse Polarity, Short circuit, etc.

#### 7.5.2. Appendix Form 2 (Designs and Drawings)

The indicative diagram of module mounting structure is given below:

**GENERAL NOTES:**

1. ALL FILLET WELDS ARE MORE THAN 3MM UNLESS OTHERWISE NOTED OR EQUIVALENT FILLET WELDS (AS PER B.S CODE)
2. GRADE OF STEEL - YST 500MPa GRADE-A.U.S.T. 411MPa/410N B.23%
3. MIN B.S.308
4. ALL ELECTRODE ROD AND GRADE MUST BE AS PER B.S CODE
5. ALL BASE PLATE CONNECTION TO BE BUTT WELD & WELD PENETRATION MUST BE AS PER B.S CODE
6. FABRICATED STRUCTURE SHOULD BE HOT DIPPED GALVANIZED AS PER B.S CODE 9829, 9861 OR LATEST

**NOTES:**

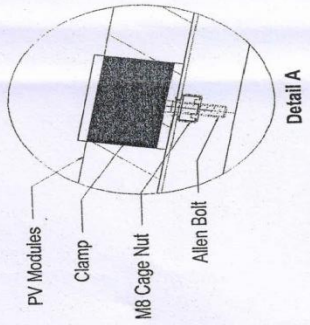
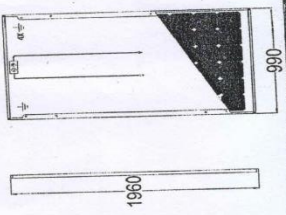
1. HOLE CLEARANCE FOR METRIC BOLT AS PER B.S CODE 182-1997
2. HOT DIP GALVANIZATION MIN. 85 MICRONS (B.S CODE-7799)

**SYMBOLS:**

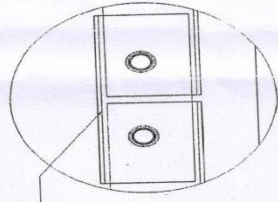
**LEGEND**

1. DIA OR Ø ..... DIAMETER
2. LOS ..... UNLESS OTHERWISE SPECIFIED
3. LVL ..... LEVEL
4. dc ..... CENTER TO CENTER
5. THK ..... THICK OR THICKNESS
6. ALL ROUND WELD ..... FILLET WELD AS PER B.S CODE
7. ALL ROUND WELD ..... BUTT WELD AS PER B.S CODE

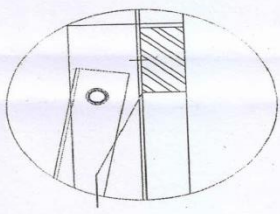
**LEGEND (310 Wp)**



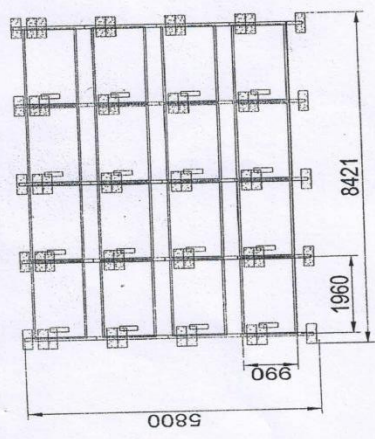
**Detail A**



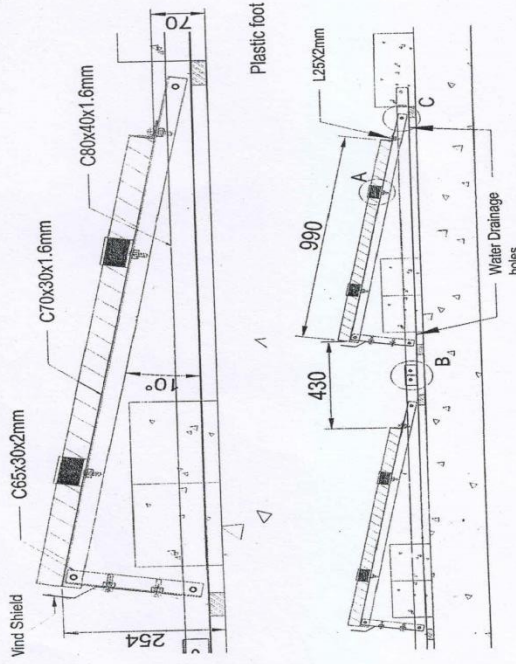
**Detail B**



**Detail C**



**Module Table**



**NOTES:**

NO.	REVISION	DATE	BY	CHECKED	APPROVED
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

DATE	6/22/18	SCALE	1:1
DRAWN BY	CA/11	CHECKED BY	NTS
REV. NO.	0	DATE	

**A4**

### 7.5.3. Appendix Form 3 (Spares)

The Successful Bidder shall maintain, all the time, the following spares for RSPS and SLS as mentioned below:

<b>Name of the Spares</b>	<b>Technical Specification</b>	<b>Unit</b>	<b>Total quantum requirement in no.</b>
Solar photovoltaic modules @ 2% of the total capacity	As per the Technical Specification of the NIT	kW	
1 inverter (higher capacity as per the various RSPS capacities to be allocated)	As per the Technical Specification of the NIT	No.	

In case of any non-compliance, OREDA will take necessary action against the Bidder. Please note that the Spares shall be maintained at the central/ local offices set by the Bidders.

#### 7.5.4. Appendix Form 4 (Commissioning Report)

The Commissioning Report shall essentially capture the health of the Project at the time of Commissioning along with the various observations which will be captured in accordance with the Applicable Law and Prudent Utility Practices prevailing in Odisha and any general practices followed in the solar industry. The Commissioning Committee will prepare the Commissioning Report. In addition, the OREDA will provide the compliance report as per CRC procedures and this shall be referred along with the Commissioning Report for the issuance of Joint Commissioning Certificate.

The sample Commissioning Report is represented below:

#### Commissioning Report – Rooftop Solar Power System

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

Reference:

1. NIT no. [insert] dated [DD MMM YYYY]
2. Letter of Intent no. [insert] dated [DD MMM YYYY]
3. Work Order no. [insert] dated [DD MMM YYYY]
4. Any other correspondence, if any:

This Commissioning Report is prepared for the Bidder [insert name of Bidder] for the Project developed at [insert] village of [insert] block at [insert] district of Odisha.

The Project details of RSPS are given below:

Sl. No.	Items	Details
1.	Name of the KGBV or OAV	
2.	Address	
3.	Capacity of the RSPS	
4.	Net Meter installed	(Yes/No)
5.	Generation Meter installed	(Yes/No)
6.	CMC manual	(Yes/No)
7.	Dos & Don'ts in the form of a booklet	(Yes/No)
8.	Proof of conducting the training programs	(Yes/No)

Tests performed during Commissioning:

Sl. No.	Test	Result
1.	Load Test	
2.	IV Curve	
3.	Earthing Test	
4.	Main Junction Boxes (Current & Voltage)	
5.	Array Junction Boxes (Current & Voltage)	
6.	Continuity Test	
7.	Stress Test	
8.	Visual Inspection	
9.	Anti-Islanding Protection Test	

Hourly Generation Meter Reading on the date of Commissioning:

Sl. No.	Time	Main	Check (if applicable)	Units (kWh) Recorded in Main Meter
1		IMR: FMR: MC:		Units = (FMR-IMR) * MC

Hourly Net Meter Reading on the date of Commissioning:

Sl. No.	Time	Main	Check (if applicable)	Units (kWh) Recorded in Main Meter
1		IMR: FMR: MC:		Units = (FMR-IMR) * MC

\*IMR: Initial Meter Reading  
FMR: Final Meter Reading  
MC: Meter Constant

The above plant was commissioned as per applicable guidelines and the tests performed suggest that the performance of the above plant is satisfactory.

Place: [insert place]

[sign here]

Signature

Name of Authorized Representative of OREDA: [insert name]

Designation: [insert designation]

Odisha Renewable Energy Development Agency (OREDA)

Seal:

Place: [insert place]

[sign here]

Signature

Name of Authorized Representative of DISCOM: [insert name]

Designation: [insert designation]

[DISCOM Name]

Seal:

Place: [insert place]

[sign here]

Signature

Name of Authorized Representative of DRDA: [insert name]

Designation: [insert designation]

District Rural Development Agency (DRDA)

Seal:

### 7.5.5. Appendix Form 5 (Joint Commissioning/Recommissioning Certificate)

#### Joint Commissioning Certificate of the Rooftop Solar Power Project

(To be issued by OREDA on the letterhead)

TO WHOMSOEVER IT MAY CONCERN

Ref. no.: [insert]

Date: [DD MMM YYYY]

To

[Successful Bidder's name]

[Address]

[Email id]

[Mobile no.]

Reference:

1. NIT no. [insert] dated [DD MMM YYYY]
2. Letter of Intent no. [insert] dated [DD MMM YYYY]
3. Work Order no. [insert] dated [DD MMM YYYY]
4. Any other correspondence, if any:

This is to certify that [Name of the Successful Bidder] having its registered office at [address] has successfully commissioned/recommissioned capacity of [insert capacity] kW Solar Photovoltaic Power Project at [insert village name] village, [insert district name] District in Odisha.

The Joint Commissioning Certificate is issued on the basis of the following documents enclosed:

1. Commissioning Report as submitted by Commissioning Committee
2. Installation report as uploaded on CRC created using the ReSolve Mobile App only
3. No claim/ lien certificate

Place: [insert place]

[sign here]

Signature

Name of Authorized Representative of OREDA: [insert name]

Designation: [insert designation]

Odisha Renewable Energy Development Agency

Seal:



## 7.5.6. Appendix Form 6 (Acceptance Certificate)

### Acceptance Certificate of the Rooftop Solar Power Project

(To be issued by OREDA on the letterhead)

TO WHOMSOEVER IT MAY CONCERN

Date: [DD MMM YYYY]

To

[Successful Bidder's name]

[Address]

[Email id]

[Mobile no.]

Reference:

1. NIT no. [insert] dated [DD MMM YYYY]
2. Letter of Intent no. [insert] dated [DD MMM YYYY]
3. Work Order no. [insert] dated [DD MMM YYYY]
4. Joint Commissioning Certificate no. [insert] dated [DD MMM YYYY]
5. Any other correspondence, if any:

This is to certify that [Name of the Successful Bidder] having its registered office at [address] has successfully commissioned capacity of [insert capacity] kW Solar Photovoltaic Power Project at [insert village name] village, [insert district name] District in Odisha with respect to the ref. no. 5 and it is operating successfully for a period of ninety (90) Days from the date of the Joint Commissioning Certificate.

The Acceptance Certificate has been issued on the basis of the following documents enclosed:

1. Acceptance Report as submitted by the Commissioning Committee prepared in line with Commissioning Report
2. Closure report as uploaded on CRC
3. No claim/ lien certificate

Place: [insert place]

[sign here]

Signature

Name of Authorized Representative of OREDA: [insert name]

Designation: [insert designation]

Odisha Renewable Energy Development Agency

Seal:

### 7.5.7. Appendix Form 7 (Scheduled Maintenance):

The periodic Scheduled Maintenance protocol for RSPS is given below:

Sr. No.	Task	Quarterly	Semi-annual	Annual	Bi-annual
<b>1</b>	<b>PV Array</b>				
A	Inspect each PV modules for damage				
B	Observe PV array shading and take corrective measures				
C	Clean array with water and removes debris around the array				
D	Inspect array mounting structure, check for loose fasteners, corrosion, broken/ damaged concrete footings, etc. and take corrective measures, if necessary.				
E	Check the array junction box, all wires and cables to take corrective measures if necessary.				
F	Adjust tilt angle, if necessary				
G	Check array current & voltage. If required each module current, voltage & bypass diode condition.				
H	Check for any loose contacts in the string connection (+ve/-ve MC4 connectors)				
<b>2</b>	<b>PCU</b>				
A	Check inverter and/or charge controller for correct settings				
B	Check Inverter capacity and max allowable load using dummy load.				
C	Ventilation fan condition/filter cleaning				
D	Check all the parameters (I/P & O/P) as per Manufacturer datasheet for any Malfunctioning				
<b>3</b>	<b>Protection devices</b>				
A	Check for continuity of lightning arrestor				
B	Check system earthing				
C	Check all SPDs				
D	Check all bypass/ blocking diodes and take corrective measures if necessary.				
<b>4</b>	<b>Home inverter/UPS</b>				
A	Check Inverter capacity and max allowable load using dummy load, Fuses and Ventilation condition				
B	Check Battery capacity and backup time				

**7.5.8. Appendix Form 8 (Test Certificates – IEC and IP certifications)**

The Test Certificate requirements for RSPS are given below:

Sl. No.	Major Component	Test Certificates Required	Test description	Designated Test Labs
1	Crystalline Silicon Terrestrial PV Modules	IEC 61215	Design qualification	MNRE/NABL/BIS authorized Test Lab
		IEC 61730	Safety Qualification	MNRE/NABL/BIS authorized Test Lab
		IEC 61701	Salt Mist Corrosion Test	MNRE/NABL/BIS authorized Test Lab
2	Power Conditioning Units (PCU)/ Inverter*	IEC 61683	Efficiency Test	MNRE/NABL/BIS authorized Test Lab
		IEC 60068	Environmental Test	MNRE/NABL/BIS authorized Test Lab
		IEC 62116	Anti-Islanding Protection	MNRE/NABL/BIS authorized Test Lab
		IEC 61727	Grid Interconnection	MNRE/NABL/BIS authorized Test Labs
		IP 65/56	Ingress Protection for Outdoor/Indoor Enclosure	MNRE/NABL/BIS authorized Test Lab
3	Battery (Stationary T-Gel/VRLA Lead Acid)	IS 15549 - 2005	As per IS 15549/ IEC 61427	MNRE/NABL/BIS authorized Test Lab

\*Self-certified Test reports of PCU may be submitted for capacities above 10 kW

## 7.6. Appendix to SOW - SLS

### 7.6.1. Appendix Form 1 (Technical Specification of SLS)

The solar street lights are to be installed in the premises of OAV @ 20 no. each in the OAV, totaling to 800 no. in this project. The Technical Specification of a 15 W white-led (w-led) based solar street lighting system with lithium ferro phosphate battery is given below:

A standalone solar photovoltaic street lighting system (SLS) is an outdoor lighting unit used for illuminating a street or an open area. The SLS consists of a solar photovoltaic (SPV) module, a luminaire, storage battery, control electronics, inter-connecting wires/cables, module mounting pole including hardware and battery box. The luminaire is based on White Light Emitting Diode (W-LED), a solid-state device that emits light when an electric current passes through it. The luminaire is mounted on the pole at a suitable angle to maximize illumination on the ground. The PV module is placed at the top of the pole at an angle facing south so that it receives solar radiation throughout the day, without any shadow falling on it. A battery is placed in a box attached to the pole. Electricity generated by the PV module charges the battery during the daytime which powers the luminaire from dusk to dawn. The system lights at dusk and switches off at dawn automatically.

(Dusk to Dawn, Full Light Level)

#### BROAD PERFORMANCE SPECIFICATIONS

PV Module	75 Watt under STC
Battery	Lithium Ferro Phosphate, 12.8V-30 AH or 384 Wh
Light Source	White Light Emitting Diode (W-LED)
	15 Watt (Max.), W-LED luminaire, dispersed beam, soothing to eyes
	with the use of proper optics and diffuser
Light Output	<ul style="list-style-type: none"> <li>Minimum 26 Lux when measured at the periphery of 4 meter diameter from a height of 4 meter. The illumination should be uniform without dark bands or abrupt variations, and soothing to the eye. Higher light output will be preferred.</li> <li>Minimum 13 Lux at lower illumination level ( higher output is preferred)</li> </ul>
Mounting of light	Minimum 4.5 meter pole mounted
Electronics Efficiency	Minimum 85% total
Duty Cycle	4 hours full light, rest of the time at a lower light level, with motion sensor. . In case any movement is there, it senses it to glow to the full level. Then it comes back to a lower level after sometimes, automatically
Autonomy	2 Days or Minimum 26 operating hours per permissible discharge

#### 1. PV MODULE

- Indigenously manufactured PV module should be used.
- The PV module should have crystalline silicon solar cells and must have a certificate of testing conforming to IEC 61215 Edition II / BIS 14286 from a MNRE/NABL/BIS or IECQ accredited Laboratory.
- The power output of the module(s) under STC should be a minimum of 75Wp at a load voltage\* of 16.4 ± 0.2 V.
- The open-circuit voltage\* of the PV modules under STC should be at least 21.0 Volts.
- The module efficiency should not be less than 12 %.**
- The terminal box on the module should have a provision for opening it for replacing the cable if required.
- There should be a Name Plate fixed inside the module which will give:
  - Name of the Manufacturer or Distinctive Logo.
  - Model Number
  - Serial Number
  - Year of manufacture
- A distinctive serial number will be engraved on the frame of the module or screen printed on the tedlar sheet of the module.**

\*The load voltage and Voc conditions of the PV modules are not applicable for the system having MPPT based charge controller

## 2. BATTERY

- Lithium Ferro phosphate type battery.
- The battery will have a minimum rating of 12.8V/ 30 Ah or 384 Wh at the C/10 discharge rate.
- 85 % of the rated capacity of the battery should be between fully charged and load cut off conditions.
- Battery pack should have a proper 'Battery Management System' (BMS) for cell balancing, overcharge and over-temperature protection.
- Battery should conform to the BIS/ International standards ( IS 16046:2015 IEC 62133:2012 )

Description	Specification
Battery Nominal Ah Rating	30Ah
Nominal Voltage	12.8 V
Cell Capacity	3.2Volt 5Ah/6Ah/10Ah and above
Battery type	Lithium Ferro phosphate
Battery Voltage Range	10V to 14.6±0.2Volt
Working Temperature Range	0°C ~ 60°C; humidity < 95%
Storage temperature range	0°C ~ 45°C
Self-Discharge (per Month)	<2%
Protections	
High Voltage Cut off	14.6V + 0.2V
Deep Discharge Cut-off	10V +0.2V
Short Circuit Protection	Should be provided.
Ingress Protection (IP)	IP-21 for the battery box
Certifications	As per BIS standard

## 3. LIGHT SOURCE

- The light source will be a white LED type.
- The colour temperature of the white LED used in the system should be in the range of 5500°K–6500°K.
- W-LEDs should not emit ultraviolet light.
- The light source must be operated dusk to dawn. First 4 hours at full brightness, rest of the time at lower light level with motion sensor.
- The lamps should be housed in an assembly suitable for outdoor use.
- The temperature of the heat sink should not increase more than 20°C above ambient temperature during the dusk to dawn operation.
- Lumen efficiency of LED minimum 110/lumen/ watt

Description	Specification
System Wattage	15W
Operating nominal Voltage	12.8 VDC
Input Voltage range	10.8V-14.4 VDC
LED type	High Power LED
LED efficacy	110 Lm/Watt( minimum)

LED MAKE	CREEE / Philips/Osram/Seoul/Nichia or equivalent
Colour Index (CRI)	CRI >60
Viewing Angle	120°
Driver type	DC-DC - Compatible for Solar Panel power
Driver efficiency	>85%
Luminaries housing	Aluminium
Ingress Protection	IP 65
Motion sensor Range	3 meters
Certifications	LM-80 for LED Confirmation to BIS or equivalent standards

#### 4. ELECTRONICS

- The total electronic efficiency should be at least 85%.
- Electronics should operate at an appropriate voltage suitable for proper charging of the battery.
- No Load current consumption should be less than 20 mA.
- The PV module itself should be used to sense the ambient light level for switching ON and OFF the lamp.
- The PCB containing the electronics should be capable of solder-free installation and replacement.
- Necessary lengths of wires/cables switch suitable for DC use and fuses should be provided.

Description	Specification
Nominal Battery Voltage	12.80V -Optimized for Lithium battery chemistry
Charge Controller Type	Maximum Power Point Tracking (MPPT)
Solar Charging Rating	12V 5A
Load Controller	Automatic Dusk to dawn with Dimmer and Motion sensor-based lighting control
Self-Consumption	<20mA
Efficiency	>85%
Indications	<ul style="list-style-type: none"> <li>• Green --&gt; Charging under process</li> <li>• Red --&gt; Battery Low / Fault</li> </ul>
Operating Temperature	0 to 60 Deg C (No de-rating of the unit) and 95% RH
Protections	<ul style="list-style-type: none"> <li>• Over Charging / Deep Discharge</li> <li>• Overload - Auto shutdown and restart</li> <li>• Solar and Battery Reverse</li> <li>• Reverse Current Protection from Battery at Night</li> </ul>

#### 5. ELECTRONIC PROTECTIONS

- Adequate protection is to be incorporated under “No Load” conditions e.g. when the lamp is removed and the system is switched ON.
- The system should have protection against battery overcharge and deep discharge conditions.
- Fuse should be provided to protect against short circuit conditions.
- Protection for the reverse flow of current through the PV module(s) should be provided.
- Adequate protection should be provided against battery reverse polarity.
- Load reconnect should be provided at 80% of the battery capacity status.

#### 6. MECHANICAL COMPONENTS

- A corrosion-resistant metallic frame structure should be fixed on the pole to hold the SPV module.
- The frame structure should have provision to adjust its angle of inclination to the horizontal so that it can be installed at the specified tilt angle.

- Pole should be Hot dip galvanized pipe as per IS1161 & IS4736 i.e. Class B
- The height of the pole should be 4.5metres above the ground level, after grouting and final installation. Pole should be minimum 3“ dia with 2.2 mm thickness.
- The pole should have the provision to hold the luminaire.
- The battery shall be either included in the luminaries enclosure, which should be waterproof (IP 65 ) and corrosion-resistant or outside the luminaries enclosure and housed in the battery box. The box must have the antitheft arrangement to fix with the pole and the battery box should be corrosion resistant and metallic box (IP 65 ) for outdoor use. The battery box should have an industrial locking arrangement.

#### **7. INDICATORS**

- The system should have two indicators, green and red.
- The green indicator should indicate the charging under progress and should glow only When the charging is taking place. It should stop glowing when the battery is fully charged.
- Red indicator should indicate the battery “Load Cut Off” condition.

#### **8. QUALITY AND WARRANTY**

- The Warranty Card to be supplied with the system must contain the details of the system.

#### **9. COMPREHENSIVE MAINTENANCE MANUAL**

An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the SLS. The following minimum details must be provided in the Manual:

- Basic principles of Photovoltaic.
- A small write-up (with a block diagram) on SLS - its components, PV module, battery, electronics and luminaire and expected performance.
- Type, Model number, Voltage & capacity of the battery, used in the system.
- The make, model number, country of origin and technical characteristics (including IESNA LM-80 report) of W-LEDs used in the lighting system.
- About Charging and Significance of indicators.
- Clear instructions about the erection of pole and mounting of PV module (s) and lamp housing assembly on the pole.
- Clear instructions on regular maintenance and troubleshooting of the SLS.
- DO's and DONT's.

Name and address of the contact person for repair and maintenance, in case of non-functionality of the SLS.

### **7.6.2. Appendix Form 2 (Designs and Drawings)**

The Designs and Drawings shall be finalized during the performance of the Work Order.



### 7.6.3. Appendix Form 3 (Spares)

The Successful Bidder shall maintain, all the time, the following spares for RSPS and SLS as mentioned below:

Name of the Spares	Technical Specification	Unit	Total quantum requirement in no.
Solar photovoltaic modules @ 2% of the total capacity	As per the Technical Specification of the NIT	kW	
Luminary@2% of the total nos.	As per the Technical Specification of the NIT	No.	

In case of any non-compliance, OREDA will take necessary action against the Bidder. Please note that the Spares shall be maintained at the central/ local offices set by the Bidders.

#### 7.6.4. Appendix Form 4 (Commissioning Report)

The Commissioning Report shall essentially capture the health of the Project at the time of Commissioning. The Commissioning Report shall essentially capture the health of the Project at the time of Commissioning along with the various observations which will be captured in accordance with the Applicable Law and Prudent Utility Practices prevailing in Odisha and any general practices followed in the solar industry. The Commissioning Committee will prepare the Commissioning Report. In addition, the OREDA will provide the compliance report as per CRC procedures and this shall be referred along with the Commissioning Report for the issuance of Joint Commissioning Certificate.

The sample Commissioning Report is represented below:

#### Commissioning Report – Rooftop Solar Power System

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

Reference:

NIT no. [insert] dated [DD MMM YYYY]

Letter of Intent no. [insert] dated [DD MMM YYYY]

Work Order no. [insert] dated [DD MMM YYYY]

Any other correspondence, if any:

This Commissioning Report is prepared for the Bidder [insert name of Bidder] for the Project developed at [insert] village of [insert] block at [insert] district of Odisha.

The Project details of SLS are given below:

Sl. No.	Items	Details
1.	Name of the OAV	
2.	Address	
3.	Capacity/ No. of the SLS	[Capacity]/ [Number]
4.	CMC manual	(Yes/No)
5.	Dos & Don'ts in the form of a booklet	(Yes/No)
6.	Proof of conducting the training programs	(Yes/No)

Tests Performed during Commissioning:

Sl. No.	Test	Result
1.	Load Test	
2.	IV Curve	
3.	Earthing Test	
4.	Main Junction Boxes (Current & Voltage)	
5.	Array Junction Boxes (Current & Voltage)	
6.	Continuity Test	
7.	Stress Test	
8.	Visual Inspection	

The above plant was commissioned as per applicable guidelines and the tests performed suggest that the performance of the above plant is satisfactory.

Place: [\[insert place\]](#)

[\[sign here\]](#)

Signature

Name of Authorized Representative of OREDA: [\[insert name\]](#)

Designation: [\[insert designation\]](#)

Odisha Renewable Energy Development Agency (OREDA)

Seal:

Place: [\[insert place\]](#)

[\[sign here\]](#)

Signature

Name of Authorized Representative of DRDA: [\[insert name\]](#)

Designation: [\[insert designation\]](#)

District Rural Development Agency (DRDA)

Seal:

### 7.6.5. Appendix Form 5 (Joint Commissioning Certificate)

#### Joint Commissioning Certificate of the Solar Street Lighting System

(To be issued by OREDA on the letterhead)

TO WHOMSOEVER IT MAY CONCERN

Ref. no.: [insert]

Date: [DD MMM YYYY]

To

[Successful Bidder's name]

[Address]

[Email id]

[Mobile no.]

Reference:

1. NIT no. [insert] dated [DD MMM YYYY]
2. Letter of Intent no. [insert] dated [DD MMM YYYY]
3. Work Order no. [insert] dated [DD MMM YYYY]
4. Any other correspondence, if any:

This is to certify that [Name of the Successful Bidder] having its registered office at [address] has successfully commissioned [no.] no. for a capacity of [insert capacity] kW Solar Street Lighting System at [insert village name] village, [insert district name] District in Odisha.

The Joint Commissioning Certificate is issued on the basis of the following documents enclosed:

1. Commissioning Report as submitted by Commissioning Committee
2. Closure report as uploaded on CRC

Place: [insert place]

[sign here]

Signature

Name of Authorized Representative of OREDA: [insert name]

Designation: [insert designation]

Odisha Renewable Energy Development Agency

Seal:

## 7.6.6. Appendix Form 6 (Acceptance Certificate)

### Acceptance Certificate of the Solar Street Lighting System

(To be issued by OREDA on the letterhead)

TO WHOMSOEVER IT MAY CONCERN

Date: [DD MMM YYYY]

To

[Successful Bidder's name]

[Address]

[Email id]

[Mobile no.]

Reference:

1. NIT no. [insert] dated [DD MMM YYYY]
2. Letter of Intent no. [insert] dated [DD MMM YYYY]
3. Work Order no. [insert] dated [DD MMM YYYY]
4. Joint Commissioning Certificate no. [insert] dated [DD MMM YYYY]
5. Any other correspondence, if any:

This is to certify that [Name of the Successful Bidder] having its registered office at [address] has successfully commissioned [no.] no. for a capacity of [insert capacity] kW Solar Street Lighting System at [insert village name] village, [insert district name] District in Odisha with respect to the ref. no. 5 and it is operating successfully for a period of ninety (90) Days from the date of the Joint Commissioning Certificate.

The Acceptance Certificate has been issued on the basis of the following documents enclosed:

1. Acceptance Report as submitted by the Commissioning Committee prepared in line with Commissioning Report
2. Closure report as uploaded on CRC
3. No claim/ lien certificate

Place: [insert place]

[sign here]

Signature

Name of Authorized Representative of OREDA: [insert name]

Designation: [insert designation]

Odisha Renewable Energy Development Agency

Seal:

### 7.6.7. Appendix Form 7 (Scheduled Maintenance)

The periodic Scheduled Maintenance protocol for RSPS is given below:

Sl. No.	Task	Quarterly	Semi-annual	Annual	Bi-annual
1	PV Array				
A	Inspect PV modules for damage				
B	Observe PV module shading and take corrective measures				
C	Clean module with water				
D	Check main junction box, all wires and cables				
E	Adjust tilt angle, if necessary				
2	Battery				
A	Check battery box				
B	Cleanliness of battery				
C	Terminal damage				
D	Evidence of heating				
E	Damage to container/cover				
F	DC Voltage				
G	Ground fault, if any				
H	DC Float Charging Voltage and current of the battery				
3	Protections devices				
A	Check for continuity of lightning arrestor				
B	Check system earthing				
C	Check all bypass/ blocking diodes and take corrective measures if necessary.				
4	Pole and Mounting Structure				
A	Inspect the pole and mounting structure, check for loose fasteners, corrosion, broken/ damaged concrete footings, etc. and take corrective measures, if necessary.				
B	Paint pole and mounting structure				
5	Luminary				
A	Check the angle of luminary and take corrective measures, if necessary				
B	Clean luminary and lamp				
C	Check the status of the lamp and replace if necessary				

**7.6.8. Appendix Form 8 (Test Certificates – IEC and IP certifications)**

The Test Certificate requirements for SLS are given below:

<b>Sl. No.</b>	<b>Major Component</b>	<b>Test Certificates Required</b>	<b>Test description</b>	<b>Designated Test Labs</b>
1	SLS			MNRE/NABL/BIS authorized Test Lab

## **7.7. Appendix to SOW – CRC guidelines**

### **7.7.1. Disclaimer**

- 7.7.1.1. These guidelines meant for use of OREDA only.
- 7.7.1.2. These guidelines are prescribed for installation, Commissioning, Acceptance and Comprehensive Maintenance of renewable energy systems installed by/under OREDA only.
- 7.7.1.3. OREDA does neither recommend nor insist other organizations to follow these guidelines for the renewable energy systems developed by either by themselves or through any other organization other than OREDA.
- 7.7.1.4. OREDA reserves all the right to modify, amend or supplement these guidelines whenever such necessity arises.
- 7.7.1.5. 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.
- 7.7.1.6. 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.

### **7.7.2. Declaration**

- 7.7.2.1. These guidelines will hereinafter be known as “General Guidelines for Installation and Maintenance of RE Systems under OREDA”
- 7.7.2.2. These guidelines shall be applicable to all distributed RE systems installed under the aegis of OREDA.
- 7.7.2.3. These guidelines shall be strictly followed by all vendors of OREDA.
- 7.7.2.4. These guidelines will also be strictly adhered to by all technicians and supervisory level officers of OREDA.
- 7.7.2.5. These guidelines will also constitute an integral part of all tenders of OREDA
- 7.7.2.6. The scoring system prescribed in these guidelines shall be applicable to all vendors of OREDA executing projects on behalf of OREDA

### **7.7.3. Intent behind framing these guidelines**

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

### **7.7.4. Context**

- 7.7.4.1. The last few years have witnessed a tremendous rise in the number of RE installation particularly in remote, un-served and underserved parts of the state. In view of the absolute need of these installations to meet the basic requirements such as lighting, the supply of drinking water, irrigating farmlands, 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.
- 7.7.4.2. Ministry of New and Renewable Energy, GOI normally determines the quality and standards of the materials which are elaborately reiterated in the respective tender documents.



- 7.7.4.3. 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.
- 7.7.4.4. 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 street light 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.
- 7.7.4.5. Though the primary responsibility of maintenance of the systems has been vested in the concerned vendor the rising number of 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.
- 7.7.4.6. 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 a 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.
- 7.7.4.7. This initiative is not only expected to increase the performance level of the installations but also greatly reduce service requests by customers.

#### **7.7.5. Objectives:**

The primary objectives of this new initiative are

1. Increase the 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 decentralized RE based power systems
6. Increased response to climate change mitigation.

#### **7.7.6. Stakeholders:**

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

#### 7.7.6.1. 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 the safety and security of the systems as well as day-to-day maintenance of the systems as prescribed in the users' manual.

#### 7.7.6.2. Sponsors

Sponsors are the Government Departments/Organizations sponsoring the schemes/program 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.

#### 7.7.6.3. 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.

#### 7.7.6.4. Vendors

Vendors are primarily responsible for supply, installation and commissioning of the RE systems/devices. They are also responsible for the 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 network or avail services of Independent Service Organizations. Vendors are also required to have back-to-back agreements with their OEMs for extending guarantee, warranty, the 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.

#### 7.7.6.5. Original Equipment Manufacturers (OEMs)

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

#### 7.7.6.6. OREDA

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

- a) Managing processes and providing oversight
- b) Establishing principles and parameters for extending maintenance services
- c) Setting up performance parameters
- d) Monitoring, measuring and analyzing stakeholders' performance.
- e) Working for performance improvement
- f) Identifying time-bound and appropriate actions as well as working on the same

- g) Developing internal preparedness to repair, re-installing systems beyond the scope of the vendors.
- h) Developing contingency resources and plans to force majeure situations.
- i) Recognizing and encouraging good performance

#### 7.7.7. Process

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

1. Onboarding 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:

##### 7.7.7.1. ONBOARDING:

Onboarding refers to the creation of the project-specific database comprising of the following details. Onboarding 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 the quantity, cost, locations, etc.
- d) Date of floating of tender
- e) Date of finalization of tenders.
- f) Vendor details (name, the quantity of work awarded, the total cost of the work, locations assigned)
- g) Date of Issue of LOI
- h) Details of survey report submitted by the vendor in response to LOI
- i) Details of project execution schedule submitted by the 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 the creation of a new account.

7.7.7.2. PROJECT EXECUTION: The vendor to whom a particular work has been assigned is responsible for the 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 a 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 the name of the project, name of the customer, location details including GPS coordinates, the 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 the picture as per the installation app.
- e) Date of commissioning the project

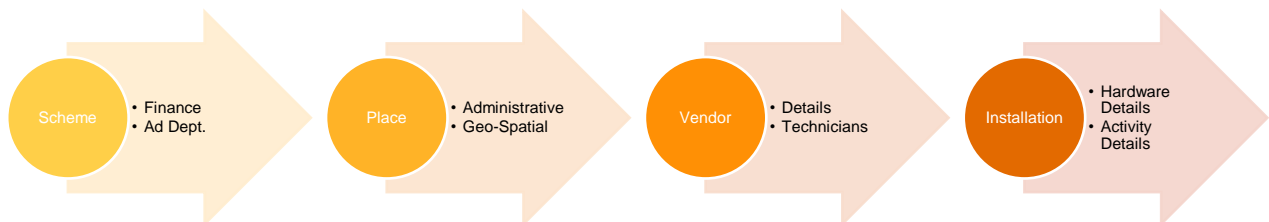
This would get populated onto the database in phases as the scheme progresses from conception to inception.

#### 7.7.7.3. SUPERVISION:

- a) 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 in 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 Joint Commissioning Certificate on the App provided to him within a stipulated timeline.

- b) 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.



#### 7.7.8. 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.

##### 7.7.8.1. Scheduled (Preventive) Maintenance:

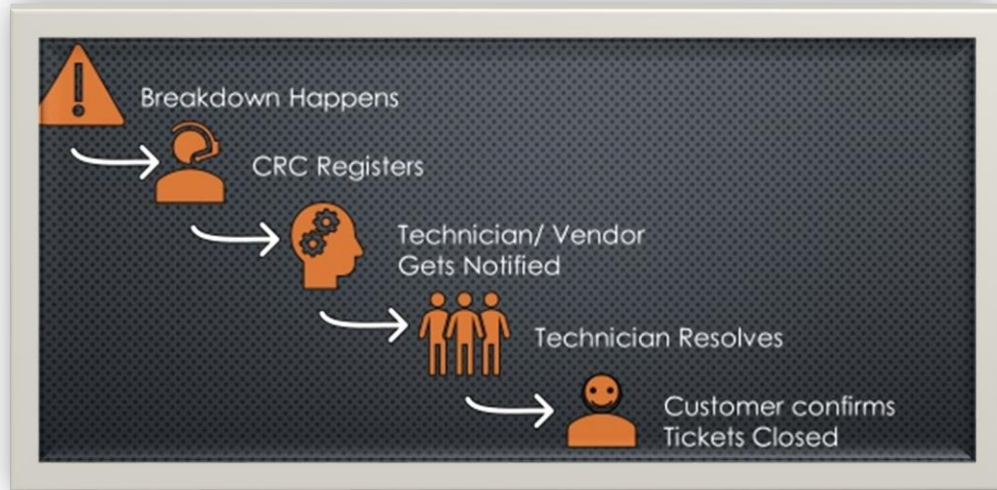
- a) A master maintenance schedule is to be drawn up for the organization covering each installation.
- b) This will be done by stratifying the districts into District Clusters based on logistical convenience.
- c) Each Cluster will be broken down into three geographical patches (comprising of Blocks/ GPs) called as Maintenance Cluster to evenly distribute the ticket load across each month within that Maintenance Cluster.

- d) 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
- e) It's the responsibility of the Vendors to track each case through their authorized technicians and report compliance throughout the month as soon as they cover the installations.
- f) The technicians/ SPOC of the vendor must share the documents/evidence 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.
- g) 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.
- h) The CRMS at the end of the month will compute the performance of the ticket/ Vendor/ Scheme and release a scorecard.



#### 7.7.8.2. Unscheduled (Corrective) Maintenance:

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



### 7.7.9. Repair and Maintenance Regime:

#### 7.7.9.1. 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 a minimum of 90% visit against the Scheduled Tickets within that Service Month.

a) 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 of a Class-specific and ticket Category-specific list of activities, kindly refer to Appendix Clause 7.5.7 and Appendix Clause 7.6.7.

b) 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 a holiday or otherwise.

c) 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 the list and how many technicians are to be deployed.

Care must be taken so that all installations not only are resolved within a month but also are closed.

d) Score:

On successful completion of one ticket as per the service standard, the vendor will earn certain points, and for each default, it 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

#### 7.7.9.2. Corrective Maintenance:

##### e) 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 the 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.

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

##### f) Methodology:

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

##### g) Reconnaissance:

Within 2 days of the ticket date.

- i. When a request of service is registered, the vendor as the first response must organize the collection of field level information about the nature of the problem.
- ii. Based on that feedback from the field, the vendor must decide the following;
  - The genuineness 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, register 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.

##### h) Repair:

Within 7 days of the ticket date.

- i. The authorized technicians of the vendor must move to the location with the resources to undertake the repair.
  - ii. Upon completion of the repair, the installations must be tested in the presence of the customer/ custodian.
  - iii. Requisite evidence and documentation must be completed by the technicians and immediate intimation need to be sent to the CRC.
- i) How to handle repair beyond the scope of MC
  - i. At the reconnaissance stage, when the vendor realizes that the requirement is beyond the scope of MC, he must request closure giving appropriate reasons.
  - ii. He must use the same communication channel as he would have used for resolution,
  - iii. The CRC then would take it off the Vendor list and transfer it to the OREDA list.
  - iv. OREDA will take this matter up with their principals for resolution.
- j) Score:
  - v. 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'.
  - vi. 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 on that day.
  - vii. At the end of a period, the time taken for each ticket for a resolution, which is converted into hours gets deducted from the 'Total Attainable Uptime' of that Ticket.
  - viii. And if the resolution time exceeds the set time of '7 Days', the system will treat those additional days with twice the score.
  - ix. The system is so designed that the lesser the time is taken to resolve, the 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.

#### 7.7.10. Implementation:

##### 7.7.10.1. Training and Orientation:

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

##### 7.7.10.2. Helpdesk:

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

##### 7.7.10.3. 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%.

##### 7.7.10.4. Computation of performance



Examples from the shared Excel sheets may be incorporated.

#### 7.7.10.5. Rewards and Recognitions

OREDA will do everything under its might to support the 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 penalizing them for their bad performance and blacklisting them for good.

OREDA will.

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

## **7.8. No claim/ lien certificate**

### **No claim/ lien certificate**

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

We, the undersigned, certify that we are free and clear from any and all claims, liens, security interest, encumbrances, unpaid vendors'/ suppliers' lien or otherwise, arising out of or in connection to the performance of the Work Order no. [insert] dated [DD MMM YYYY]

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

## 7.9. List of KGBV

The list of KGBV is mentioned below:

List of Kasturba Gandhi Balika Vidyalaya proposed to be taken up under this project					
Sl. No.	Type of System	District	Block	Name of Schools	Proposed RSPS in kW
1	Off Grid	Jajpur	SUKINDA	Hatibari Nodal UPS	10
2	Off Grid	Keonjhar	ANANDAPUR	Dhakothe Nadal UPS	10
3	Off Grid	Keonjhar	BANSPAL	Khajurlmundi UGUPS	10
4	Off Grid	Keonjhar	CHAMPUA	Govt. Girls UGUPS, Champua	10
5	Off Grid	Keonjhar	GHATAGAON	Rutisila UGUPS	10
6	Off Grid	Keonjhar	HARICHANDANPUR	Govt Nodal UPS Harichandanpur	10
7	Off Grid	Keonjhar	JHUMPURA	Bhaluka UGUPS	10
8	Off Grid	Keonjhar	JODA	Kamarjoda UGUPS	10
9	Off Grid	Keonjhar	KEONJHAR	Padmapur UPS	10
10	Off Grid	Keonjhar	SAHARAPADA	Billa UPS(NEW)	10
11	Off Grid	Keonjhar	TELKOI	Siriguda UGUPS	10
12	Off Grid	Mayurbhanj	BAHALDA	Jharadihi Govt.I UPS	10
13	Off Grid	Mayurbhanj	BIJATOLA	Purneswar NUPS, Seragada	10
14	Off Grid	Mayurbhanj	BISOI	Bisoi Govt Nodal UPS	10
15	Off Grid	Mayurbhanj	JAMDA	Jamda Govt UPS	10
16	Off Grid	Mayurbhanj	JASHIPUR	Durdura Nodal UPS	10
17	Off Grid	Mayurbhanj	KUSUMI	Chingudi pokhari nodal UPS	10
18	Off Grid	Mayurbhanj	RAIRANGPUR	Gorumahisani govt UPS	10
19	Off Grid	Mayurbhanj	TIRING	Changua UGUPS	10
20	Off Grid	Sundargarh	BISRA	Bondamunda 'B' UPS	10
21	Off Grid	Sundargarh	BONAI	Govindpur NUPS	10
22	Off Grid	Sundargarh	GURUNDIA	Gurundia Govt UPS	10
23	Off Grid	Sundargarh	KOIRA	Koira Govt NUPS	10
24	Off Grid	Sundargarh	KUARMUNDA	Andali Jambahal Govt NUPS	10
25	Off Grid	Sundargarh	LAHUNIPARA	Lahunipara Govt UPS	10
26	Off Grid	Sundargarh	LATHIKATA	Jalda Govt UPS	10
27	Off Grid	Sundargarh	NUAGAON	Hatibari Govt UPS	10
28	Off Grid	Sundargarh	RAJGANGPUR	PC UPS, Laing	10
29	Off Grid	Sundargarh	SUBDEGA	NGPUPS Kiralaga	10
<b>Total</b>					<b>290</b>

## 7.10. List of OAV

The list of OAV is mentioned below:

List of Odisha Aadarsha Vidyalaya proposed to be taken up under this project						
Sl. No.	Type of System	District	Block	Name of the School	Proposed RSPS in kW	Proposed SLS in no.
1	Net Metered	Jajpur	Danagadi	Gohirapatuli	20	20
2	Net Metered	Jajpur	Sukinda	Bhq Madhapur	20	20
3	Net Metered	Mayurbhanj	Rairangpur	Sanamunda	20	20
4	Net Metered	Mayurbhanj	Bijatata	Luhasila	20	20
5	Net Metered	Mayurbhanj	Jamda	Pasana	20	20
6	Net Metered	Mayurbhanj	Bahalda	Jhargan	20	20
7	Net Metered	Mayurbhanj	Tiring	Badalima	20	20
8	Net Metered	Mayurbhanj	Kusumi	Sanjaydhanposi	20	20
9	Net Metered	Mayurbhanj	Jasipur	Matiagarh	20	20
10	Net Metered	Mayurbhanj	Bisoi	Jamirdiha	20	20
11	Net Metered	Keonjhar	Harichandanpur	Harichandanpur	20	20
12	Net Metered	Keonjhar	Saharapada	BHQ Saharpada	20	20
13	Net Metered	Keonjhar	Ghatagaon	Tikira (Ghatagaon)	20	20
14	Net Metered	Keonjhar	Banspal	Talachampai (Banspal)	20	20
15	Net Metered	Keonjhar	Jhumpura	Khendra (Jhumpura)	20	20
16	Net Metered	Keonjhar	Joda	Lahanda (Joda)	20	20
17	Net Metered	Keonjhar	Telkoi	Oriya (Telkoi)	20	20
18	Net Metered	Keonjhar	Champua	BHQ Champua	20	20
19	Net Metered	Keonjhar	Anandpur	Salapada	20	20
20	Net Metered	Keonjhar	Sadar	(Ranki) Bodapalasa	20	20
21	Net Metered	Keonjhar	Ghasipura	Suanpada	20	20
22	Net Metered	Keonjhar	Hatadihi	Sudarapal	20	20
23	Net Metered	Keonjhar	Patna	Kendeiposi	20	20
24	Net Metered	Sundargarh	Bisra	Mahipani (Bisra)	20	20

List of Odisha Aadarsha Vidyalaya proposed to be taken up under this project						
Sl. No.	Type of System	District	Block	Name of the School	Proposed RSPS in kW	Proposed SLS in no.
25	Net Metered	Sundargarh	Lathikata	Lathikata	20	20
26	Net Metered	Sundargarh	Koida	Kusumdihi (Koida)	20	20
27	Net Metered	Sundargarh	Lahunipada	Paragpose	20	20
28	Net Metered	Sundargarh	Gurundia	Gurundia	20	20
29	Net Metered	Sundargarh	Nuagaon	Jhartoli (Nuagaon)	20	20
30	Net Metered	Sundargarh	Kuanrmunda	Teliposh (Kuanrmunda)	20	20
31	Net Metered	Sundargarh	Subdega	Simdega (Sabdega Block)	20	20
32	Net Metered	Sundargarh	Rajgangpur	Rajgangpur	20	20
33	Net Metered	Sundargarh	Lephripara	Lephripara	20	20
34	Net Metered	Sundargarh	Balisankara	Taisara	20	20
35	Net Metered	Sundargarh	Bargaon	Bhoipali	20	20
36	Net Metered	Sundargarh	Tangarpali	Ujalpur	20	20
37	Net Metered	Sundargarh	Bonai	Babunuagaon	20	20
38	Net Metered	Sundargarh	Kutra	Gyanapali	20	20
39	Net Metered	Sundargarh	Sundargarh	Talsankara	20	20
40	Net Metered	Sundargarh	Hemgiri	Kamlaga	20	20
<b>Total</b>					<b>800</b>	<b>800</b>

## 7.11. Format for Maintenance Experience

### Status of receipt and redressal of Corrective Maintenance

(To be submitted on the letterhead of the Bidder)

Date: [DD MMM YYYY]

NIT no.: [insert NIT no.] dated [DD MMM YYYY]

1. Name of the Vendor:
2. Total No. of Installation in the State:
3. Total No. of System presently in functional mode:
4. % of Functionality ( $3/2 * 100$ ):
5. Total No. of Service Request / Maintenance Call received against all installation:
6. Total No. of Service Request / Maintenance case resolved:

Place: [insert place]

[sign here]

Signature

Name of Authorized Signatory: [insert name]

Designation: [insert designation]

Name of the Bidder: [insert Bidder's legal entity name]

Seal: [insert seal of the Bidder]

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