

Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

(JREDA)
Government of Jharkhand



Tender Reference No. 06/JREDA/GCRT/CMCO/24-25

Jharkhand Renewable Energy Development Agency (JREDA)

3rd Floor, S.L.D.C. Building, Kusai Colony, Doranda, Ranchi-834002.

Ph.: 0651-2491161, Fax: 0651-2491165,

E-mail: info@jreda.com; Website: www.jreda.com

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Govt. of Jharkhand
Energy Department
Jharkhand Renewable Energy Development Agency (JREDA)
3rd Floor, S.L.D.C. Building, Kusai Colony, Doranda, Ranchi-834002.
Ph.: 0651-2491161, Fax: 0651-2491165,
E-mail: info@jreda.com; Website: www.jreda.com

e-Procurement Notice

Tender Reference No. : 06/JREDA/GCRT/CMCO/24-25

Dated: 06.06.2024

1	Name of the work	Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.
2	Completion of work	60 (Sixty) Days
3	Period of contract	05 (Five) Years
4	Date of publication of NIT on website: http://jharkhandtenders.gov.in	11.06.2024 (Tuesday)
5	Date & time of Pre-bid meeting	20.06.2024 (Thursday) at 2.00 P.M.
	Last date & time for receipt of online bids	03.07.2024 (Wednesday) upto 05:00 PM
6	Submission of Bid fee and EMD through Online Via SBI Payment Gateway of Jharkhand Tenders.	03.07.2024 (Wednesday) upto 05:00 PM
7	Technical Bid Opening Date & Time	05.07.2024 (Friday) at 3.30 P.M.
8	Name & address of office inviting tender	Director, Jharkhand Renewable Energy Development Agency(JREDA) 3 rd Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002 (Jharkhand)
9	Contact no. of procurement officer	0651-2491167/68/61/9570086777
10	Helpline no. of e-procurement	0651-2491167/68/61

Any corrigendum/addendum can be seen on website: <http://jharkhandtenders.gov.in> & www.jreda.com. Further details can be seen on website: <http://jharkhandtenders.gov.in> & www.jreda.com

Sd/-
Director,
JREDA, Ranchi

Section -1

NIB No: 06/JREDA/GCRT/CMCO/24-25 **List of Important dates & details of Bids**

1.	Name of work	Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.	
2	Tender reference no.	06/JREDA/GCRT/CMCO/24-25	
3	Mode of submission of tender	Online through www.jharkhandtenders.gov.in	
4	Cost of Bid document (Non-refundable)	❖ For General Bidder: ₹ 11,800/- (Rupees eleven thousand eight hundred Inc. GST) only. ❖ For MSE of Jharkhand: Rs. Nil	
5	Earnest Money Deposit	❖ For General Bidder: Rs. 6,00,000/- (Six Lakhs only) ❖ For MSE of Jharkhand: Rs. Nil	
6	Date of publication of NIT on website: http://jharkhandtenders.gov.in	11.06.2024 (Tuesday)	
7	Period of downloading of bidding documents	Start date: 11.06.2024	Time: 10.00 AM
		End date: 03.07.2024	Time: 05.00 PM
8	Bid online submission	Start date: 22.06.2024	Time: 10.00 AM
		End date: 03.07.2024	Time: 05.00 PM
9	Technical bid opening date	Date: 05.07.2024 (Friday)	Time: 03.00 PM
10	Authority inviting bids	Director, Jharkhand Renewable Energy Development Agency (JREDA)	
11	Address	Jharkhand Renewable Energy Development Agency (JREDA) 3 rd Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002. Ph. No: 2491161, Fax No: 0651-2491165 Web site: www.jreda.com E-mail: info@jreda.com	

Note:

- This Bank Guarantee must include SFMS (Structural Financial Management System) as per JREDA Bank Details Which is as:

Name of Bank: State Bank of India

IFSC Code: SBIN0009010

Branch Details: Ashok Nagar Branch, Ranchi

Place for receiving tender fee & EMD.

Jharkhand Renewable Energy Development Agency (JREDA), 3rd Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002.

Section-2

NIB No: 06/JREDA/GCRT/CMCO/24-25

Instructions to Bidders

A. Detailed instructions & documents to be furnished for online bidding.

1. The guidelines to submit bid online can be downloaded from website <http://Jharkhandtenders.gov.in>
2. The interested bidders can download the bid from the website "<http://Jharkhandtenders.gov.in>".
3. To participate in bidding process, bidders have to get 'Digital Signature Certificate (DSC)' as per Information Technology Act-2000 to participate in online bidding. This certificate will be required for digitally signing the bid. Bidders can get above mentioned digital signature certificate from any approved vendors (CCA). Bidders, who already possess valid Digital Certificates, need not to procure new Digital Certificate.
4. The bidders have to submit their bids online in electronic format with digital Signature. The bids without digital signature will not be accepted. No proposal will be accepted in physical form.
5. Bids will be opened online as per time schedule mentioned in Section 1
6. Bidders should get ready with scanned copies of the cost of documents & Online EMD as specified in the tender document. Before submission of online bids, bidders must ensure that a scanned copy of all the necessary documents has been attached to the bid.
7. Receipts of Online Submission of EMD & Bid Fee specified in the tender documents should be online (scanned copies) otherwise tender summarily will be rejected.
8. Uploaded documents of valid successful bidders will be verified with the original before signing the agreement. The valid successful bidder must provide the originals to the concerned authority. The department will not be responsible for delays in online submission due to any reason.
9. All the required information for the bid must be filled out and submitted online. If the bid is not found to be uploaded online to the website (<http://Jharkhandtenders.gov.in>), No hard copy is required to be submitted to the office of JREDA.
10. Other details can be seen in the bidding document
11. Note: The agency needs to submit the amount of. 11,800/- (Inclusive of GST@ 18%) online mode via SBI payment gateway on <https://jharkhandtenders.gov.in>. for the participation in the NIB in between all working days from Date: 11.06.2024 to 03.07.2024 up to 05:00 PM.

Submission of rate/price bid in any form by the bidder in technical section shall lead to the rejection of the bid.

B. Details of documents to be furnished for online bidding

1. Scanned copies of the following documents to be up-loaded in pdf. format on the website <http://Jharkhandtenders.gov.in>.

- i. Online receipt of Tender fee.
 - ii. Online receipt of EMD
 - iii. GST certificate.
 - iv. PAN Card
 - v. Firm's registration certificate/ Registration certificate of MSE of Jharkhand.
 - vi. Certificate issued by Industry Dept. or MNRE for system manufacturing/ Services .
 - vii. Audited Balance sheet of last three years of FY- 2020-21, 2021-22 & 2022-23.
 - viii. Income tax return certificate of last three years AY 2021-22, 2022-23 & 2023-24.
 - ix. Test Certificate of Battery & PCU.
 - x. JREDA Registration Certificate.
2. Scanned copies of the Annexure as per the enclosed formats should be uploaded after converting the same to .pdf format.

- i. Annexure-1 : Covering letter.
- ii. Annexure-2 : Information about the bidding firm.
- iii. Annexure-3 : Declaration by the bidder.
- iv. Annexure-4 : Annual Turnover.
- v. Annexure-5 : Net Worth certificate.
- vi. Annexure-6 : Format for power of attorney for signing of bid.
- vii. Annexure-7 : Proof of supply/execution of SPV Items/systems in any SNA/Govt. organization/PSU in the last seven years. Attach copy of orders & its satisfactory completion certificate.
- viii. Annexure-8 : Technical details & make of the Equipments to be supplied.
- ix. Annexure-9 : Technical Detail Warrantee Card
- x. Annexure-11 : Bank Guarantee Format for EMD
- X. Annexure-14 : Contact Person for the NIB
- xii. Annexure-15 : Checklist for technical bid
- xiii. Annexure-16 : Bidder's Declaration of Site Survey/Visit along with Geo-tagged photographs of the location.

3. Duly filled in & digitally signed Price Bid.
4. Uploaded documents of valid successful bidders will be verified with the original before signing the agreement. The valid successful bidder must provide the originals to the concerned authority on receipt of such letter, which will be sent through registered post.
5. SBD is not to be uploaded by the bidder. The bidder must give affidavit stating agree / disagree on the conditions in the SBD. The bidders, who disagree on the conditions of SBD, can not participate in the tender.

Section-3

NIB No: 06/JREDA/GCRT/CMCO/24-25

Notice Inviting Bid

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

Preamble:

JREDA have installed Rooftop Solar Photovoltaic Grid connected Systems of different capacity at different location during financial years 2015-16, 2016-17, 2017-18 & 2018-19 . This work was installed on "Turnkey Basis" which includes design, supply of SPV systems with all accessories and equipment's, installation, testing, commissioning and maintenance services for 5 years and CMC period has been expired after five years .

With the help of Financial Assistance from the Government of Jharkhand, JREDA wishes to select competent, experienced and financially sound bidder for "**Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.**" The bidders should be a registered company/Firm/Corporation in India (Including MSEs of Jharkhand).

Above work is to be carried out on "Turnkey Basis" which includes Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis for 5 years with free replacement warranty on spare parts against manufacturing defects for five years including Buy Back of Old Battery / PCU. JREDA will provide the list of Govt. buildings where rooftop systems need to be installed. The successful bidders have to execute the Supply, Installation & Commissioning of Grid connected Rooftop SPV Power Plants on Govt. Buildings.

The Site Details of installed Rooftop Solar Photovoltaic Grid connected Systems of different capacity at different location along with the capacity is as Annexure 18:

Note : Any Other Govt Building installed by JREDA as and when required basis due to expiry of CMC may be included under this Rate Contract.

Part -I: -The Technical Conditions:

- 1.** The bidder should be a registered company/ Proprietorship/LLP/ Partnership/ /Firm/ Corporation in India. **Authorized dealers' companies/firms/ corporations and subcontractors are not eligible to participate.**
- 2. Bidders claiming benefit of Micro & Small Enterprises (MSEs) of Jharkhand: -**
 - i. The manufacturing or Service unit is located within the State of Jharkhand.
 - ii. The Head Office or Corporate Office of such registered unit/company/enterprise is within the territorial jurisdiction of Jharkhand.
 - iii. "MSE is registered with the Directorate of Industries/District Industries Centre, Khadi and Village Industries Board, Directorate of Handloom, Sericulture and Handicraft of

Jharkhand Govt, Industrial Area Development Authorities and National Small Industries Corporation Ltd or any other body specified by Directorate of Industries, Jharkhand Govt from time to time and other industrial units/enterprises which have submitted IBM and been issued Date of Production (DOP) certificate by GM, DIC/MD, Industrial Area Development Authorities/ Director, Industries, GoJ or MSEs having Udyog Aadhar Number issued by Ministry of Micro, Small and Medium Enterprises, GoI to be duly verified, whether unit is existing/functional and doing regular production at what capacity by GM, DIC/MD, Industrial Area Development Authorities/Director, Industries, GoJ”.

- iv. The MSEs /other Enterprises and units must be registered under Jharkhand Goods and Services Tax (JGST) Act-2017 or The Central Goods & Services Tax (CGST) Act 2017.
 - v. The MSE /other enterprise and unit must have encouraged local people in employment.
 - vi. The MSE /other enterprise and unit must have complied with all statutory and legal formalities of concerned regulators/Act.
 - vii. The MSE Unit availing preferential treatment will give an undertaking with respect to point i to vi above including a categorical statement that the product/services being supplied to Govt. Dept. or its agencies has been manufactured/created by the unit located in Jharkhand only, giving details of batch no./date or any other identifiable tag (GSI etc) as per prevalent established practice and will have to submit compulsorily duly signed copy of Form GSTR-9C (For units having aggregate yearly turnover of more than 2 crores) as prescribed under JGST Act-2017”. However, in the case of VAT products/services, Form JVAT-409 (For units having of gross yearly turnover more than 60 lacs) issued by dept. of Commercial taxes, Govt. of Jharkhand.
3. A registered manufacturing/Service company/Firm/Corporation in India (Including MSME of Jharkhand) having Udyog Aadhar Number issued by Ministry of Micro, Small and Medium Enterprises, GoI to be duly verified, whether unit is existing/functional and the Bidders who are local MSMEs and registered under the MSME Development Act, 2006 in the State of Jharkhand as per Section D, Division 35, Group 351 having NIC 5-digit code of 35105 (Electric power generation using solar energy) .
 4. The bidder should be a functional organization. To substantiate this claim, the bidder should submit the copy of Audited accounts for last 3 years i.e., audited Balance sheet & P/L for FY 2020-21, 2021-22 & 2022-23 along with Income Tax Return (ITR) for AY 2021-22, 2022-23 & 2023-24 complete set. These audited accounts should be duly certified by the Statutory Auditor with his stamp.
 5. Registered Micro & Small Enterprises (MSMEs) of Jharkhand should submit the attested copy of Registration certificate/ Udyog Aadhar/Udyam issued by the Industry Department, Govt. of Jharkhand duly verified by concerned DIC.
 6. The bidder should have valid GST and PAN.
 - 7. Contractor Registration in JREDA is mandatory to participate in this tender.**
 8. Bidder not having satisfactory performance in the performance certificates will not be eligible to participate in tender.

Technical Requirement:

Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components at Various

Districts in the State of Jharkhand is Grouped into 6 Category according to Capacity of plant. Bidder can participate only in one Category (with/without Battery System) as mentioned below otherwise quoted rate will not be considered for evaluation: -

Sl. No	Category	Capacity
1	A	1 to 10 kWp (With Battery/Without System)
2	B	10 Above to 30 kWp (With Battery/Without Battery System)
3	C	30 Above to 50 kWp (With Battery/Without Battery System)
4	D	50 Above to 70kWp (With Battery/Without Battery System)
5	E	70 Above to 100Kwp (With Battery/Without Battery System)
6	F	100Kwp above (With Battery/Without Battery System)

For General Bidder: Experience of having successfully completed similar works in any SNA / Govt. Organization / PSU during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:

- I. Three similar work equal to the maximum capacity under the category one below the category applied for.

e.g., If bidder is applying for group "B" then he must have three complete sites of 10 kW each.

or

- II. One similar site work capacity equal to the applied group.

e.g., If bidder is applying for group "B" then he must have one complete site of 30 kW.

For MSEs of Jharkhand: Experience of having successfully completed similar works in any SNA / Govt. Organization / PSU during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following: -

- I. Two similar work equal to the maximum capacity under category one below the category applied for.

e.g., If bidder is applying for group "B" then he must have two complete sites of 10 kW each.

or

- II. One similar site work capacity equal to the applied category.

e.g., If bidder is applying for group "B" then he must have one complete site of 30 kW.

A copy of the work order and certificate indicating its successful execution should be enclosed.

Note: Bidder shall participate only in one Category (with/without Battery System) mentioned above. Bidder will quote rate in only one category in BOQ otherwise quoted rate will not be considered for evaluation.

9. Bids from joint ventures are not allowed.

10. The bidder must be in house manufacturing & testing facility & should be suitable equipment to

perform testing in house, if bidder have not facility to perform such tests, they need to arrange Lab test facility for the samples in the presence of JREDA or JREDA Representative/ Authorized Third Party And the cost of Lab Testing will be bearded by the Manufacturer. All the expenses for inspection in this regard shall be borne by the Bidder only.

11. Bidders have to submit the details of order received and executed in the last 7 Years. Certificate should be as per the Performa given at **Annexure-8**.
12. Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:
 - a. made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and/or
 - b. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures

Part –II: -The Financial Conditions:

The bidder should fulfill the following financial eligibility conditions: -

1. Financial Eligibility:

I. Turnover Requirement:

- (i) **For General Bidder:** Average Annual financial turnover during the last 3 years , ending 31st March of the previous financial year, should be at least 30% of the estimated cost of Bidding Quantity derived from the last three financial years ending on 31.03.2023 on the basis of audited annual accounts.
- (ii.) **For MSEs of Jharkhand:** Bidder should have the average Annual Turnover of 10% of estimated cost of Bidding Quantity derived from the last three financial years ending on 31.03.2023 on the basis of audited annual accounts.

The certificate should be furnished as per the Performa given at Annexure-4 along with the bid documents

II. Net worth Requirement:

- (i) **For General Bidder:** Bidder should have Positive Net Worth from the last three financial years ending on 31.03.2023 on the basis of audited annual accounts.
- (ii) **For MSEs of Jharkhand:** Bidder should have Positive Net Worth from the last three financial years ending on 31.03.2023 on the basis of audited annual accounts.

Net worth certificate should submitted as per the Performa given at Annexure-5 along with the bid documents

SECTION-4

NIB No: 06/JREDA/GCRT/CMCO/24-25

INSTRUCTIONS TO BIDDERS

Table of Clauses

Clause	A. General	Clause	D.Submission of Bids
1	Scope of Bid	19	Deadline for Submission of Bids
2	Source of Funds		
3	Eligible Bidders		E.Bid Opening
4	Qualification of the Bidder	20	Bid Opening
5	One Bid per Bidder	21	Process to be Confidential
6	Cost of Bidding	22	Clarification of Bids and
7	Site Visit	23	Contracting the Employer Examination of bids and
	B. Determination of Responsiveness Bidding Documents and Evaluation	24	Correction of Errors
8		Content of Bidding Documents	25
9	Clarification of Bidding Documents	26	Preference for Domestic Bidders
10	Amendment of Bidding Documents		F. Award of Contract
	C.Preparation of Bids	27	Award Criteria
11	Language of Bid	28	JREDA Right to Accept any Bid
12	Documents Comprising the Bid	29	Notification of Award
13	Bid Prices	30	Performance Security
14	Currencies of Bid and Payment	31	Advances
15	Bid Validity	32	Corrupt or Fraudulent Practices
16	Earnest Money		
17	Alternative Proposals by Bidders		
18	Sealing and Marking of Bids		

A. General

Instructions to Bidders (ITB)

1 Scope of Bid

- 1.1 The JREDA invites bids for the work as described in these documents and referred to as "the works". The name and identification number of the works is provided in the Notice Inviting Bid.
- 1.2 The successful Bidder will be expected to complete the Works by the Intended Completion Date specified in the Part (I)- General Conditions of Contract.
- 1.3 Throughout these documents, the terms "bid" and "tender" and their derivatives (bidder/ tenderer, bid/ tender, bidding/ tendering) are synonymous.

2 Source of Funds

The JREDA has decided to undertake the works of "**Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.**" through funds available for CMC/maintenance of work from Government of Jharkhand and to be implemented through JREDA. Work order as per the availability of fund or only after availability of fund from Government of Jharkhand.

The Site Details along with the capacity is as per Annexure 18.

3 Eligible Bidders

- 3.1 This Invitation for Bids is open to all bidders as subject to fulfilling the eligibility criteria as per the Notice Inviting Bid.
- 3.2 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices by the Central Government, the State Government or any public undertaking, autonomous body, authority by whatever name called under the works.

4 Qualification of the Bidder

- 4.1 All bidders shall provide Forms of Bid and Qualification information as per the Section-3, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 4.2 All bidders shall include the following information and documents with their bids in Section 3, Qualification Information unless otherwise stated in the Notice Inviting Bid/ITB.
 - a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business.
 - b) Copy of written power of attorney of the signatory of the Bid for bidding.
 - c) Total monetary value of the similar nature of the works performed for each of the last seven years;
 - d) Experience in works of a similar nature and size for each of the last seven years with

certificates from the concerned officer or competent authority.

- e) Audited reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the last three years along with ITR.
- f) Authority to seek references from the Bidder's bankers;
- g) Information regarding any litigation or arbitration during the last seven years in which the Bidder is involved, the parties concerned, the disputed amount, and the matter;

4.3 Bids from joint venture are not allowed.

4.4.B (a) Each bidder must produce:

- i) PAN.
- ii) An affidavit that the information furnished with the bid documents is correct in all respects; and
- iii) Such other certificates as defined in the Notice Inviting Bid. Failure to produce the certificates shall make the bid non-responsive.

4.4 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- i) made misleading or false representations in the forms, statements, affidavits, and attachments submitted in proof of the qualification requirements; and/or
- ii) record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures Participated in the previous bidding for the same work and had quoted unreasonably high or low bid prices and could not furnish rational justification for it to JREDA.

5 One Bid per Bidder

5.1 Each Bidder shall submit only one Bid for one work. A Bidder who submits more than one Bid will be disqualified.

6 Cost of Bidding

6.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the JREDA will, in no case, be responsible or liable for those costs.

7 Site Visit

7.1 The Bidder, at his own cost, responsibility, and risk, is encouraged to visit, examine and familiarize himself with the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for supply & installation of the Works. The costs of visiting the Site shall be at the Bidder's own expense. He may contact the person whose contact details are given in the Notice Inviting Bid.

7.2 Bidders must submit site visit report in the format of Annexure- **16 & 16(a) before agreement and non-submission of site visit as per Annexure-16, 16 (a) may lead to cancellation of Work Order .**

B. Bidding Documents

8 Content of Bidding Documents

8.1 The set of bidding documents comprises the documents listed below, and addenda issued in accordance with Clause 10 of ITB.

1. Notice Inviting Tender
2. Instructions to Bidders
3. Qualification Information
4. Conditions of Contract
5. Specifications
6. Bill of Quantities
8. Form of Bid
9. Form of Bank Guarantee.

8.2 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms and specifications, bill of quantities, forms in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to clause 23 hereof, bids, which are not substantially responsive to the requirements of the Bid Documents, shall be rejected.

9 Clarification on Bid Documents and Pre-bid Meeting:

9.1 A prospective Bidder requiring any clarification of the bid documents may notify to the JREDA in writing at the JREDA's address indicated in the Notice Inviting Tenders. JREDA's response will be uploaded in form of corrigendum on our website www.jreda.com.

9.2 The purpose of such a meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

9.3 The bidder is requested to submit any questions in writing or by e-mail so as to reach the JREDA not later than two days before the meeting.

9.4 Any modifications of the bid document listed in Clause 8.1 of ITB, which may become necessary as a result of the pre-bid meeting shall be made by the JREDA exclusively through the issue of an Addendum/Corrigendum pursuant to Clause 10 of ITB on website.

10 Amendment of Bidding Documents

10.1 Before the deadline for submission of bids, the JREDA may modify the bidding documents by issuing addenda/corrigendum.

10.2 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the JREDA shall extend, if necessary, the deadline for submission of bids, in accordance with Clause 19.2 of ITB.

C. Preparation of Bids

11 Language of Bid

11.1 All documents relating to the Bid shall be in the language specified in the Notice Inviting Bid.

12 Documents Comprising the Bid

A. Technical Bid – (Fee/Pre-Qualification/Technical Cover)

1) EMD & Tender Fee

- a) Scanned Copy of Demand draft drawn in favour of "DIRECTOR, JREDA", payable at Ranchi towards Cost of Tender Fee and Earnest Money Deposit as specified in the Notice

Inviting Bid.

2) Technical Details & Declaration

- a) Proposed work programme (work method, time schedule and financial flow), description, and charts as necessary (**Duly to be signed digitally**) to comply with the requirement of the Bidding Document.
- b) Scanned copy of an Affidavit by the Bidder that he/she has accepted the S.B.D.

3) Technical Details of documents

Scanned copies/Prescribed Formats of Documents to be attached in "My Document" in .pdf format file duly digitally signed by the bidder.

- a) PAN Card
- b) GST certificate.
- c) Proof of completion of similar works during the last 7 years and list of similar works in hand in the prescribed formats duly signed by the competent authority of the issuing Department.
- d) List of works for which bids already submitted.
- e) Audited financial Report for the last 3 years (up to 31/3/2023) certified by chartered Accountant.
- f) Annual Turn over Details certified by Chartered Accountant.
- g) Net worth certificates certified by Chartered Accountant.
- h) List of current litigant cases in which the bidder is involved.
- i) An affidavit for non-engagement of related persons.
- j) Proof of test certificates of batteries and latest test certificate should confirm as per MNRE specifications which are available on MNRE website. The valid test certificate should be submitted along with bid as per Section 3 Notice Inviting Bid
- k) Authorized address & contact numbers of the bidder as per instruction in the Notice Inviting Bid duly digitally signed.
- l) Undertaking of Bidder that he is able to invest minimum of cash upto 10% as defined in ITB.
- m) Undertaking for validity of bid for 180 days.
- n) All other documents mentioned in Section-2, Instruction to bidders under clause B- Details of documents to be furnished for Online bidding.

B – Financial Bid – (Finance Cover)

- i) Duly Quoted complying Note points i) in the NIB & digitally signed Bill of Quantity (BoQ) in the file supplied by JREDA in .xls format shall be uploaded.
- ii) Declaration by Bidder in the format Section – 6 form of Bid in .pdf format.

NOTE:- a) All the documents should be digitally signed.

12.2 The following documents, which are not submitted with the bid, will be deemed to be part of the bid.

Section Particulars

- i. Notice inviting Tender
- ii. Instruction to the bidders
- iii. Conditions of Contract

- iv. Contract Data
- v. Specifications

13 Bid Prices

- 13.1 The Contract shall be for the whole Works, as described in Section-3 NIB
- 13.2 The Bidder shall adopt the Item Rate Method as specified in the Notice Inviting Bid only the same option is allowed to all the Bidders.
- 13.3 All duties, taxes, royalties, and other levies payable by the Contractor under the Contract, or for any other cause, shall be included in the rates, prices, and total Bid price submitted by the Bidder.
- 13.4 The rates and prices quoted by the Bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment.
- 13.6 Tenderers should quote their rates considering wide variation of site conditions, variation in price of different components during the year 2021-22 and keeping the quantum and quality of work in mind. If JREDA anticipates that rate is abnormally low or high, tender may be cancelled.

14 Currencies of Bid

- 14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees (INR).

15 Bid Validity

- 15.1 Bids shall remain valid for a period of 180 (One hundred Eighty) days after the deadline date for bid submission specified in Clause 19 of ITB. A bid valid for a shorter period shall be rejected by the JREDA as non-responsive.
- 15.2 In exceptional circumstances, prior to expiry of the original time limit, the JREDA may request to the bidders for extension of the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by e-mail. A bidder may refuse the request without forfeiting his Earnest Money. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his earnest money for a period of the extension, and in compliance with Clause 16 of ITB in all respects.

16 Earnest Money

- 16.1 The Bidder shall furnish, Earnest Money, in the amount specified in the Notice Inviting Bid.
- 16.2 Submission of EMD through Online Via SBI Payment Gateway of Jharkhand Tenders.
- 16.3 Any bid not accompanied by an acceptable Earnest Money at the time price bids are called, unless exempted in terms given in the Notice Inviting Bid, shall be rejected by the JREDA as nonresponsive.
- 16.4 The Earnest Money of unsuccessful bidders will be returned after finalization of the Bid.
- 16.5 The Earnest Money of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required performance Security Deposit.
- 16.6 The Earnest Money may be adjusted against the required security deposit after Receipt of specific request from the bidder.

- 16.7 The Earnest Money may be forfeited:
- a) if the Bidder withdraws the Bid after bid opening (technical bid) during the period of Bid validity.
 - b) in the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - i. signs the Agreement within as specified time limit as mentioned in W.O. and/or
 - ii. Furnish the required Security Deposit within specified as W.O.

17 Alternative Proposals by Bidders

- 17.1 Bidders shall submit offers that comply with the requirements of the bidding documents, as specified in the NIB including the Bill of Quantities and the basic technical design as indicated in the drawings and specifications. Alternative proposals will be rejected as non-responsive.

D. Submission of Bids

18 Sealing and Marking of Bids

- 18.1 The Bidder shall place the two separate files (File I) marked "Technical Bid" and "Financial Bid" (File -II). The file will have markings as follows:

Technical Bid: Technical bid shall comprise of the documents mentioned as per clause no C-Preparation of bids ,Technical bid will opened as per date and time of Technical Bid opening as per clause 20.1of ITB.)

Financial Bid: Financial bid shall be as per clause no C-Preparation of bid and complying **Note Points mentioned in the Section -3 of NIB,**Financial Bids shall be as per specified in clause 12.1 of ITB. All documents are to be signed digitally by the bidder.

- 18.2 The first and second files containing the Technical and Financial Bids shall a) be addressed to the JREDA at the address provided in the Notice Inviting Bid b) bear the name and identification number of the Contract as defined in clause 1.1 of ITB; and c) provide a warning not to open before the specified time and date for Bid opening as defined in clause 20.1 of ITB.

19 Deadline for Submission of Bids

- 19.1 Complete Bids (including Technical and Financial) must be received by the JREDA at the address specified in the Notice Inviting Bid not later than the date and time indicated in the Notice Inviting Bid.
- 19.2 The JREDA may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10.3 of ITB, in which case all rights and obligations of the JREDA and the bidders previously subject to the original deadline will then be subject to the new deadline.

E. Bid Opening and Evaluation

20 Bid Opening

- 20.1 The JREDA will open the bids received (except those received late). In the event of the specified date for the submission of bids being declared a holiday for JREDA, the Bids will be opened at the appointed time and location on the next working day.
- 20.2 The files containing the technical bid shall be opened. The document marked "cost of bidding document" will be opened first and if the cost of the bidding documents is not there, or incomplete, the remaining bid documents will not be opened, and bid will be rejected.
- 20.3 In all other cases, the amount of Earnest Money, forms and validity shall be announced.

Thereafter, the bidders' names and such other details as the JREDA may consider appropriate, will be announced by the JREDA at the opening.

- 20.4 The JREDA will prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Clause 20.3 of ITB.
- 20.5 Evaluation of the technical bids with respect to bid security, qualification information and other information furnished in Part-I of the bid in pursuant to Clause 12.3 of ITB, shall be taken up and completed and a list will be drawn up of the responsive bids whose financial bids are eligible for consideration.
- 20.6 The JREDA shall inform, by email, the bidders, whose technical bids are found responsive, date, time, and place of opening as stated in the Notice Inviting Bid. In the event of the specified date being declared a holiday for the JREDA, the bids will be opened at the appointed time and location on the next working day through they or their representative, may attend the meeting of opening of financial bids.
- 20.7 At the time of the opening of the 'Financial Bid', the names of the bidders whose bids were found responsive in accordance with clause 20.5 of ITB will be announced. The financial bids of only these bidders will be opened. The remaining bids will be returned unopened to the bidders. The responsive bidders' names, the Bid prices, the total amount of each bid, and such other details as the JREDA may consider appropriate will be announced by the JREDA at the time of bid opening. Any Bid price which is not read out and recorded, will not be taken into account in Bid Evaluation
- 20.8 The JREDA shall prepare the minutes of the opening of the Financial Bids.

21 Process to be Confidential.

- 21.1 Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any attempt by a Bidder to influence the JREDA's process of bidding or award decisions may result in the rejection of his Bid.

22 Clarification of Bids and Contacting the JREDA

- 22.1 No Bidder shall contact the JREDA on any matter relating to its bid from the time of the bid opening to the time the contract is awarded.
- 22.2 Any attempt by the bidder to influence the JREDA's bid evaluation, by any means, bid evaluation, bid comparison, or contract award decision may result in the rejection of his bid.

23 Examination of Bids and Determination of Responsiveness

- 23.1 During the detailed evaluation of "Technical Bids", the JREDA will determine whether each Bid (a) meets the eligibility criteria defined in Clauses 3 and 4; (b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the bidding documents.

During the detailed evaluation of the "Financial Bids", the responsiveness of the bids will be further determined with respect to the remaining bid conditions

- 23.2 A substantially responsive "Financial Bid" is one, which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or

reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the bidding documents, the JREDA's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids d.) Which strictly adheres to the conditions mentioned in the NIB

- 23.3 If a "Financial Bid" is not substantially responsive, it will be rejected by the JREDA, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

24 Corrections of Errors

- 24.1 Bids determined to be substantially responsive, will be checked by the JREDA for any arithmetic errors. Errors will be corrected by the JREDA as follows:
- a) where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
 - b) Where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern. (If Applicable)
- 24.2 The amount stated in the Bid will be adjusted by the JREDA in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bid will be rejected, and the Earnest money shall be forfeited in accordance with Clause 16.6(b) of ITB.

25 Evaluation and Comparison of Bids

- 25.1** The JREDA will evaluate and compare only the bids determined to be substantially responsive in accordance with **Clause 23 of ITB and Section 3 NIB**
- 25.2 In evaluating the bids, the JREDA will determine for each Bid the evaluated Bid price by adjusting the Bid price by making correction, if any, for errors pursuant to Clause 24 of ITB.
- 25.3 If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the JREDA may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, JREDA reserves the right to increase the amount of the performance security at its own discretion set forth in Clause 30 of ITB at the expense of the successful Bidder to a level sufficient to protect the JREDA against financial loss in the event of default of the successful Bidder under the Contract. The amount of the increased performance security shall be decided at the sole discretion of the Employer, which shall be final, binding, and conclusive on the bidder.

26 Price Preference

- 26.1 There will be no price preference to any bidder.

F. Award of Contract

27 Award Criteria

JREDA will award the Contract to the Bidder whose Bid has been successful and who has been empaneled under this Bid Process.

28 Empanelment Procedure

- 28.1 The lowest rate, i.e., L1 received would be the appropriate rate for awarding the work in each category.
- 28.2 JREDA shall empanel all the bidders on acceptance of lowest (L1) rate in each category.
- 28.3 JREDA shall empanel General/MSE bidders at the discovered lowest rate for each category. JREDA shall reserve the right to allocate the works as per availability of funds and requirement.
- 28.4 If quantity/capacity is left unallocated in any category, JREDA reserves the right to reallocate the left-over quantity to other categories.
- 28.5 JREDA will allocate initial capacities/quantities to empaneled bidders based on their bid capacities and available capacities.
If Bidder is a working agency of JREDA then allocation of capacities/quantities will be done based on the bid capacities and their past performances in JREDA like timely completion of allotted work and timely submission of CMC report and performance etc. JREDA will review the progress of each agency on a monthly basis and a performance appraisal will be done and On the basis performance appraisal quantities allocated to agencies may be revised.

29 JREDA's Right to accept any Bid and to reject any or all Bids

- 29.1 Notwithstanding Clause 27 above, the JREDA reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the JREDA's action without any reason.

30 Notification of Award and Signing of Agreement

- 30.1 The bidder whose Bid has been accepted will be notified of the award by the JREDA prior to expiration of the Bid validity period by email confirmed by registered letter. This letter (hereinafter and in the Part I - General Conditions of Contract called the "Letter of Acceptance") will state the sum that the JREDA will pay to the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Contract called the "Contract Price").
- 30.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 30.
- 30.3 The Agreement will incorporate NIT document, Work order & subsequent amendments between JREDA and the successful Bidder. It will be signed by the JREDA and the successful Bidder after the security deposit is submitted.
- 30.4 Upon the furnishing by the successful Bidder of the Performance Security, the JREDA will promptly notify the other Bidders that their Bids have been unsuccessful.

31 Security Deposit:

- 31.1 Successful General bidder shall submit a security deposit @10% of the allotted work order value in the form of Bank Guarantee/DD/FDR valid for one year on or before 15 days from issuing work order. If Bank Guarantee will not be submitted within stipulated period from the date of issue of work order, then JREDA shall cancel the work order.
- 31.2 Successful MSME bidders shall be required to deposit only 1% of the allotted work order value in the form of Bank Guarantee/DD/FDR secure as per Jharkhand Procurement Policy.
- 31.3 The Security Deposit shall be refunded / released to the bidder after expiry of 60 days from the actual date of successful completion.
- 31.4 The Security Deposit will have to be maintained by the bidder with JREDA till the completion of warrantee period.

31. Performance Guarantee:

- 31.1 Successful General bidder shall submit a performance guarantee @5% of the allotted work order value in the form of Bank Guarantee/DD valid for five years on or before release of any payment.
- 31.2 This Bank Guarantee must include SFMS (Structural Financial Management System) as per JREDA Bank Details Which is as:

Name of Bank: State Bank of India

IFSC Code: SBIN0009010

Branch Details: Ashok Nagar Branch, Ranchi

- 31.3 Successful MSE bidders shall submit a Performance Guarantee @0.5% of the allotted work order value in the form of bank guarantee/DD before release of payment.
- 31.4 The Performance Guarantee will have to be maintained by the bidder with JREDA till the completion of Contract Period.
- 31.5 The Security Deposit/Performance Guarantee shall be submitted in the form of bank guarantee in favour of "Director, JREDA" payable at Ranchi from any Indian Nationalized bank/Scheduled bank.
- 31.6 Non submission of Security Deposit/Performance Guarantee within the time frame, shall lead to forfeiture of EMD and cancellation of LOI/LOA.
- 31.7 If Bidder/MSE unit fails to carry out the work allotted to him as per the provisions of the tender documents then such Bidder/MSE unit may be black listed for future awards of work.

32 Five Years Comprehensive Maintenance Contract & Operation (CMCO):

- 32.1 The Hybrid Solar Power Plant Contract price includes the provision of 5 years mandatory Comprehensive Maintenance Contract & operation (CMCO). To ensure long term sustainability of the system, the bidder must provide his representatives name, full address, mobile number, and photographs to JREDA with one hard copy as well as the names and contact details of all technicians must also be provided. Failure to do shall invite penalty and action.
- 32.2 The Comprehensive Maintenance Contract & Operation shall include servicing & replacement guarantee for parts and components (such as battery, electronics, Inverter, existing PV modules and other hardware) running, operation and maintenance of SPV Power Plant from the date of installation. Battery should be warranted for a minimum life of 5 years. The contractor has to make suitable arrangement for running, operation and maintenance of

hybrid solar Power Plant by deputing electrician and other skilled persons required as per the manpower deployment schedule mention in the section-5 so that hybrid solar Power Plant will be functional 24X7 every day. The date of CMCO maintenance period shall begin on the date of actual recommissioning of SPV Power Plant /equipment. It is mandatory for the contractor to carry out CMC regularly and submit report including maintenance schedule to JREDA monthly. Failure to submit monthly CMC reports timely shall invite penalty and action.

- 32.3 For any issue related to operation & maintenance, a contact number shall be made available to the concerned departments to resolve immediately, if the bidder do not attempt the rectification of any such defect within three days of communication of such complaint to the bidders, the bidder will be liable for a penalty of Rs. 1000 per day beyond three days of reporting of such complaint. Further if the outage of the plant is more than 15 days continuously, then the 50% PBG amount shall be encased by JREDA and if the outage is exceeding more than 60 days than complete PBG amount shall be encased by JREDA. This will be applicable till 5 years of O&M as per the scope of the RFP. Bidder shall submit monthly CMC report as per the Annexure- 13 with generation data of month within 7 working days of subsequent month.
- 32.4 The Contractor should have sufficient numbers of skilled staff as per the Manpower deployment schedule mentioned in section -5 for proper maintenance of hybrid solar power plant. The bidder should submit a work plan for implementation of the work and details of person/staff to be deployed for CMCO work.

33 Preventive/Routine Maintenance:

This shall be done by the supplier/contractor at least once in every month and shall include activities such as, cleaning and checking the health of the SPV system, cleaning of module surface, topping up of batteries, tightening of all electrical connections, regular checks to identify any leakage of electricity, changing of tilt angle of module mounting structure, cleaning & greasing of battery terminals and any other activity that may be required for proper functioning of the Hybrid Solar Photovoltaic Power Plant. The maintenance record should be kept properly and to be submitted at JREDA office time to time. CMC documents should be certified by Beneficiary.

34 Breakdown / corrective Maintenance:

Whenever a complaint is lodged by the user the bidder shall attend the same immediately. It is clarified that effective CMCO means that the bidder should ensure 24 hours smooth working of hybrid SPV Power Plant throughout the CMCO period and therefore, if any complaint in this level of service is found by the JREDA officials and if the bidder do not attempt the rectification of any such defect within three days of communication of such complaint to the bidders, the bidder will be liable for a penalty of Rs. 1000 per day beyond three days of reporting of such complaint.

35 Advances

- 35.1 The JREDA will not provide Mobilization Advance and Advance against the security of equipment as provided in Part I - General Conditions of Contract.

36 Corrupt or Fraudulent Practices

The JREDA requires the bidders/Contractors to strictly observe the laws against fraud and corruption in force in India, namely, Prevention of Corruption Act, 1988.

37 Timeline/ Completion Period:

The time of completion shall be adhered as per the timeline defined in the table below:

Sr. No.	Work	Completion Period/Start time
1	Supply, Installation, Testing & Commissioning of Battery and PCU in all respects in good conditions. as per NIT.	2 Months for each site from issuance of Work Order.
2	CMCO Work	From the date of recommissioning of batteries and PCU.

Section-5
General Terms & Conditions
NIB No: 06/JREDA/GCRT/CMCO/24-25

Introduction:

The instruction/information contained in the bid documents are for guidance and compliance of the intending bidder. Bidders are advised to obtain clarification from JREDA, if any, prior to submission of their bid, failing which it will be deemed that the stipulation made in the bid documents have been read, understood and are acceptable to the bidder.

Bidder shall bear all costs associated with the preparation and submission of the bid, journeys undertaken by them and subsequent bidding process till the award of the order to successful bidder and the JREDA shall in no case, shall be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

2.0 Scope of work:

The Scope of work for "**Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.**" is mentioned below

Supply Five Years Comprehensive Maintenance Contract & Operation (CMCO) of Hybrid Rooftop Solar Power Plants including replacement of PCUs and Batteries and other components as required installed at Civil Court, Sadar Hospital and Jail Buildings at Various Districts in the State of Jharkhand.

The Site Details along with the capacity is as per Annexure 18.

The contract price includes the provision of 5 years operation and mandatory Comprehensive Maintenance Contract & Operation (CMCO) to ensure long-term sustainability of the system. The contractor should provide his representative's name, full address, mobile number, and photographs to JREDA with one hard copy.

- i. The Operation and Maintenance shall include ensuring operation of system on day-to-day basis. The system should be operational for 24 hours with full illumination from evening to morning. The contract shall include ensuring servicing & replacement guarantee for parts and components (such as battery, electronics, Inverter, PV modules and other hardware of hybrid solar plants for five years. Battery should be warranted for a minimum life of 5 years. The date of CMC shall begin from the date of recommissioning. It is mandatory for the contractor to carry out CMC regularly and submit report to JREDA on monthly basis.
- ii. **Replacement of PCUs and Batteries with Buy-Back and other components as and where required basis .**

iii. Preventive/Routine Maintenance:

This shall be done by the Contractor twice in a months and shall include activities such as, cleaning and checking the health of the SPV system, cleaning of module surface, topping up of batteries, tightening of all electrical connections, regular checks to identify any leakage of electricity, changing of tilt angle of module mounting structure, cleaning & greasing of battery terminals and any other activity including earth resistance maintenance that may be required for proper functioning of the hybrid Solar plant. The maintenance record should be kept properly and to be submitted at JREDA office time to time.

iv. Breakdown/Corrective Maintenance

Contractor shall ensure 24 hours smooth operation of Solar Power Plant throughout the CMC period by attending breakdown/routine maintenance immediately. if any complaint regarding system service is found by the JREDA officials and if the Contractor do not attend the rectification of any such defects within three days of communication of such complaint to the contractors, the Contractor will be liable for a penalty of Rs.1000 per day beyond three days of reporting of such complaint.

v. Deployment of Manpower

Successful bidder shall deploy at all times the manpower mentioned below for smooth operation of the hybrid rooftop sola plant.

Buy back of existing battery bank along with inter cell connectors and stack box & PCU of Hybrid solar plant located at various districts in the State of Jharkhand. on the basis of as is where is including transportation etc.

Note: The Bidder mat get the capacities of Batteries and PCU during the site survey for calculating the buyback. The bidder shall quote according in the Price bid Format. Buyback shall Include all the transportation charges.

3.0 Bid documents:

Tender documents shall comprise of all the documents mentioned in this Bid. In addition to these any other documents/amendments/revisions or instructions issued by JREDA from time to time to bidders till due date of opening of the offers, shall also be deemed to be integral part of the bid document.

4.0 Price:

The bidder shall quote his price as per schedule of items of work. The contract price rates shall be firm and binding and shall not be subject to any variation except for statutory variation of taxes and duties during the contractual completion period. **The price shall be exclusive of GST & inclusive of all other taxes & charges and 5 years Comprehensive Maintenance Contract & Operation (CMCO) as per the price bid format .** The price shall also include designing,manufacturing, inspection, supply, transport, insurance, handling etc. All applicable charges for taking necessary clearance such as

commercial tax, road permit etc. wherever required are also deemed to be included in the contract price.

5.0 Inspection of the factory and Tests:

JREDA reserves the right to inspect manufacturer's works/factory to ascertain the capability/availability of necessary equipment and infrastructure required for manufacture of the items offered. JREDA shall have the access and right to inspect the work or any part thereof at any stage and to test the goods to confirm their conformity to the technical specifications. Successful bidder shall inform JREDA at least 15 days in advance of schedule dispatch for technical sample audit.

6.0 Payment terms and conditions:

Project Cost will be divided into Supply, Installation as one part and CMC as second part. Rate of second part will automatically be 20 % of complete Project cost (1st Part+ 2nd Part). In case agency fails to comply CMC as per work order i.e., fails to submit CMC report or fails to attend compliance then after two notice or two months whichever is earlier, 2nd part of work order will be transferred to any of the technically qualified agency under that NIB on quotation basis and the performance bank guarantee of the agency will be forfeited along with necessary action as per prevailing rules. Subject to any deduction which JREDA may be authorized to make under this contract, the contractor shall be entitled to payment as follows:

- (a) 90% of the 1st Part of Project cost shall be paid against supply and installation of Battery & PCU in goods in full and in good condition as certified by Consignee and/or JREDA Officials after submission of following documents:
 - i. Original Commercial invoice raised from the state of Jharkhand for the supply made in triplicate (1+2).
 - ii. Copy of duly raised delivery challan /transportation challan/lorry receipt/dispatch clearance.
 - iii. Duly filled Annexure-12 should be submitted in three sets (one for Consignee record, one for JREDA Hq. and one for JREDA's field Executive Engineer).
 - iv. Photographs of all the equipment (materials) at destination with signature & seal of Consignee/JREDA Officials. This record should be kept in the office of Consignee for verification.
 - v. Submission of the Insurance Documents and Warranty Certificates of the Components.
- (b) 10% of the 1st Part of Project cost shall be paid after satisfactory performance of 60 days of complete system as required in all respects in good conditions as certified by JREDA Officials after submission of following documents:
 - i. Copy of Original Commercial invoice raised at the time of supply in triplicate (1+2).
- (c) For CMC: 20% each year of 2nd Part can be release against CMC for Five years.
The Payment shall be released after submission of following documents:
 - i. Copy of Original Commercial invoice raised at the time of supply in triplicate (1+2).

- ii. Submission of monthly reports of CMC undertaken by the manufacturer as per Annexure-13.

Payment against CMC (2nd Part) can be also released after submission of duty pledged DD/BG/FDR/TDR of 4% for each year valid up to CMC period. The BG/FDR will be release after submission of CMC documents in prescribed format

7.0 Dispatch Instructions:

All items/equipments shall be subject to Pre-Dispatch Inspection (PDI) by JREDA or its authorized representatives at the manufacturing site before their dispatch. The manufacturing site must have sufficient testing facilities. The manufacturer will submit test report with regard conformity to technical specifications and details of materials in prescribed format for the items to be dispatched to work site of JREDA. However, equipments will be dispatched from the manufacturing site only after the receipt of "Dispatch Clearance" from JREDA after acceptance of test report. No consignment shall be dispatched without the receipt of dispatch clearance from JREDA. No PDI shall be done at any site other than the concerned manufacturing site. Successful bidders have to arrange necessary equipments for testing the materials to be supplied during the pre-dispatch inspection by JREDA at their manufacturer's unit. Failure to fulfill the PDI conditions shall lead to cancellation of work order and forfeiture of security deposit.

Supply, Installation & Commissioning for the above work must be completed in all respect within 60 days from the date of issue of the work order including Pre-Dispatch Inspection (PDI) of the materials.

8.0 Liquidated Damages for Delay in Completion & CMCO:

If the supplier fails in the due performance of the contract to deliver any part of the equipment or complete the work within the time fixed under the contract or any extension thereof granted to him by JREDA and/or to fulfill his obligations in time under the contract, he shall be liable to pay to JREDA @0.5% per week maximum up to 10% of work value delayed beyond contract period. The same will be applicable if monthly CMC report will not be submitted within a week of due date.

9.0 Risk & Cost:

If the contractor fails to complete the awarded work from the scheduled date of completion then JREDA will be at liberty to cancel the said work order and will get the full or part of left over work to be completed by way of engaging alternate contractor and completion of the said work shall be got completed at risk & cost of the failed contractor and failed contractor shall be liable to pay all the dues to JREDA.

10.0 Insurance:

The supplier shall arrange for transit and erection insurance of the materials & equipments for recommissioning of the hybrid solar plant. **The supplier shall also arrange for insurance of materials & equipments up to CMCO period.** In case of any theft or damage of equipment during CMC period the same will be responsibility of supplier to get it rectify at their own cost.

11.0 Assignment/ Sub-letting:

The Manufacturer shall not assign or sublet, manufacture, shop testing, packing & forwarding, transportation, transit insurance, supply in whole or part, and its obligations to any third party to perform under the order/contract.

In the event the manufacturer contravenes this condition, JREDA reserves the right to reject the equipment/work contract and procure the same from elsewhere at manufacturer's risk and cost. The Manufacturer shall be solely liable for any loss or damage which JREDA may sustain in consequence or arising out of such replacing of the contract work.

12.0 Completeness of Tender:

All fittings, assemblies, accessories, hardware items etc. & safety and protection devices as required shall be deemed to have been included in the tender, whether such items are specifically mentioned in the BoM or not.

13.0 Compliance with Regulations:

The supplier/contractor shall comply with all applicable laws or ordinances, codes approved standards, rules and regulations and shall procure all necessary municipal and/or other statutory bodies and government permits & licenses etc. at his own cost. The contractor shall leave the purchaser, Director, JREDA harmless as a result of any infractions thereof.

14.0 Agreement:

The successful qualified suppliers shall have to enter into an agreement in the office of the Director, JREDA, in prescribed format before commencement of supply within 7 (Seven) days with required Security Deposit.

15.0 Income Tax:

Without prejudice to the obligations of the supplier under law, any income tax which JREDA may be required to deduct by law/statute, shall be deducted at source and shall be paid to income tax authorities on account of the supplier. JREDA shall provide the supplier a certificate for such deductions of tax.

16.0 Training Program, After Sales Service and Availability of Spare Parts:

16.1 The responsibility of organizing training program will rest on the successful bidder. The training program will be organized in consultation with JREDA/Consignee. The training program will focus on operation and maintenance of the system. Printed leaflet/literature should be made available in Hindi by the Supplier regarding the operation and maintenance of their Solar Power Plant.

16.2 The Supplier shall rectify the fault within 3 days from the Intimation of fault. Failure in rectification of the fault within 3 days from the intimation of fault will impose the penalty on the bidders as per the conditions mentioned in this tender at respective clauses, The supplier shall establish sufficient inventory of spares in the State in consultation with JREDA to provide satisfactory and uninterrupted services during the warrantee period.

17.0 Force Majeure conditions:

In the event of either party being rendered unable by force majeure to perform any obligation required to be performed by them under this agreement, relative obligation of

the party affected by such force majeure shall be treated as suspended during which force majeure condition last.

The term force majeure shall have herein mean riots (other than among the contractor's employee), civil commotion, war (whether declared or not), invasion, act of foreign enemies hostilities, rebellion, insurrection, military coup to usurp power, act of god such as earthquake, lightening, floods, fires not caused by contractor's negligence and other cause which the contractor has no control and accepted as such by the Director, JREDA, whose decision shall be final and binding.

If the work is suspended by force majeure conditions lasting for more than 45 days, the purchasers shall have the option of cancelling this contract in whole or part thereof, at its discretion. The contractor shall not claim for compensation for force majeure conditions.

18.0 Cancellation of Work Order:

JREDA will be at liberty to terminate/blacklist in part or full the awarded contract and / forfeit security deposit and/or performance guarantee without prejudicing its rights and affecting the obligations of the Contractor by giving 15 (Fifteen) days' notice in writing in the following events:

- (a) If the contractor/supplier is found defaulter for delayed supply, installation & commissioning, or failure to deliver satisfactory performance or supply of substandard materials.
- (b) If the contractor/supplier fails to comply with the provision(s) of the contract including the responsibilities to fulfill the 5 years CMC as per the provisions mentioned.
- (c) If the Contractor/vendor is involved in any action of moral turpitude.
- (d) While taking decisions for blacklisting of the bidder, his past performance shall also be taken into account.

19.0 Jurisdiction of the Court:

All disputes would be settled within Ranchi jurisdiction of court of law only.

Section-6
Technical Specification
NIB No: 06/JREDA/GCRT/CMCO/24-25

A. Technical Specification of Existing Hybrid Solar Plant

Introduction: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

Technical description:

The Site Wise Technical Description of Battery Bank (Voltage Level and Amp-Hour Capacity) is attached as **Annexure-19** of this tender document.

Detailed Specifications of components to be provided by the agency

1. Power Conditioning Unit

The Power Conditioning Unit (PCU) mainly comprises MPPT, Solar Charge Controller and a three phase bi-directional inverter.

The MPPT Charger designed to provide the necessary DC/DC conversion to maximize the power from the SPV array to charge each of battery bank of required AH Capacity (**Refer Annexure-19**) at Voltage of 120 V/240 V/320 V or per the site requirement .The charge controller should be equipped with necessary software that allows precise charging of the battery bank. Many protection features should be included to ensure that no abnormal or out of range charge conditions are encountered by the battery bank. The system should incorporate a front panel display with LEDs and a switch to indicate the "operational status" and "fault status" of the system, reset system faults and implement various operating modes.

The microprocessor-controlled inverter should incorporate Pulse Width Modulation (PWM) technology and should incorporate all the desired safety features.

Important features/protections required in the PCU:

- MPPT
- Array ground fault detection.
- Automatic fault conditions reset for all parameters like voltage, frequency and/or black out.
- Surge arrestors on AC & DC terminals for over voltage protection from lightning induced surges.
- PCU operation from 5⁰ to 55⁰ C.
- All parameters should be accessible through an industry standard communication link.
- Over load capacity (for 30 sec.) should be 150% of continuous rating.

Operating Parameters	Specifications	
Output Voltage	230/415Volts \pm 1% three phases, 4 wire output. Nominal voltage could be adjusted \pm 5% via system set points.	
Output Frequency	50Hz \pm 0.5% during standalone inverter operation. Inverter to follow generator frequency up to \pm 3 Hz of the nominal output frequency during parallel operation.	
Continuous Rating	As Per Site Requirement	
Surge Rating	Up to 150% of the continuous rating for a minimum of 30 seconds.	
Waveform	Sine wave output	
THD	Less than 3%	
Power Factor	0.8 Leading to 0.8 lagging.	
Efficiency	At 25% load > 85%. At 50% load > 90%. At 75 % load and above > 95%.	
Protection System	PV Side	Reverse Polarity, PV Power Limit, Surge Protection (DC Type-2, Ground fault,
	Battery Side	Reverse Polarity, Over/Under Voltage, Current Limit, ground fault Monitoring, Surge Protection (DC Type-2)
	Grid Side	Anti Islanding, Over/Under Voltage, Over/Under frequency, Surge Protection (AC Type-2)
	Load Side	Over Load, Short Circuit, Surge protection Type-2
	System Protection	Over Temperature MCB /MCCB, on PV, Battery, Load & Grid Path, Insulation Resistance Monitoring, Residual current monitoring
Alarm Signals	Via system fault relay (potential free contact)	
Front Panel Display	<ul style="list-style-type: none"> Instantaneous per phase Power, voltage, pf, and frequency Battery voltage, current, Solar charge current and ambient temperature Solar radiation Accumulated output KWHrs. 	
Front Panel Metering	<ul style="list-style-type: none"> Battery Volt Meter Battery Amp Meter Solar Amp Meter 	
Front Panel Controls	<ul style="list-style-type: none"> Emergency Stop Button Grid Auto Manual Bypass Switch 	

Front Panel Indicators	<ul style="list-style-type: none"> • Inverter On Line and Grid on Line • Control Power Supply OK • System Fault
Circuit Breakers	<ul style="list-style-type: none"> • Grid Input • Battery Input • Solar Input (with shunt trip)
Earthing Provisions	AC bypassing to earth on inverter and DC inputs
Complying Standards	IEC-61683, IEC-60068-2(1,2,14,30), IEC-62116, IEC 61727, IEC 62109-1,2, IEC 60255-27, IEC 61000-2,3,5

DATA Logging	
Operating Parameters	Specifications
Computer Ports	RS232 referenced to ground (non-isolated).
System Features	<ul style="list-style-type: none"> • Adjustable logging period from 60 second averages to 24 hours daily logs • Storage capacity of up to 6 days at 60-minute logs • Time and date stamped log entries • Time and date annotated fault log, holding the fault description and operating statistics • View and change system set point configurations remotely • Bulk log download for immediate data importation into a Spreadsheet
Logging Attributes	<p>System summations</p> <ul style="list-style-type: none"> • Site kWh • Inverter input & output kWh • Grid/Gen set kWh • Battery input & output kWh • Solar kWh <p>System Parameters</p> <ul style="list-style-type: none"> • Grid/Gen set kW, voltage, pf, frequency • Inverter kW, voltage, pf, frequency • Battery current • Battery voltage • Ambient temperature • Solar charge current • Solar radiation
Environmental	
Operating Temperature Range	5-50 degrees Celsius
Humidity	0-90% non-condensing
Enclosure	IP-65 For outdoor/IP 30 For indoor

2. Battery Bank

A Battery Bank of voltage level 120 V/240 V/320 V and location wise AH Capacity as Per **Annexure- 19** has been used in the system for storing the generated energy from PV modules. The battery bank in the offered SPV systems is maintenance free type for SPV application Lead Acid type AGM-VRLA.

- The batteries are suitable for recharging by means of solar modules via solar charge regulators.
 - The self-discharge of battery should be as per BIS specs.
 - The Amp Hr. charge efficiency should be more than 90%
- Description of the subsystems for replacement.

Technical specifications of the following subsystems which shall be replaced by the agency are:

S. No.	Description	Specifications
1	Battery Bank	<p>The Contractor shall provide the Battery bank of 120 V/240 V/340 V or as per the System, PCS requirement of AH Capacity as per the site requirement.</p> <p>The Site wise details of Battery AH Capacity and Voltage level is attached as an Annexure-19.</p> <ul style="list-style-type: none">• The batteries should be suitable for recharging by means of solar modules via solar chargeregulators.• The self-discharge of battery should be as per BIS specs.• The Amp Hr. charge efficiency should be more than 90%
2	Codes & Standards	<p>IS 16270 : 2014</p> <p>IS 15549 : 2005 and its amendments</p> <p>IEC 60896-2 (1995)</p>
2	Any other components for smooth operation of Solar Plant	As per site condition

Spare parts

Bidder should keep stock of essential spares (Control cards, PCB's, Switches fuses etc.) at their nearest service centre and/or at each site at their cost for 5 years maintenance. A recommended list of such spares should be provided by JREDA.

Installation and re-commissioning & CMC

- Detailed project execution plan should be submitted along with the offer.
- The bidder should quote for installation and commissioning & CMS for Five Years
- The bidder is responsible for arranging all the accessories and measuring instruments required to properly commission the system.

Format for Covering Letter

NIB No: 06/JREDA/GCRT/CMCO/24-25

(To be submitted in the official letterhead of the company)

To,
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, S.L.D.C. Building,
Kusai Colony, Doranda,
Ranchi - 834002.

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

Sir,

We are hereby submitting our offer in full compliance with the terms and condition of the above NIB and We have submitted the requisite amount of "Bid fee" through online mode.

The tender is uploaded on www.jharkhandtenders.gov.in as per the requirement of the website separately Technical Bid & Financial Bid.

(Signature of Authorized
Signatory)Name:
Designation:
Company Seal:

Note: MSME bidders of Jharkhand must submit necessary documents for claiming exemption of EMD and Bid fee.

Information About The Bidding Firm**NIB No: 06/JREDA/GCRT/CMCO/24-25**

(To be submitted in the official letter head of the company)

SL. No.	Particulars	
1.	Name of the Bidder	
2.	Address of Bidder with Telephone, Fax, email	
3.	Address of the Registered Office	
4.	Address of the works	
5.	GPS Co-ordinate of Registered Office	
6.	GPS Co-ordinate of Factory Campus	
7.	Name & Designation of Authorized Signatory for Correspondence (Attach Power of Attorney as per Annexure-6)	
8.	Nature of Firm (Proprietorship/Partnership /Pvt. Ltd./Public Ltd. Co./Public Sector)	
9.	Permanent Account Number (PAN) (Attach proof)	
10.	Firm's Registration Number (Attach proof)	
11.	GST Number (Attach proof)	
12.	Details of in-house testing facility (Attach Proof)	
13.	Office/ Dealer and Service network in Jharkhand (Give details)	
14.	Particulars of Earnest Money and Bid fee	
15.	Place where Materials will be Manufactured	
16.	Place where Materials will be Available for Inspection	
17.	Other details and remarks, if any	

Yours faithfully,

(Signature of Authorized Signatory)

Name :
 Designation :
 Company seal :

(Separate sheet may be used for giving detailed information duly signed)

Declaration by the Bidder

NIB No: 06/JREDA/GCRT/CMCO/24-25

(To be submitted in the official letter head of the company)

I/We _____ (here in after referred to as the Bidder) being desirous of tendering for the rate contract for work under the above mentioned tender and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc. as mentioned in the tender document, DO HEREBY DECLARE THAT

1. The Bidder is fully aware of all the requirements of the tender document and agrees with all provisions of the tender document.
2. The Bidder is capable of executing and completing the work as required in the tender.
3. The Bidder accepts all risks and responsibilities directly or indirectly connected with the performance of the tender.
4. The Bidder has no collusion with any employee of JREDA or with any other person or firm in the preparation of the bid.
5. The Bidder has not been influenced by any statement or promises of JREDA or any of its employees, but only by the tender document.
6. The Bidder is financially solvent and sound to execute the work.
7. The Bidder is sufficiently experienced and competent to perform the contract to the satisfaction of JREDA.
8. The information and the statements submitted with the tender are true.
9. The Bidder is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
10. The Bidder has not been debarred/blacklisted by any SNA/ Government Dept. /PSU.
11. This offer shall remain valid for Six months from the date of opening of the tender.
12. The Bidder gives the assurance to execute the tendered work as per specifications terms and conditions.
13. The Bidder confirms the capability to supply and install required no. of systems per month.
14. The Bidder accepts that the earnest money be absolutely forfeited by JREDA if the Bidder fails to undertake the work or sign the contract within the stipulated period.

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

Format For Financial Requirement – Annual Turnover**NIB No: 06/JREDA/GCRT/CMCO/24-25**

[On the letterhead of Bidding Company]

To,

The Director,
 Jharkhand Renewable Energy Development Agency
 3rd Floor, S.L.D.C. Building,
 Kusai Colony, Doranda,
 Ranchi - 834002

Dear Sir,

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

We certify that the Bidding Company had an average Annual Turnover of Rs. -----
 ----- -- based on audited annual accounts of the last three years ending 31 03.2023

Sl. No.	Financial Year	Turnover (in Rupees)
1	2020-21	
2	2021-22	
3	2022-23	
	Average Annual Turnover	

UID No.:

Authorised Signatory
(Power of Attorney holder)

Statutory Auditor
(Stamp & Signature)

Date:

Format For Financial Requirement - Net Worth Certificate**NIB No: 06/JREDA/GCRT/CMCO/24-25**

[On the letterhead of Bidding Company]

To,

The Director,
 Jharkhand Renewable Energy Development Agency
 3rd Floor, S.L.D.C. Building,
 Kusai Colony, Doranda,
 Ranchi - 834002

Dear Sir,

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

This is to certify that Net worth of _____ {insert the name of Bidding Company}, as on 31st March 2023 is Rs_____. The details are appended below.

Particulars	Amount (In Rs.)
Equity Share Capital	
Add: Reserves	
Subtract: Revaluation Reserve	
Subtract: Intangible Assets	
Subtract: Miscellaneous Expenditure to the extent not written off and carried forward losses	
Net Worth as on 31 st March 2023	

UID No.:

Authorised Signatory
(Power of Attorney holder)

Statutory Auditor
(Stamp & Signature)

Format of Power of Attorney for Signing Bid

NIB No: 06/JREDA/GCRT/CMCO/24-25

POWER OF ATTORNEY

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

Know all men by these presents, we.....(name and address of the registered office) do hereby constitute, appoint and authorize Mr. / Ms.(name and residential address) who is presently employed with us and holding the position of.....as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our bid for all tenders notified by Jharkhand Renewable Energy Development Agency during 2022-23, including signing and submission of all documents and providing information / Bids to Jharkhand Renewable Energy Development Agency, representing us in all matters before [Insert Name], and generally dealing with Jharkhand Renewable Energy Development Agency in all matters in connection with our bid for the said Project.

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

For

_____Signature

Accepted by

..... (Signature)

(Name, Title and Address of the Attorney)

Note: The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, lay down by the applicable law and the charter documents of the executants (s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

Details of Orders Received and Executed in Last 7 Years

NIB No: 06/JREDA/GCRT/CMCO/24-25

Details of Orders Received & Executed by the Manufacturer/Supplier for NIB-45/JREDA/HRT/CMC/22-23 from SNA/ Govt. Organization during Last Seven Years.

SL. No.	Name of Agency/ Organization	Purchase Order No., Date & Ordered Qty.	Capacity of SPV Power Plant	Delivery Schedule	Qty. Supplied Within Delivery Schedule	Qty. Supplied After Delivery Schedule	Date of Full Supply	Date of Performance certificate released

Yours faithfully,

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

Note:

- (a) Attach Photocopies of Work Orders
- (b) Attach Photocopies of Certificate of Satisfactory Performance Issued by Concerned Nodal Agency/PSU/ Govt. Organization
- (c) Separate sheet may be used for giving detailed information in seriatim duly signed. This bid Performa must be submitted duly signed in case separate sheet is submitted.

Annexure-7 (b)

(PERFORMANCE CERTIFICATE ON THE OFFICIAL LETTER HEAD OF CONCERNED DEPARTMENT WITH SEAL AND SIGN BY AUTHORIZED SIGNATORY)

CERTIFICATE OF PERFORMANCE – HYBRID SPV POWER PLANTS

This is to certify that Name of Bidder, Address of Registered Office has successfully completed the works of Comprehensive Maintenance Contract & Operation ofNos. SPV power plants (.....Scheme) against various Sanction of Name of Agency at various locations in State, as per following details: -

Sl. No.	Capacity of solar power plants	Year & Scheme	Total no. system	Remarks

This workmanship and performance of the above installed systems are found satisfactory and are in successful operation.

Seal & Sign (Authorized Signatory)

Format for Technical Details**NIB No: 06/JREDA/GCRT/CMCO/24-25**

Sub: **Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.**

S. N	Particulars	Details	Make
1	Make of Battery and Origin		
2	Type of Battery		
3	No. of Battery		
4	Each Battery Voltage		
5	Each Battery Ah		
6	Battery Bank rating (Voltage & Ah)		
7	Make of PCU and Origin		
8	Rating (KVA) & Number of Inverters.	1.) Rating 2.) No. of Inverters	

Undertaking

- a) We agree to supply, installation & commissioning, renovation, the Power Plant as per NIT specifications.
- b) We agree to give performance guarantee as specified and to abide by the scope of the guarantee as prescribed under the tender document.
- c) We agree to operate as per the terms & conditions of the tender.

We undertake to supply quality products for promoting energy efficiency in the era of lighting systems.

(Signature of Authorized Signatory with Name Designation & Company Seal)

Filling Instructions:

1. During the Guarantee period JREDA/users reserve the right to cross check the performance of the systems for their minimum performance levels specified in the MNRE specifications.

Technical Detail Form For Battery & PCS**NIB No: 06/JREDA/GCRT/CMCO/24-25**

(To be submitted in the official letter head of the company)

Warrantee Card for Battery Bank

1.	Name & Address of the Manufacturer/ Supplier of the System	
2.	Name & Address of the Purchasing Agency	
3.	Date of Supply of the System	
4.	Details of Battery	
	(a) Name of the Manufacturer	
	(b) Make	
	(c) Model	
	(d) Batch/Serial No(s).	
	(e) Month & Year of Manufacture	
	(f) Rated V & AH Capacity at C/20 or C/10 Rated at 27 ⁰ C	
	(g) Guarantee Valid Up To	
5.	Designation & Address of the Person to be Contacted for Claiming Warrantee Obligations	

Warrantee Card For Battery Bank

1.	Name & Address of the Manufacturer/ Supplier of the System	
2.	Name & Address of the Purchasing Agency	
3.	Date of Supply of the System	
4.	Details of PCS	
	(a) Name of the Manufacturer	
	(b) Make	
	(c) Model	
	(d) Batch/Serial No(s).	
	(e) Month & Year of Manufacture	
	(f) Rated Capacity	
	(g) Guarantee Valid Up To	
5.	Designation & Address of the Person to be Contacted for Claiming Warrantee Obligations	

(Signature of Authorized Signatory with Name Designation & Company Seal)

Filling Instructions:

1. The Guarantee card to be supplied with the system must contain the details of the system supplied as per format given above.
2. During the Guarantee period JREDA/users reserve the right to cross check the performance of the systems for their minimum performance levels specified in the MNRE specifications.

Price Bid**NIB No: 06/JREDA/GCRT/CMCO/24-25**

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

Sl. No.	Category	Capacity	Estimated Cost per KW (INR) With Battery system	Estimated Cost per KW (INR) Without Battery system
1	A	1 to 10 kWp (With Battery System)		
2	B	10 Above to 30 kWp (With Battery System)		
3	C	30 Above to 50 kWp (With Battery System)		
4	D	50 Above to 70kWp (With Battery System)		
5	E	70 Above to 100Kwp (With Battery System)		
6	F	100Kwp above (With Battery System)		

Format for Submitting Bank Guarantee for Earnest Money

NIB No: 06/JREDA/GCRT/CMCO/24-25

(To be submitted in Rs. 100/- Non-Judicial Stamp Paper to be purchased in the name of the issuing bank)

The Director,
Jharkhand Renewable Energy Development Agency 3rd
Floor, S.L.D.C. Building,
Kusai Colony, Doranda, Ranchi
-834002.

WHEREAS (Supplier's name) (hereinafter referred to as "Supplier"), a company registered under the Companies Act, 1956 and having its registered office at is required to deposit with you, the Purchaser, by way of Earnest Money Rs. (Rupees only) in connection with its tender for the work with reference to Notice Inviting Bid (NIB) No. dated as per specification and terms and conditions enclosed therein.

WHEREAS the Supplier as per "Notice Inviting Bid, point no. 3 Earnest Money" has agreed to establish a Bank Guarantee in Your favour through us valid up to (date) instead of deposit of earnest money in cash.

WHEREAS you have agreed to accept a Bank Guarantee from us in instead of earnest money in cash from the Supplier.

1. We (Bank) hereby agree and undertake to pay you on demand the said amount of Rs. (Rupees only) without any protest or demur in the event the Supplier/Tenderer after submission of his tender, resiles from or withdraws his offer or modifies the terms and conditions thereof in a manner not acceptable to you or expresses his unwillingness to accept the order placed and/or letter of intent issued on the Supplier/Tenderer for the work under "Notice Inviting Bid Ref. No.:" **31/JREDA/CMC/GCRT/23-24** ..

2. Your decision as to whether the Supplier/Tenderer has resiled from or has withdrawn his offer or has modified the terms and conditions thereof in a manner not acceptable to you or has expressed his unwillingness to accept the order placed and/or Letter of Intent issued by you on the Supplier/Tenderer for the work under "Notice Inviting Bid Ref. No.:" **31/JREDA/CMC/GCRT/23-24** in this regard, shall be final and binding on us and we shall not be entitled to question the same.

~~Notwithstanding anything contained in the foregoing, our liability under this Guarantee shall be restricted to Rs. (Rupees only).~~

~~3.—This Guarantee shall remain valid and in full force and effect up to (Date) and shall expire thereafter unless an intimation is given to the Bank by you earlier in writing discharging us from our obligation under this Guarantee.~~

~~4.—We shall not revoke this Guarantee during its currency except by your consent in writing.~~

~~5.—This Guarantee shall not be affected by any change in the constitution of the Supplier/Tenderer or yourselves or ourselves but shall ensure to your benefit and be enforceable against our legal successors or assignees by you or your legal successors.~~

~~6.—Notwithstanding anything contained herein above unless a demand or claim under this Guarantee is made on us in writing within six months from the date of expiry of this Guarantee we shall be discharged from all liabilities under this Guarantee thereafter.~~

~~7.—We have power to issue this Guarantee under our Memorandum and Articles of Association and the undersigned who is executing this Guarantee has the necessary power to do so under a duly executed Power of Attorney granted to him by the Bank.~~

Signed and Delivered

For and on behalf of Bank:

(Banker's Name)

Name of Bank Manager:

Address

.....

Certificate of supply, installation & commissioning of the work as Proof of Compliance by the Contractor

NIB No: 06/JREDA/GCRT/CMCO/24-25

The details of materials for Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

Name of Plant: -

Nos. & Capacity of Batteries:.....

Nos. of Junction Box:

PCU Capacity & Nos:.....

Date of Supply:.....

Date of Installation.:.....

Signature & Seal of the contractor

Certificate of JREDA Representative

Certified that Batteries & PCU has installed & commissioned as per PDI Report and per the specification of NIB and Grid Connected Rooftop Solar Power Plant is working satisfactorily last seven days.

Signature & Seal of Consignee/JREDA Representative

Date.....

Format for Monthly O&M and CMC Report**NIB No: 06/JREDA/GCRT/CMCO/24-25**

[On the letterhead of Bidding Company]

To,

The Director,
 Jharkhand Renewable Energy Development
 Agency 3rd Floor, S.L.D.C. Building,
 Kusai Colony, Doranda, Ranchi – 834002.

Dear Sir,

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

Date of Installation.....

JREDA W.O. Order No..... Dated.....

JREDA Dispatch Order No..... Dated.....

Month of OMC and CMC.....

Date of Visit.....

S. N.	Place of Installed System	System Details		CMC activities undertaken by Technician	Remarks
		Solar PV Module			
		Battery			
		PCU /Inverter			
		Any other Component			

Enclosed:

(Tick the enclosed Documents)

- | | |
|--|--------|
| 1. Daily Generation Details | Yes/No |
| 2. Scan Copy of Site Logbook Registers | Yes/No |
| a. Module Cleaning Register | |
| b. Site Breakdown Register | |

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

Format for Site Logbook Registers
(Along with Annexure 13)

Format: 1

Format for Module Cleaning Register				
Date	No. of Cycle	No. of Module Cleaned	Cleaned By	Remark

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

Format: 2

Format for Site Breakdown					
Date	Time	Total Hrs. of Breakdown	Breakdown Type (Fault Message displayed on Screen)	Attended By	Remark

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

Contact Person for the NIB
NIB No: 06/JREDA/GCRT/CMCO/24-25

[On the letterhead of Bidding Company]

1	Contact Person name for the NIB	
2	Designation	
3	Contact No. (phone & mobile)	
4	Fax No.	
5	e-mail ID	
6	Corresponding address with pin code	
7	Remarks	

(Signature of Authorized Signatory)Name:

Designation: Company Seal:

Check List of Technical bid
NIB No: 06/JREDA/GCRT/CMCO/24-25

S. No.	Particulars	Yes / No	Page No.
1	D. D. towards Tender fee.		
2	Duly pledged EMD		
3	GST certificate.		
4	PAN Card		
5	Firm's registration certificate/ Registration certificate of MSE of Jharkhand.		
6	Certificate issued by Industry Dept. or MNRE for system manufacturing or Registration Certificate for Electrical Contractor (Class-I) issued by Energy Department, Govt. of Jharkhand.		
7	Audited Balance sheet of last three years.		
8	Test certificate of Battery's		
9	Covering letter (Annexure-1)		
10	Information about the bidding firm (Annexure-2)		
11	Declaration by the bidder (Annexure-3)		
12	Annual Turnover (Annexure-4)		
13	Net Worth certificate (Annexure-5)		
14	Format for power of attorney for signing of bid (Annexure-6)		
15	Proof of supply/execution of SPV systems/ materials in any SNA/Govt. organization/PSU in the last seven years. Attach copy of orders & its satisfactory completion certificate (Annexure-7)		
16	Technical details & make of the Equipments to be supplied (Annexure-8)		
17	Technical Detail Form Warrantee Card For Battery Bank & PCS (Annexure-9)		
18	Proof of Compliance by the supplier (Annexure-12)		
19	Contact Person for the NIB (Annexure-14)		
20	Checklist of Technical Bid (Annexure-15)		
21	Site Survey Declaration and Form (Annexure-16)		

*** Please write page number as in the box.**

Please ensure:

- i) That all information is provided strictly in the order mentioned in the check list mentioned above.
- ii) Bidders are advised to strictly confirm compliance to bid conditions and not to stipulate any deviation/conditions in their offer. Subsequent to bid submission, JREDA may or may not seek confirmations/clarifications and any offer(s) not in line with Bid conditions shall be liable for rejection.
- iii) Any clarification/confirmation bidder may require shall be obtained from JREDA before submission of the bid. Bidder shall submit complete bidding document including subsequent amendment, modification and revision, duly signed and stamped as a token of having read, understood and accepted all the terms and condition mentioned therein.

(Signature of Authorized Signatory)Name:

Designation: Company Seal:

Bidder's Declaration

(Mandatory Format)

NIB No: 06/JREDA/GCRT/CMCO/24-25

[On Bidders Letterhead]

To
The Director,
Jharkhand Renewable Energy Development Agency (JREDA)
3rd Floor, SLDC Building, Kusai Colony,
Doranda Ranchi-834 002, Jharkhand

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

dated [insert date]

Dear Sir,

We hereby declare that:

- a. We have gone through the Bid document and verified all terms and conditions.
- b. We have visited to the project location and understood the exact system requirement of JREDA for Grid Connected Rooftop project at various Govt. Buildings in different districts in Jharkhand.
- c. We are submitting Geo-Tagged Photographs as proof of site visit/site survey.
- d. We have no questions or concerns if disqualify on the ground of not visiting the project site.
- e. I / we have never ever been blacklisted and / or there were no debarring actions against us for any default in works of Jharkhand Renewable Energy Development Agency (JREDA) OR any other Organization.
- f. I/we meet all qualifying criteria, subject to be disqualified if I/we:
 - i. made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and/or
 - ii. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures
 - iii. Participated in the previous bidding for the same work and had quoted unreasonably high or low bid prices and could not furnish rational justification for it to JREDA.

In the event of any such information pertaining to the aforesaid matter found at any given point of time either during the course of the contract or at the bidding stage, my bid/contract shall be liable for truncation / cancellation / termination without any notice at the sole discretion of the JREDA.

Failure to comply any points due to any technical or non-technical questions arises due to any presentation in Bid document, Jharkhand Renewable Energy Development Agency (JREDA) will have final say and we hereby agree to that condition.

Dated the _____ day of _____, 20_____

Thanking you,

Yours faithfully,

Name: Designation:

Place:

NIB No: 06/JREDA/GCRT/CMCO/24-25

SITE VISIT/SURVEY REPORT

Sub: **Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.**

CHECKLIST

Parameters	Details
1. Name of Bidder/Contractor	
2. Date of Site visit	
3. Name of District	
4. Name of Division/Cluster	
5. Name of the Building	
6. Name of Concerned Person Facilitating the Site Survey (Officials of the Department)	
7. Contact No. of the Concerned Person Facilitating the Site Survey (Officials of the Department)	
8. Total Capacity (kWp)	
9. Current Status of Hybrid Solar Plant	
10. GPS Coordinate of System	
11. Geo-tag site Photograph (Attached)	

Annexure-16 (a)

DETAILS OF THE HYBRID SOLAR PLANT

Sr. No.	Components	Observations	Remarks
1	Installation of Solar Module	<ul style="list-style-type: none"> No. of Solar Module, Make & Rating 	
		<ul style="list-style-type: none"> AJB available (yes/No) 	
2	Control Room (If Applicable)	<ul style="list-style-type: none"> Dimension (L*B*H)in feet 	
		<ul style="list-style-type: none"> Window available (Yes/No) 	
3	Solar Inverter (PCU)	<ul style="list-style-type: none"> PCU Rating Make 	
		<ul style="list-style-type: none"> PCU healthiness Working/Not Working Need for Replacement 	
		<ul style="list-style-type: none"> ACDB available (Yes/No) 	
4	Battery	<ul style="list-style-type: none"> No. of solar Battery, Make Voltage Rating AH Rating Type of battery 	
6	Earthing System	<ul style="list-style-type: none"> Total No. of Earthing System 	
		<ul style="list-style-type: none"> Earth Pit Construction available (Y/N) 	
		<ul style="list-style-type: none"> Size of Earthing Cable 	
7	Lightning Arrestor	<ul style="list-style-type: none"> LA available (yes/No) 	
		<ul style="list-style-type: none"> No. of LA 	
		<ul style="list-style-type: none"> LA height from Installation 	
8	Safety Equipment Details	<ul style="list-style-type: none"> Fire Extinguisher available (Y/N) 	
		<ul style="list-style-type: none"> Safety Bucket available (Y/N) 	
9	General	<ul style="list-style-type: none"> Sign Board Available(Y/N) 	Yes () No ()
		<ul style="list-style-type: none"> Consumer Mobile No. 	

Note: I/We, hereby declare that the above information regarding site visit is correct as per actual condition found at the site and misleading/false details furnished for site visit may lead to the cancellation of my work order.

Signature of the Authorized Person of Agency:

Name:

Name:

Designation:

Seal:

Designation:

Signature of the JREDA Official:

Date:

Place:

Annexure-17

NIB No: 06/JREDA/GCRT/CMCO/24-25

JOINT COMMISSIONING REPORT OF HYBRID POWER PLANTS

Sub: Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.

1. JREDA Work Order No.:

2. Name of Contractor:

3. Solar Power Plant Location:

4. Solar Power Plant Capacity:

5. Date of Commissioning:

Date:

Place:

Seal and Signature of the Contractor:

Name:

Designation

JOINT COMMISSIONING REPORT OF HYBRID POWER PLANTS.

1. Name of the Site:

2. Capacity of Hybrid Solar Power Plant installed ----- kWp.

3. Work Order No.:

4. Actual Date of Commissioning:

5. Stipulated Date of commissioning as per W.O.:

6. Extension granted till:

7. Name & address of the contractor:

8. This is hereby certified that the contractor ----- has successfully installed & commissioned the ----- kWp Hybrid Power Plant at -----on --.---.2023 with major components as mentioned in **Annexure 17 (i)** appended hereto, as per the terms and conditions of the work order mentioned at serial No. (3) Above.

9. The work order has been fully executed as per the work order and the SPV Power Plant at ----- of ----- kWp handed over to the Consignee cum User Agency in good working condition. We shall provide complete warranty against all manufacturing defects and defective/erroneous installation for a period of five years from this date of Commissioning. The above-mentioned Hybrid Power Plant is hereby handed over by the contractor to the Consignee cum User Agency in fully satisfactory working condition.

Date:

Place:

Seal and Signature of the Contractor:

Name:

Designation:

SPV Power Plant Installed at ----- of ----- kWp have been verified by JREDA Engineer-In -Charge and handed over to consignee in working condition.

Seal and Signature of Consignee cum User Agency
In -Charge

Name:

Designation:

Seal and Signature of JREDA Engineer-

Name:

Designation:

Annexure- 17 (i)

NIB No: 06/JREDA/GCRT/CMCO/24-25

Forming integral part of the Joint Commissioning report dated ----- showing details of major components installed at-----hybrid SolarPower Plant..kWp Capacity.					
S. N.	Name of the items Installed/works. commissioned at site	Size	Unit	Quantity	Remark
1	Control Room Building: No cable is exposed. Proper casing capping (Conduit pipe) is provided with distribution line. Control Room has been provided by Consignee.	-----	Sq. Mtrs.	N/A	Provided
2	Matting as required for Control Room	Provided			
3	SPV Modules of -----Wp, ----- Cells each of ----- make (Serial No's as mentioned in enclosed Annexure II.)		Wp	Nos.	As per specification
4	SPV Module Mounting Structure for the --- ----- Nos. of modules for----- kWp capacity unit on structure including design & construction of PCC/RCC foundation base for holding the above structures the work includes necessary excavation, concreting, back filling, shoring and shattering etc.)	----- Modules in ----- -- structure		----- Nos.	As per specification
5	PCU/Inverter: Capacity -----KVA ----- V, Digital sine wave, Make of----- , suitable for grid tie and hybrid mode of operation along with all protection, controlling, arrangement and required accessories suitable for the power plant commissioned.		KVA	----- No's	As per specification
6	Battery Capacity		AH		As Per Specification
	Lightening Protection System		Numbers	- ----- No	
	Over Voltage protection System				
	DCDB		Numbers	- ---- No	
	ACDB		Numbers	- --- No	
	Array Junction Box:		Numbers	- --- No's	
	Earthing Protection: The earthing pit is as per IS:3043	OPITS	Numbers	- ---- Sets	
	Cable/wire 4 Sq. mm PVC Copper	-----	Meters		

	Cable/Wire 25 Sq. mm PVC Copper	-----	Meters		
--	---------------------------------	-------	--------	--	--

Note: Write Not Applicable for items not supplied under the work.

Date:

Seal and Signature of the Contractor:

Name:

Place:

Designation:

Verification Report of JREDA Engineer-In -Charge:

Above mentioned **Annexure-I** w.r.t. installation of Hybrid Solar Power Plant of ---kWp at----- have been verified and found as per the specification.

Seal and Signature of JREDA Engineer-In -Charge

Name:

Designation:

Annexure- (17-ii)

NIB No: 06/JREDA/GCRT/CMCO/24-25

SPV Modules Details

SPV Modules Installed at _____ of - _____ kWp Capacity.

Total Capacity -----kWp

Each Modules Capacity----- Wp

Total No of Modules-----Nos.

S. No.	Module Sl. No.	S. No.	Module Sl. No.	S. No.	Module Sl. No.
1		9		17	
2		10		18	
3		11		19	
4		12		20	
5		13		-	
6		14		-	
7		15		-	
8		16		-	

Date:

Place:

Seal and Signature of the Contractor:

Name:

Designation

Verification Report of JREDA Engineer-In -Charge:

Above mentioned Module Sl. No. w.r.t. installation of Solar Power Plant of ---kWp at----- have been verified and found as per the specification.

Seal and Signature of JREDA Engineer-In -Charge

Name:

Designation:

Power Conditioning Unit (PCU)/Inverter

Make:

Sl. No: -----

Photographs Enclosed:

Verification Report of JREDA Engineer-In -Charge:

Above mentioned photograph w.r.t installation of Solar Power Plant of ---kWp at----- have been verified and found as per the specification.

Date:

Seal and Signature of the Contractor:

Place:

Name:

Designation

Battery Bank

Make.....

Sl.No.....

Photographs Enclosed

Date:

Seal and Signature of the Contractor:

Place:

Name:

Designation

Verification Report of JREDA Engineer-In -Charge:

Above mentioned photograph w.r.t installation of Solar Power Plant of ---kWp at----- have been verified and found as per the specification.

Seal and Signature of JREDA Engineer-In -Charge

Name:

Designation:

Annexure-18: Operation and Maintenance Guidelines Hybrid PV Plants

NIB No: 06/JREDA/GCRT/CMCO/24-25

For the optimal operation of a PV plant, maintenance must be carried out on a regular basis.

All the components should be kept clean. It should be ensured that all the components are fastened well at their due place.

Maintenance guidelines for various components viz. solar panels, inverter, wiring etc. are discussed below:

1. SOLAR PANELS

Although the cleaning frequency for the panels will vary from site to site depending on soiling, it is recommended that

The panels are cleaned at least once every fifteen days.

- Any bird droppings or spots should be cleaned immediately.
- Use water and a soft sponge or cloth for cleaning.
- Do not use detergent or any abrasive material for panel cleaning.
- Iso-propyl alcohol may be used to remove oil or grease stains.
- Do not spray water on the panel if the panel glass is cracked or the back side is perforated.
- Wipe water from module as soon as possible.
- Use proper safety belts while cleaning modules at inclined roofs etc.
- The modules should not be cleaned when they are excessively hot. Early morning is particularly good time for module cleaning.
- Check if there are any shade problems due to vegetation or new building. If there are, make arrangements for removing the vegetation or moving the panels to a shade-free place.
- Ensure that the module terminal connections are not exposed while cleaning; this poses a risk of electric shock.
- Never use panels for any unintended use, e. g. drying clothes, chips etc.
- Ensure that monkeys or other animals do not damage the panels.

2. CABLES AND CONNECTION BOXES

- Check the connections for corrosion and tightness.
- Check the connection box to make sure that the wires are tight, and the water seals are not damaged.
- There should be no vermin inside the box.
- Check the cable insulating sheath for cracks, breaks or burns. If the insulation is damaged, replace the wire.
- If the wire is outside the building, use wire with weather-resistant insulation.
- Make sure that the wire is clamped properly and that it should not rub against any sharp edges or corners.
- If some wire needs to be changed, make sure it is of proper rating and type.

3. INVERTER

- The inverter should be installed in a clean, dry, and ventilated area which is separated from, and not directly above the battery bank.
- Remove any excess dust in heat sinks and ventilations. This should only be done with a dry cloth or

brush.

- Check that vermin have not infested the inverter. Typical signs of this include spider webs on ventilation grills or wasps' nests in heat sinks.
- Check functionality, e.g., automatic disconnection upon loss of grid power supply, at least once amonth.
- Verify the state of DC/AC surge arrestors, cable connections, and circuit breakers.

4. BATTERY BANK

- Check the battery top ups are clean.
- Check the Batteries are charged fully During day time.
- Check battery state of charge (SoC) using a refractometer.
- Check Accumulation of acid and dust to accumulate on battery or stand.
- Check the ventilation system of the battery room is working properly.
- Check for the bulging of VRLA batteries.
- Check for signs of corrosion or sulfation at any of the battery or cell terminals.
- Check the tightness of all interconnections between batteries, cables, charge controllers, inverters.

5. SHUTTING DOWN THE SYSTEM

- Disconnect system from all power sources in accordance with instructions for all other components used in the system.
- Completely cover system modules with an opaque material to prevent electricity from being generated while disconnecting conductors.
- To the extent possible, system shutdown will not be done during day time or peak generation.

INSPECTION AND MAINTENANCE SCHEDULE

Component	Activity	Description	Interval	By
PV Module	Cleaning	Clean any bird droppings/ dark spots on module	Immediately	User/Technician
	Cleaning	Clean PV modules with plain water or mild dishwashing detergent. Do not use brushes, any types of solvents, abrasives, or harsh detergents.	Fortnightly or as per the site conditions	User/Technician
	Inspection (for plants > 100 kWp)	Use infrared camera to inspect for hot spots; bypass diode failure	Annual	Technician

PV Array	Inspection	Check the PV modules and rack for any damage. Note down location and serial number of damaged modules.	Annual	User/Technician
	Inspection	Determine if any new objects, such as vegetation growth, are causing shading of the array and move them if possible.	Annual	User/Technician
	Vermin Removal	Remove bird nests or vermin from array and rack area.	Annual	User/Technician
Junction Boxes	Inspection	<ol style="list-style-type: none"> 1. Inspect electrical boxes for corrosion or intrusion of water or insects. 2. Seal boxes if required. Check position of switches and breakers. Check operation of all 3. protection devices. 	Annual	Electrician
Wiring	Inspection	Inspect cabling for signs of cracks, defects; loose connections, overheating, arcing, short or open circuits, and ground faults.	Annual	Electrician
Inverter	Inspection	<ol style="list-style-type: none"> 1. Observe instantaneous operational indicators on the faceplate of the inverter to ensure that the amount of power being generated is typical of the conditions. 2. Inspect Inverter housing or shelter for physical maintenance, if required. 	Monthly	Electrician
Inverter	Service	Clean or replace any air filters.	As needed	Electrician

Battery Bank	Inspection	<ol style="list-style-type: none"> 1. Check the battery top ups are clean. 2. Check the Batteries are charged fully During day time. 3. Check battery state of charge (SoC) using a refractometer. 4. Check Accumulation of acid and dust to accumulate on battery or stand. 5. Check the ventilation system of the battery room is working properly. 6. Check for the bulging of VRLA batteries. 7. Check for signs of corrosion or sulfation at any of the battery or cell terminals. 8. Check the tightness of all interconnections between batteries, cables, charge controllers, inverters. 	Monthly	Electrician
Battery Bank	Service	<ol style="list-style-type: none"> 1. Battery tops ups to be cleaned. 2. Clean Accumulation of acid and dust to on battery or stand. 3. Replace the batteries in which the bulging is observed. 	As needed	Electrician

		4. Clean corrosion or sulfation at any of the battery or cell terminals. 5. Proper tightness of all interconnections between batteries, cables, charge controllers, inverters.		
Instruments	Validation	Spot-check monitoring instruments (Pyranometer etc.) with standard instruments to ensure that they are operational and within specifications.	Annual	PV Specialist
Transformer (if Applicable)	Inspection	Inspect transformer oil level, temperature gauges, breather, silica gel, meter, connections etc.	Annual	Electrician

➤ **Quality Certification, Standards and Testing for Hybrid Rooftop Solar PV Systems/Power Plants:**

Quality certification and standards for Hybrid solar PV systems are essential for the successful mass-scale implementation of this technology. It is also imperative to put in place an efficient and rigorous monitoring mechanism, adherence to these standards. Hence, all components of Hybrid rooftop solar PV system/ plant must conform to the relevant standards and certifications given below:

Solar PV Modules/Panels:	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of (PV) Modules
IEC 61853- Part 1/ IS 16170: Part 1	Photovoltaic (PV) module performance testing and energy rating –: Irradiance and temperature performance measurements, and power rating
IEC 62716	Photovoltaic (PV) Modules – Ammonia (NH ₃) Corrosion Testing (As per the site condition like dairies, toilets)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification– Part 1: Requirements for

	Construction, Part 2: Requirements for Testing
IEC 62804	Photovoltaic (PV) modules - Test methods for the detection of potential-induced degradation. IEC TS 62804-1: Part 1: Crystalline silicon. (Mandatory for applications where the system voltage is > 600 VDC and advisory for installations where the system voltage is < 600 VDC)
IEC 62759-1	Photovoltaic (PV) modules - Transportation testing, Part 1: Transportation and shipping of module package units
Secondary cells and batteries for solar photovoltaic application	
IS 16270 : 2014	Secondary cells and batteries for solar photovoltaic application - General requirements and methods of test.
IS 15549 : 2005 and its amendments	Stationary valve regulated lead acid batteries - Specification
IEC 60896-2 (1995)	Stationary lead acid batteries - General requirements and test methods
Solar PV Inverters	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems - Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems. Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems - Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)

<p>BS EN 50530 (As applicable)</p>	<p>Overall efficiency of grid-connected photovoltaic inverters: This European Standard provides a procedure for the measurement of the accuracy of the maximum power point tracking (MPPT) of inverters, which are used in grid-connected photovoltaic systems. In that case the inverter energizes a low voltage grid of stable AC voltage and constant frequency. Both the static and dynamic MPPT efficiency is considered.</p>
<p>IEC 62116/ UL 1741/ IEEE 1547 (As applicable)</p>	<p>Utility-interconnected Photovoltaic Inverters -Test Procedure of Islanding Prevention Measures</p>
<p>IEC 60255-27</p>	<p>Measuring relays and protection equipment – Part 27: Product safety requirements</p>
<p>IEC 60068-2 (1, 2, 14, 27, 30 & 64)</p>	<p>Environmental Testing of PV System – Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing - Part 2-1: Tests - Test A: Cold b) IEC 60068-2-2: Environmental testing - Part 2-2: Tests - Test B: Dry heat c) IEC 60068-2-14: Environmental testing - Part 2-14: Tests - Test N: Change of temperature d) IEC 60068-2-27: Environmental testing - Part 2-27: Tests - Test and guidance: Shock e) IEC 60068-2-30: Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle) f) IEC 60068-2-64: Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance</p>
<p>IEC 61000 – 2,3,5 (as applicable)</p>	<p>Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) testing of PV Inverters</p>
Fuses	
<p>IS/IEC 60947 (Part 1, 2 & 3), EN 50521</p>	<p>General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3:</p>

	Switches, disconnectors, switch-disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	
IEC 62305-4	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2)/ IEC69947	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing/Lightning	
IEC 62561 Series (Chemical earthing)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meters	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 – Specification (with Import & Export/Net energy measurements)
Solar PV Roof Mounting Structure	
IS 2062/IS 4759	Material for the structure mounting

Note: Equivalent standards may be used for different system components of the plants after due consultation with Engineer-in charge of work.

Annexure- 19 (Deleted)

Earnest Money Deposit (EMD) for **Rate Contract for Selection of Agencies for Comprehensive Maintenance Contract & Operation (CMCO) of Grid Connected Rooftop Solar Power Plants for Five Years including replacement of PCUs and Batteries and other components as and where required basis at Various Districts in the State of Jharkhand.**

Annexure-20

List of Govt. Buildings with Plant Capacity

S.No.	District	Sites/Buildings	Plant Capacity(kWp)
1	Bokaro	Residential High School, Chas.	10
2	Bokaro	Range Forest Office, Chas Bokaro	2
3	Bokaro	Range Forest Office, Petarwar Bokaro	2
4	Bokaro	Range Forest Office, Bermo Bokaro	2
5	Bokaro	KGBV CHANDANKIYARI	20
6	Bokaro	KGBV BERMO	20
7	Bokaro	KGBV CHAS	20
8	Bokaro	KGBV GOMIA	20
9	Bokaro	KGBV JARIDIH	20
10	Bokaro	KGBV KASMAR	20
11	Bokaro	KGBV NAWADIH	20
12	Bokaro	KGBV PETARWAR	20
13	Bokaro	CHC Navadih	10
14	Bokaro	CHC Gomia	10
15	Bokaro	CHC Petarwar	10
16	Bokaro	CHC Kasmar	10
17	Bokaro	CHC Chandankiyari	10
18	Bokaro	CHC Tenughat	10
19	Bokaro	DC Office, Bokaro	60
20	Bokaro	District Jail Chas Bokaro	60
21	BOKARO	SECTOR - 12 PS	10
22	BOKARO	HARLA PS	10
23	BOKARO	Women's And Child Protection Police Station Bermo	10
24	BOKARO	SIYALJORI PS	10
25	BOKARO	CHANDRAPURA PS	10
26	BOKARO	I.E.L. POLICE STATION	10
27	BOKARO	PETARWAR PS	10
28	BOKARO	JARIDIH PS	10
29	BOKARO	PANDRAJORA PS	10
30	BOKARO	CHANDANDKIYARI PS	10
31	BOKARO	DUGDHA PS	10
32	BOKARO	Bokaro Circle Office Commercial Taxes	25
33	BOKARO	Sub Divisional Court Tenughat	100
34	BOKARO	BERMO PS	10
35	BOKARO	NAVADIH PS	10
36	BOKARO	GOMIA PS	10
37	BOKARO	LALPANIA PS	10
38	BOKARO	SDO OFFICE CHAS	25
39	Chatra	Residential High School, Lawalong, Simariya, Chatra	10
40	Chatra	Residential Primary School, Pratapur, Chatra	10
41	Chatra	Mandal Jail, Chatra	15
42	Chatra	KGBV GIDHOR	20
43	Chatra	KGBV KUNDA	20
44	Chatra	Residential High School, Simariya	10
45	Chatra	Range Forest Office, Piri Chatra	2
46	Chatra	Range Forest Office, Wildlife Range Chatra	2
47	Chatra	Residential Primary School, Simariya, Chatra	10
48	Chatra	Residential Primary School, Hunterganj, Chatra	10
49	Chatra	Range Forest Office, Kunda, Chatra	2
50	Chatra	Range Forest Office, Pratapur, Chatra	2
51	Chatra	Range Forest Office, Rajpur, Chatra	2
52	Chatra	Range Forest Office, Lawalong Chatra	2
53	Chatra	Range Forest Office, Simariya Chatra	2
54	Chatra	Residential Primary School, Balumath.	10

55	Chatra	DC Office, Chatra	60
56	Chatra	CHC Itkhor	10
57	Chatra	RAJPUR PS	10
58	Chatra	MAYURHAND PS	10
59	Chatra	PATHALGADDHA PS	10
60	Chatra	SIMARIYA PS	10
61	Chatra	VISISTNAGAR PS	10
62	Chatra	SADAR Police Station	10
63	Chatra	GIDDAUR Police Station	10
64	Chatra	LAWALONG Police Station	10
65	Chatra	TANDWA Police Station	10
66	Chatra	CHC Simaria	10
67	Chatra	HUNTERGANJ Police Station	10
68	Chatra	PRATAPPUR Police Station	10
69	Chatra	KUNDA Police Station	10
70	Chatra	CHC Gidhour	10
71	Chatra	ITKHORI Police Station	10
72	Chatra	CHC Pratappur	10
73	Chatra	CHC Kunda	10
74	Chatra	CHC Lawalaung	10
75	Chatra	CHC Hantargunj	10
76	Chatra	CHC Chatra Sadar	10
77	Deoghar	Sadar Hospital, Deoghar	60
78	Deoghar	Range Forest Office, Soil Conservation Range Deoghar	2
79	Deoghar	Range Forest Office, Soil Conservation Range Madhupur	2
80	Deoghar	KGBV DEOGHAR	20
81	Deoghar	KGBV DEVIPUR	20
82	Deoghar	KGBV KARON	20
83	Deoghar	KGBV MADHUPUR	20
84	Deoghar	KGBV MOHANPUR	20
85	Deoghar	KGBV PALOJORI	20
86	Deoghar	KGBV SARATH	20
87	Deoghar	KGBV SARWAN	20
88	Deoghar	Residential Middle School, Bamandiha.	10
89	Deoghar	District Jail Deoghar	30
90	Deoghar	Krishi Vigyan Kendra, Deoghar	25
91	Deoghar	Sub-Divisional Office Deoghar	25
92	Deoghar	Sub-Divisional Office Madhupur	25
93	Deoghar	CHC Devipur	10
94	Deoghar	KUNDA Police Station	10
95	Deoghar	MOHANPUR Police Station	10
96	Deoghar	CHC Mohanpur	10
97	Deoghar	CHC Sarwan	10
98	Deoghar	CHC Jasidih	10
99	Deoghar	Jasidih PS	10
100	Deoghar	Devipur PS	10
101	Dhanbad	Collectorate, Dhanbad	80
102	Dhanbad	Range Forest Office, Topchachi, Dhanbad	2
103	Dhanbad	Range Forest Office, Tundi, Dhanbad	2
104	Dhanbad	KGBV Baliapur	20
105	Dhanbad	KGBV Govindpur	20
106	Dhanbad	KGBV Jharia	20
107	Dhanbad	KGBV Nirsa	20
108	Dhanbad	KGBV Topchanchi	20
109	Dhanbad	KGBV Tundi	20
110	Dhanbad	Residential High School, Govindpur	10
111	Dhanbad	District Jail Dhanbad	100
112	Dhanbad	DHANBAD PS	10
113	Dhanbad	NIRSHA PS	10
114	Dhanbad	KENDUADIH PS	10
115	Dhanbad	BANKMODE PS	10

116	Dhanbad	SARAIHELIA PS	10
117	Dhanbad	DHANSAR PS	10
118	Dhanbad	SINDRI PS	10
119	Dhanbad	CHIRKUNDA PS	10
120	Dhanbad	KATRASH PS	10
121	Dhanbad	BARWADA PS	10
122	Dhanbad	TUNDI PS	10
123	Dhanbad	MANIADIH PS	10
124	Dhanbad	EAST TUNDI PS	10
125	Dhanbad	RAJGANJ PS	10
126	Dhanbad	BAGHMARA PS	10
127	Dhanbad	MAHUDA PS	10
128	Dhanbad	BLIAPUR PS	10
129	Dhanbad	TETULMARI PS	10
130	Dhanbad	BARORA PS	10
131	Dhanbad	LOYABAD PS	10
132	Dhanbad	TRAFFIC POLICE STATION DHANBAD	10
133	Dhanbad	Women's and Child Protection Police Station Dhanbad	10
134	Dhanbad	SC/ST POLICE STATION	10
135	Dhanbad	Krishi Vigyan Kendra, Baliapur,Dhanbad	25
136	Dhanbad	SDO OFFICE, Dhanbad	25
137	Dhanbad	Dhanbad Circle Office Commercial Taxes	25
138	Dhanbad	Tundi CHC	10
139	Dhanbad	Topchachi CHC	10
140	Dhanbad	Baghmara CHC	10
141	Dhanbad	Baliyapur CHC	10
142	Dhanbad	Nirsa CHC	10
143	Dumka	Akalabya Model Residential School, Kathijoria, Dumka	10
144	Dumka	Central Jail, Dumka	25
145	Dumka	Dumka Commissionery, Dumka	25
146	Dumka	Primary Health Centre, Jama, Dumka	5
147	Dumka	Residential Boys High School, Gopikander, Dumka	10
148	Dumka	Residential Girls High School, Lakhikund Kadaharbil, Dumka	10
149	Dumka	Sadar Hospital, Dumka	60
150	Dumka	Residential 10+2 School,Indarbani,Dumka	10
151	Dumka	Residential 10+2 School, Bhahpur	10
152	Dumka	Residential 10+2 School, Dumka.	10
153	Dumka	Residential Middle School, Manjhiyana,Sahebganj Road,Dumka	10
154	Dumka	Residential Middle School,Asansol,Aerodrum Road,Dumka	10
155	Dumka	Residential Middle School,Kairabuni,University Road ,Dumka	10
156	Dumka	Residential Middle School,Uper Murga Thali,Near Kairabani,Dumka	10
157	Dumka	Residential Middle School,shikaripara,Dumka	10
158	Dumka	Residential MiddleSchool,Mahra,Jharmundi Block,Dumka	10
159	Dumka	Residential Middle School,Lakhanpur,Ramgarh,Block,Dumka	10
160	Dumka	Residential Middle School,Masliya Block,Dumka	10
161	Dumka	Residential Middle School,Asanpahari,Kathikund Block,Dumka	10
162	Dumka	School, Gumapahadi,Dumka	10
163	Dumka	Residential Middle School, Jama,Dumka	10
164	Dumka	Residential Middle School, Nakti,Dumka	10
165	Dumka	KGBV DUMKA	20
166	Dumka	KGBV GOPIKANDAR	20
167	Dumka	KGBV JAMA	20
168	Dumka	KGBV JARMUNDI	20
169	Dumka	KGBV KATHIKUND	20
170	Dumka	KGBV MASALIA	20
171	Dumka	KGBV RAMGARH	20

172	Dumka	KGBV RANESHWAR	20
173	Dumka	KGBV SARAIYAHAT	20
174	Dumka	KGBV SHIKARIPARA	20
175	Dumka	DC Office, Dumka	60
176	Dumka	CHC Saraihat	10
177	Dumka	CHC Jarmundi	10
178	Dumka	CHC Ramgarh	10
179	Dumka	CHC Palajori	10
180	Dumka	CHC Kathikund	10
181	Dumka	CHC Shikaripara	10
182	Dumka	CHC Raneshwar	10
183	Dumka	CHC Masliya	10
184	Dumka	CHC Sarath	10
185	Dumka	Krishi Vigyan Kendra, ZARS Dumka	25
186	Dumka	Dumka Circle Office Commercial Taxes	25
187	Dumka	Sub-Divisional Office Dumka	25
188	Dumka	MUFSIL PS	10
189	Dumka	KATHIKUND PS	10
190	Dumka	GOPIKANDAR PS	10
191	Dumka	RAMGARH PS	10
192	Dumka	Nagar PS	10
193	Dumka	Shikaripara PS	10
194	Dumka	Jama PS	10
195	Dumka	Taljhari PS	10
196	Dumka	SARAIYAHAT PS	10
197	Dumka	JARMUNDI PS	10
198	Dumka	Women and Child Protection, Police Station Dumka	10
199	East Singhbhum	MGM Medical College, Jamshedpur	250
200	East Singhbhum	Residential Boys High School, Sabar Nagar, Potka, East Singhbhum	10
201	East Singhbhum	Sadar Hospital East Singhbhum(Jamshedpur)	80
202	East Singhbhum	Residential Boys High School, Uparpawada, Ghatshila.	10
203	East Singhbhum	Residential Boys Middle School, Chakuliya.	10
204	East Singhbhum	Range Forest Office, Chakulia	2
205	East Singhbhum	Range Forest Office, Rakhamines	2
206	East Singhbhum	Range Forest Office, Ghatshila	2
207	East Singhbhum	Range Forest Office, Musabani	2
208	East Singhbhum	Range Forest Office, Hatgamharia	2
209	East Singhbhum	Range Forest Office, Dalma Wild Life	2
210	East Singhbhum	DC Office, East Singhbhum	25
211	East Singhbhum	Yatri Niwas Sidgora Jamshedpur	45
212	East Singhbhum	Sub-Divisional Court, Ghatshila	100
213	East Singhbhum	BISTUPUR PS	10
214	East Singhbhum	SAKACHI PS	10
215	East Singhbhum	SONARI PS	10
216	East Singhbhum	PARSUDIH PS	10
217	East Singhbhum	GOLMURI PS	10
218	East Singhbhum	JUGSALAI PS	10
219	East Singhbhum	AAZADNAGAR PS	10
220	East Singhbhum	BIRSANAGAR PS	10
221	East Singhbhum	KADMA PS	10
222	East Singhbhum	PATMADA PS	10
223	East Singhbhum	GHATSILA PS	10
224	East Singhbhum	KOWALI PS	10
225	East Singhbhum	BODAM PS	10
226	East Singhbhum	GUDBANDHA PS	10
227	East Singhbhum	BAHARGODA PS	10
228	East Singhbhum	CHAKULIYA PS	10
229	East Singhbhum	SHYAMSUNDARPUR PS	10
230	East Singhbhum	DHALBHUMGARH PS	10
231	East Singhbhum	MUSABANI PS	10
232	East Singhbhum	JADUGODA PS	10

233	East Singhbhum	Barsol PS	10
234	East Singhbhum	Sundernagar PS	10
235	East Singhbhum	CHC Patmada	10
236	East Singhbhum	CHC Jugsalai cum Golmuri	10
237	East Singhbhum	CHC Potka	10
238	East Singhbhum	CHC Musabani	10
239	East Singhbhum	CHC Dumria	10
240	Garhwa	Collectorate Building, Garhwa	60
241	Garhwa	Residencial Boys High School, Kudrum, Ranka, Garhwa	10
242	Garhwa	Residencial High School, Ramkanda, Garhwa	10
243	Garhwa	Mandal Jail, Garhwa	20
244	Garhwa	Residencial High School, Chiniya, Garhwa	10
245	Garhwa	Residencial Middle School, Ramkanda, Garhwa	10
246	Garhwa	Range Forest Offices, Bhandaria, Garhwa	2
247	Garhwa	Range Forest Offices, Bhandaria, Garhwa	2
248	Garhwa	Range Forest Offices, Ranka(East)	2
249	Garhwa	Range Forest Offices, Ranka(West)	2
250	Garhwa	Range Forest Office, Nagar Garhwa	2
251	Garhwa	Range Forest Office, Bhawnathpur Garhwa	2
252	Garhwa	KGBV BHANDRIYA	20
253	Garhwa	KGBV BHAWANATHPUR	20
254	Garhwa	KGBV CHINIA	20
255	Garhwa	KGBV DANDAI	20
256	Garhwa	KGBV DHURKI	20
257	Garhwa	KGBV GARHWA	20
258	Garhwa	KGBV KANDI	20
259	Garhwa	KGBV KHAROUNDHI	20
260	Garhwa	KGBV MANJHIAON	20
261	Garhwa	KGBV MERAL	20
262	Garhwa	KGBV NAGARUTARI	20
263	Garhwa	KGBV RAMKANDA	20
264	Garhwa	KGBV RAMNA	20
265	Garhwa	KGBV RANKA	20
266	Garhwa	CHC Bhandaria	6
267	Garhwa	GARHWA Police Station	10
268	Garhwa	NAGAR UTRI Police Station	10
269	Garhwa	DANDAI Police Station	10
270	Garhwa	RANKA Police Station	10
271	Garhwa	RAMKANDA Police Station	10
272	Garhwa	CHINIYA Police Station	10
273	Garhwa	KANDI Police Station	10
274	Garhwa	BISHUNPURA Police Station	10
275	Garhwa	BHANDARIYA Police Station	10
276	Garhwa	KETAR Police Station	10
277	Garhwa	BARDIHA Police Station	10
278	Garhwa	RAMNA Police Station	10
279	Garhwa	MANJHIAON Police Station	10
280	Garhwa	BHAVNATHPUR Police Station	10
281	Garhwa	DHURKI Police Station	10
282	Garhwa	DANDA Police Station	10
283	Garhwa	CHC Bhavanthpur	10
284	Garhwa	CHC Kandi	10
285	Garhwa	CHC Ramna	10
286	Garhwa	CHC Nagarutari	10
287	Garhwa	CHC Dhurki	10
288	Garhwa	CHC Dandai	10
289	Garhwa	CHC Chiniya	10
290	Garhwa	CHC Meral	10
291	Garhwa	CHC Ranka	10
292	Garhwa	CHC Ramkanda	10
293	Garhwa	CHC Garhwa Sadar	10

294	Garhwa	Meral PS	10
295	Garhwa	Sub-Divisional Office Nagarutari	25
296	Garhwa	Sub-Divisional Office Ranka, Garhwa	25
297	Giridih	Residential high school, Jamua, Giridih	10
298	Giridih	Residential high school, Khargdiha, Giridih	10
299	Giridih	Residential high school, Pirtand, Giridih	10
300	Giridih	Range Forest Office, Bagodar	2
301	Giridih	Range Forest Office, Gawa Giridih	2
302	Giridih	Range Forest Office, Parasnath Giridih	2
303	Giridih	Sadar Hospital Giridih	70
304	Giridih	Range Forest Office, Dumari Giridih	2
305	Giridih	KGBV BAGODAR	20
306	Giridih	KGBV BENGABAD	20
307	Giridih	KGBV BIRNI	20
308	Giridih	KGBV DEORI	20
309	Giridih	KGBV DHANWAR	20
310	Giridih	KGBV DUMRI	20
311	Giridih	KGBV GANDEY	20
312	Giridih	KGBV GAWAN	20
313	Giridih	KGBV GIRIDIH	20
314	Giridih	KGBV JAMUA	20
315	Giridih	KGBV PIRTAND	20
316	Giridih	KGBV TISRI	20
317	Giridih	DC Office, Giridih	60
318	Giridih	Sub-Divisional Office Dumri	25
319	Giridih	Civil Court Giridih	200
320	Giridih	NAGAR PS	10
321	Giridih	MUFSILPS	10
322	Giridih	TARTAND PS	10
323	Giridih	DUMRI PS	10
324	Giridih	NIMIYAGHAT PS	10
325	Giridih	PIRTAND PS	10
326	Giridih	KHUKHRA THANA PS	10
327	Giridih	MADHUBAN PS	10
328	Giridih	TISRI PS	10
329	Giridih	DEWRI PS	10
330	Giridih	BENGABAD PS	10
331	Giridih	GANDAY PS	10
332	Giridih	AHILYAPUR PS	10
333	Giridih	JAMUHA PS	10
334	Giridih	HERODIH PS	10
335	Giridih	DHANBAR PS	10
336	Giridih	CHC Gawa	10
337	Giridih	CHC Tisri	10
338	Giridih	CHC Devri	10
339	Giridih	CHC Rajdhanwar	10
340	Giridih	CHC Jamua	10
341	Giridih	CHC Bengabad	10
342	Giridih	CHC Gande	10
343	Giridih	CHC Birni	10
344	Giridih	CHC Bagodar	10
345	Giridih	CHC Dumari	10
346	Giridih	CHC Pirtand	10
347	Giridih	CHC Giridih Sadar	10
348	Giridih	BIRNI PS	10
349	Giridih	GAWAN PS	10
350	Godda	Residential boys high school, Dhamni, Godda	10
351	Godda	Sadar Hospital, Godda	60
352	Godda	Divisional Forest Office, Godda	2
353	Godda	Residential Middle School, Ratanpur.	10
354	Godda	Residential Middle School, Dangapara.	10

355	Godda	Residential Middle School, Kurtika.	10
356	Godda	Residential Middle School, Gamharo.	10
357	Godda	Residential Middle School, KartikBhittha.	10
358	Godda	Residential Girls Middle School, Boarigor.	10
359	Godda	DC Office, Godda	60
360	Godda	KGBV BOARIJORE	20
361	Godda	KGBV GODDA	20
362	Godda	KGBV MAHAGAMA	20
363	Godda	KGBV MEHERAMA	20
364	Godda	KGBV PATHARGAMA	20
365	Godda	KGBV RAGHUNATHPUR	20
366	Godda	KGBV SUNDERPAHARI	20
367	Godda	KGBV THAKURGANGTI	20
368	Godda	CHC Meherma	10
369	Godda	CHC Thakurgangti	10
370	Godda	CHC Boarigor	10
371	Godda	CHC Mahagama	10
372	Godda	CHC Pathargama	10
373	Godda	CHC Poraihahat	10
374	Godda	CHC Sunderpahari	10
375	Godda	NAGAR PS	10
376	Godda	MUFSIL PS	10
377	Godda	MAHGAMA PS	10
378	Godda	SUNDARPAHARI PS	10
379	Godda	RAJABHITA PS	10
380	Godda	PORIYAHAT PS	10
381	Godda	LALMATIYA PS	10
382	Godda	MEHRMA PS	10
383	Godda	THAKURGANGTI PS	10
384	Godda	BOARIJOR PS	10
385	Gumla	Sadar Hospital Gumla	60
386	Gumla	Ashram School,Sisai,(Tira),Gumla	10
387	Gumla	Residential boys high school,Sakhuwapani,Gumla	10
388	Gumla	Residential high school,Ghaghara,Gumla	10
389	Gumla	Primary Residential School, Maheshpur, Chainpur	10
390	Gumla	Primary Residential School, Tusgaon	10
391	Gumla	Range Forest Office, Palkot Wild Sanctuary Gumla	2
392	Gumla	Residential High School, Jobhipat.	10
393	Gumla	Residential Girls High School, Chapatoli.	10
394	Gumla	Residential Girls High School, Chourapat.	10
395	Gumla	Residential Primary School, Jaingutwa.	10
396	Gumla	District Jail Gumla	45
397	Gumla	KGB BHARNO	20
398	Gumla	KGBV BISHUNPUR	20
399	Gumla	KGBV GUMLA	20
400	Gumla	KGBV KAMDARA	20
401	Gumla	KGB PALKOT	20
402	Gumla	KGBV SISAI	20
403	Gumla	DC Office, Gumla	60
404	Gumla	GUMLA PS	10
405	Gumla	GHAGHRA PS	10
406	Gumla	BISHUNPUR PS	10
407	Gumla	GURDARI PS	10
408	Gumla	PALKOT PS	10
409	Hazaribagh	Hazaribagh Commissionery	10
410	Hazaribagh	Central Jail,Hazaribag	35
411	Hazaribagh	Residential 10+2 School, Hazaribag.	10
412	Hazaribagh	Primary Residential School, Saral Sinchai colony, Dipugarha	10
413	Hazaribagh	Range Forest Office, Daru	2
414	Hazaribagh	K.G.B.V. BARHI	20
415	Hazaribagh	K.G.B.V. BARKAGAON	20

416	Hazaribagh	K.G.B.V. BARKATHA	20
417	Hazaribagh	K.G.B.V., BISHNUGARH	20
418	Hazaribagh	K.G.B.V. CHOUPARAN	20
419	Hazaribagh	K.G.B.V. CHARHI (CHURCHU)	20
420	Hazaribagh	K.G.B.V. KATKAMSANDI	20
421	Hazaribagh	K.G.B.V. PADMA	20
422	Hazaribagh	Open Jail cum Rehabilitation Centre, Hazaribagh	15
423	Hazaribagh	Sub-Divisional Office Hazaribagh	25
424	Hazaribagh	Sub-Divisional Office Barhi	25
425	Jamtara	Ashram School, Jamtara	5
426	Jamtara	Ashram Girls School, Jamtara	10
427	Jamtara	Residential high school, Dulladih, Jamtara	10
428	Jamtara	Sadar Hospital, Jamtara	60
429	Jamtara	Range Forest Office, Kundhit Jamtara	2
430	Jamtara	Range Forest Office, Nala Jamtara	2
431	Jamtara	Range Forest Office, Narayanpur Jamtara	2
432	Jamtara	KGBV Jamtara	20
433	Jamtara	KGBV Kundhit	20
434	Jamtara	KGBV Nala	20
435	Jamtara	KGBV Narayanpur	20
436	Jamtara	Residential Middle School, Kundhit.	10
437	Jamtara	DC Office, Jamtara	20
438	Jamtara	JAMTARA PS	10
439	Jamtara	NARAYANPUR PS	10
440	Jamtara	KARMATAND PS	10
441	Jamtara	KUNDHIT PS	10
442	Jamtara	FATEHPUR PS	10
443	Jamtara	NALA PS	10
444	Jamtara	BINDAPATHAR PS	10
445	Jamtara	Women's And Child Protection Police Station Jamtara	10
446	Jamtara	SC/ST POLICE STATION	10
447	Jamtara	CHC Narayanpur	10
448	Jamtara	CHC Nala	10
449	Jamtara	CHC Kundhit	10
450	Khunti	Residential Girls High School, Kundi, Khunti	10
451	Khunti	Residential Girls/Boys High School, Ullihatu, Khunti	10
452	Khunti	Sub Jail Khunti	15
453	Khunti	Residential High School, Arki	10
454	Khunti	CHC Rania	6
455	Khunti	CHC Kara	10
456	Khunti	CHC Torpa	10
457	Khunti	CHC Murhu	10
458	Khunti	CHC Arki	10
459	Khunti	CHC Sadar	10
460	Khunti	KGBVARKI	20
461	Khunti	KGBV KARRA	20
462	Khunti	KGBV KALAMATI	20
463	Khunti	KGBV MURHU	20
464	Khunti	KGBV RANIA	20
465	Khunti	Sub-Divisional Office, Khunti	25
466	Khunti	KHUNTI P.S	10
467	Khunti	MURHU P.S	10
468	Khunti	TORPA PS	10
469	Khunti	Women's and Child Protection Police Station Khunti	10
470	Khunti	A.H.T.U Police Station Khunti	10
471	Koderma	Range Forest Offices, Domchanch	2
472	Koderma	Range Forest Offices, Domchanch	2
473	Koderma	Range Forest Offices, Domchanch	2
474	Koderma	CHC Satgava	10
475	Koderma	CHC Jaynagar	10
476	Koderma	PHC Markacho	10

477	Koderma	PHC Chandwara	10
478	Koderma	CHC Sadar	10
479	Koderma	GOVT KGBV JAINAGAR	20
480	Koderma	GOVT KGBV KODERMA	20
481	Koderma	GOVT KGBV MARKACHO	20
482	Koderma	GOVT KGBV SATGAWAN	20
483	Koderma	DC Office, Koderma	60
484	Koderma	District Jail Koderma	15
485	Koderma	Krishi Vigyan Kendra, Jainagar	25
486	Koderma	Kodarma Circle Office Commercial Taxes	25
487	Koderma	Sub-Divisional Office, Koderma	25
488	Koderma	KODERMA PS	10
489	Koderma	TILAIYA PS	10
490	Koderma	DHAB PS	10
491	Koderma	SATGAWAN PS	10
492	Koderma	NAWALSAHI PS	10
493	Latehar	Residencial Boys High School, Garu, Latehar	10
494	Latehar	Residencial Boys High School, Mahuatand, Latehar	10
495	Latehar	Mandal jail,Latehar	15
496	Latehar	Sadar Hospital,Latehar	60
497	Latehar	Primary Residential School, Auratand	10
498	Latehar	Primary Residential School, Betla	10
499	Latehar	Primary Residential School, Netarhat	10
500	Latehar	Range Forest Office, Manika Latehar	2
501	Latehar	Range Forest Office, Richughuta Latehar	2
502	Latehar	Range Forest Office, Chandwa Latehar	2
503	Latehar	Range Forest Office, Balumath Latehar	2
504	Latehar	Residential Primary School, Garu.	10
505	Latehar	Residential Boys Middle School, Chhipadohar.	10
506	Latehar	Residential Middle School, Domakhand.	10
507	Latehar	Residential Middle School, Hendehas.	10
508	Latehar	Residential Primary School, Balumath	10
509	Latehar	Residential Primary School, Chandwa	10
510	Latehar	Residential Primary School, Hotbag	10
511	Latehar	CHC Mahuatand	8
512	Latehar	CHC Blumath	6
513	Latehar	CHC Manika	10
514	Latehar	CHC Barwadih	10
515	Latehar	CHC Garu	10
516	Latehar	CHC Chandwa	10
517	Latehar	KGBV BALUMATH	20
518	Latehar	KGBV BARWADIH	20
519	Latehar	KGBV CHANDWA	20
520	Latehar	KGBV GARU	20
521	Latehar	KGBV LATEHAR	20
522	Latehar	KGBV MANIKA	20
523	Latehar	DC Office, Latehar	40
524	Latehar	Sub-Divisional Office Mahuatand,Latehar	25
525	Latehar	Sub-Divisional Office Latehar	25
526	Lohardaga	Residential High school,Kisko,Lohardaga	10
527	Lohardaga	KGBV LOHARDAGA	20
528	Lohardaga	KGBV SENHA	20
529	Lohardaga	Sadar Hospital, Lohardaga	30
530	Lohardaga	Residential Middle School, Paisrar.	10
531	Lohardaga	Residential Girls Middle School, Lohardaga.	10
532	Lohardaga	DC Office, Lohardaga	60
533	Lohardaga	District Jail Lohardaga	15
534	Lohardaga	CHC Kisko	10
535	Lohardaga	A.H.T.U. PS	10
536	Lohardaga	CHC Senha	10
537	Lohardaga	CHC Bhandra	10

538	Lohardaga	CHC Lohardaga Sadar	10
539	Lohardaga	LOHARDAGA PS	10
540	Lohardaga	Women's And Child Protection Police station LOHARDAGA	10
541	Lohardaga	BUNGDU PS	10
542	Pakur	DC Office, Pakur	20
543	Pakur	Sadar Hospital, Pakur	60
544	Pakur	Residential high school,Hiranpur,Pakur	10
545	Pakur	Primary Residential School, Dharhara, Dhrampur, Pakur	10
546	Pakur	Residential Primary School, Pakur	10
547	Pakur	Range Forest Office, Pakur	2
548	Pakur	Range Forest Office, Hiranpur Pakur	2
549	Pakur	Range Forest Office, Amarapara Pakur	2
550	Pakur	KGBV AMRAPARA	20
551	Pakur	KGBV HIRANPUR	20
552	Pakur	KGBV LITTIPARA	20
553	Pakur	KGBV MAHESHPUR	20
554	Pakur	KGBV PAKUR	20
555	Pakur	KGBV PAKURIA	20
556	Pakur	District Jail Pakur	65
557	Pakur	CHC Litipara	10
558	Pakur	CHC Amrapara	10
559	Pakur	CHC Hiranpur	10
560	Pakur	CHC Maheshpur	10
561	Pakur	CHC Pakuria	10
562	Pakur	CHC Pakur	10
563	Pakur	NAGAR PS	10
564	Pakur	AMRAPARA PS	10
565	Pakur	PAKURIYA PS	10
566	Pakur	LITTIPARA PS	10
567	Pakur	MAHESHPUR PS	10
568	Pakur	Krishi Vigyan Kendra Maheshpur, Farm, Pakur	25
569	Pakur	SDO OFFICE Pakur	25
570	Palamu	Forest Rest House Maromar, Palamu	5
571	Palamu	Residencial High School, Kawakhoh, Palamu	10
572	Palamu	Residencial Primary School, Dumari Chatrapur, Palamu	10
573	Palamu	Sadar Hospital, Daltenganj	80
574	Palamu	Central jail,Medininagar,Palamu	35
575	Palamu	Range Forest Office, Mahuatand, Palamu	2
576	Palamu	Range Forest Office, Basargarh Palamu	2
577	Palamu	Range Forest Office, Kundari	2
578	Palamu	Range Forest Office, Manatu	2
579	Palamu	Residential Primary School, Lesliganj	10
580	Palamu	CHC Panki	7
581	Palamu	KGBV BISHRAMPUR	20
582	Palamu	KGBV CHAINPUR	20
583	Palamu	KGBV CHHATARPUR	20
584	Palamu	KGBV MEDININAGAR	20
585	Palamu	KGBV HARIHARGANJ	20
586	Palamu	KGBV HUSSAINABAD	20
587	Palamu	KGBV LESLIGANJ	20
588	Palamu	KGBV PANDU	20
589	Palamu	KGBV PATAN	20
590	Palamu	KGBV PANKI	20
591	Palamu	KGBV SATBARWA	20
592	Palamu	KGBV MANATU	20
593	Palamu	Nilambar-Pitamber University, Medninagar	100
594	Palamu	DC Office, Palamu	60
595	Palamu	SADAR PS	10
596	Palamu	SAHAR PS	10
597	Palamu	RAMGARH PS	10

598	Palamu	TARHASI PS	10
599	Palamu	NAWAJAIPUR PS	10
600	Palamu	UTARI PS	10
601	Palamu	CHAINPUR PS	10
602	Palamu	HARIHARGANJ PS	10
603	Palamu	MOHAMADGANJ PS	10
604	Palamu	PANDU PS	10
605	Palamu	PIPRATAND PS	10
606	Palamu	NAWDIHA PS	10
607	Palamu	PATAN PS	10
608	Palamu	HAIDERNAGAR PS	10
609	Palamu	BISHRMPUR PS	10
610	Palamu	Husainabad PS	10
611	Palamu	NAWABAZAR PS	10
612	Palamu	CHC Husainabad	10
613	Palamu	CHC Patan	10
614	Palamu	CHC Chattarpur	10
615	Palamu	Manatu PS	10
616	Palamu	CHC Bisrampur	10
617	Palamu	Sub-Divisional Office Chhatarpur	25
618	Palamu	Sub-Divisional Office Husainabad	25
619	Ramgarh	DC office, Ramgarh	70
620	Ramgarh	Sub Jail,Ramgarh	20
621	Ramgarh	KGBV KAITHA, Ramgarh	20
622	Ramgarh	KGBV GOLA, Ramgarh	20
623	Ramgarh	KGBV MANDU, Ramgarh	20
624	Ramgarh	Range Forest Office, Gola Ramgarh	2
625	Ramgarh	Residential Boys High School, Mandu, Ramgarh	10
626	Ramgarh	Residential Girls Middle School, Gola, Ramgarh	10
627	Ramgarh	Ramgarh Circle Office Commercial Taxes	25
628	Ramgarh	Sub-Divisional Office, Ramgarh	25
629	Ramgarh	BARLANGA PS	10
630	Ramgarh	MANDU PS	10
631	Ramgarh	PATRATU PS	10
632	Ramgarh	BASAL PS	10
633	Ramgarh	CHC Gola	10
634	Ramgarh	CHC Mandu	10
635	Ranchi	Birsa Munda Central Jail Hotwar	35
636	Ranchi	JAP-1, Doranda, Ranchi	5
637	Ranchi	JAP-10	60
638	Ranchi	Police Headquarters, Ranchi	70
639	Ranchi	Project Buildings, Ranchi	135
640	Ranchi	Ranchi Collectorate, Ranchi	100
641	Ranchi	Ranchi Commissionery , Ranchi	5
642	Ranchi	Residential Boys High School, Tamar, Ranchi	10
643	Ranchi	State Guest House, Ranchi	60
644	Ranchi	Vidhan Sabha, Ranchi	50
645	Ranchi	Yojna Bhawan & Nepal House , Ranchi	200
646	Ranchi	Residential High School, Kamre	10
647	Ranchi	Residential High School, Bundu	10
648	Ranchi	KGBV KANKE	20
649	Ranchi	KGBV SILLI, Ranchi	20
650	Ranchi	Eklavya Model Residential School, Salgahdih, Tamar, Ranchi	10
651	Ranchi	Residential 10+2 School, Jail Road, Ranchi	10
652	Ranchi	KGBV MANDAR	20
653	Ranchi	Residential Boys Middle School, Amanburu, Ranchi	10
654	Ranchi	Range Forest Office, Mutta Crocodile Breeding Centre Ranchi	2
655	Ranchi	KGBV CHANHO	20
656	Ranchi	KGBV BURMU	20
657	Ranchi	KGBV SONAHATU	20

658	Ranchi	KGBV LAPUNG	20
659	Ranchi	Residential Boys High School, Sonchipi, Ranchi	10
660	Ranchi	Residential Boys High School, Baridih, Ranchi	10
661	Ranchi	KGBV BERO	20
662	Ranchi	KGBV BUNDU	20
663	Ranchi	KGBV TAMAR	20
664	Ranchi	KGBV NAMKUM	20
665	Ranchi	Birsa Munda Residential Boys High School, Bundu.	10
666	Ranchi	National university of study & resarch in Law,Kanke,Pithoria	100
667	Ranchi	SIRD, Hehal, Ranchi	60
668	Ranchi	Health Directorate, Namkum Ranchi	40
669	Ranchi	Dr. Ramdayal Munda Tribal Welfare & Research Institute	25
670	Ranchi	LOWER BAZAR PS	10
671	Ranchi	LALPUR PS	10
672	Ranchi	ARGORA PS	10
673	Ranchi	SUKHDEO NAGAR PS	10
674	Ranchi	JAGARNATHPUR PS	10
675	Ranchi	CHC Burmu	10
676	Ranchi	CHC Kanke	10
677	Ranchi	Jharkhand Academic Council, Ranchi	100
678	Ranchi	BUNDU PS	10
679	Ranchi	NAGRI PS	10
680	Ranchi	MANDAR PS	10
681	Ranchi	SONAHATU PS	10
682	Ranchi	PITHORIYA PS	10
683	Ranchi	RATU PS	10
684	Ranchi	Namkum PS	10
685	Ranchi	CHUTYA PS	10
686	Ranchi	KANKE PS	10
687	Ranchi	ORMANJHI PS	10
688	Ranchi	CHC Ratu	10
689	Ranchi	CHC Namkum	10
690	Ranchi	Ormanjhi CHC	10
691	Ranchi	Krishi Vigyan Kendra, Morabadi Ranchi	25
692	Ranchi	South Circle Ranchi Office Commercial Taxes	25
693	Ranchi	Special Circle, Ranchi Office Commercial Taxes	25
694	Ranchi	West Circle Ranchi Office Commercial Taxes	25
695	Ranchi	East Circle, Ranchi Office Commercial Taxes	25
696	Ranchi	Sub-Divisional Office, Ranchi	25
697	Ranchi	Sub-Divisional Office, Bundu	25
698	Ranchi	CHC Mandar	10
699	Ranchi	CHC Chanho	10
700	Ranchi	CHC Bero	10
701	Ranchi	CHC Lapung	10
702	Ranchi	CHC Bundu	10
703	Ranchi	BUDMU PS	10
704	Ranchi	BERO PS	10
705	Ranchi	SILLI PS	10
706	Ranchi	Angarha PS	10
707	Ranchi	ITKI PS	10
708	Sahibganj	District Court, Sahebganj	90
709	Sahibganj	Sadar Hospital, Sahebganj	70
710	Sahibganj	Aklab middle residential school,Bhoganadih,barhet,Sahebganj	10
711	Sahibganj	Residentail Girls middle school,Addro,Sahebganj	10
712	Sahibganj	Residential boys high school,Banjhi,Sahebganj	10
713	Sahibganj	Residential Middle School,Dhibricol,Sahebganj	10
714	Sahibganj	Primary Residential School, Karampahad, Sahibganj	10
715	Sahibganj	Residential Girls High School, Vrindawan, Teenpahar.	10
716	Sahibganj	Residential Girls High School, Barhet.	10

717	Sahibganj	Residential Girls High School, Bandarkola.	10
718	Sahibganj	Residential Middle School, Dhamdhamiya.	10
719	Sahibganj	Residential Middle School, Amberi.	10
720	Sahibganj	Residential Middle School, Argauri.	10
721	Sahibganj	Residential Middle School, Chandwasi.	10
722	Sahibganj	District Jail Sahibganj	15
723	Sahibganj	Civil Court ,Rajmahal	100
724	Sahibganj	KGBV BORIO	20
725	Sahibganj	KGBV MANDRO	20
726	Sahibganj	KGBV PATHNA	20
727	Sahibganj	KGBV RAJMAHAL	20
728	Sahibganj	KGBV SAHIBGANJ	20
729	Sahibganj	KGBV TALJHARI	20
730	Sahibganj	KGBV UDHWA	20
731	Sahibganj	RAJMAHAL PS	10
732	Sahibganj	CHC Sadar	10
733	Sahibganj	CHC Mandro	10
734	Sahibganj	CHC Boriyo	10
735	Sahibganj	CHC Barhet	10
736	Sahibganj	CHC Taljhari	10
737	Sahibganj	CHC Rajmahal	10
738	Sahibganj	CHC Udhwa	10
739	Sahibganj	CHC Patna	10
740	Sahibganj	CHC Barharwa	10
741	Sahibganj	Sahebganj Circle Office Commercial Taxes	25
742	Saraikela Kharsawan	Ashram School Kuchai	10
743	Saraikela Kharsawan	Residential Boys High School, Sanjay Saraikela	10
744	Saraikela Kharsawan	Range Forest Offices, Saraikela	2
745	Saraikela Kharsawan	Range Forest Offices, Saraikela	2
746	Saraikela Kharsawan	Sadar Hospital, Saraikela	30
747	Saraikela Kharsawan	DC Office, Saraikela Kharsawan	60
748	Saraikela Kharsawan	District Jail Saraikela	40
749	Saraikela Kharsawan	K. G. B. V CHANDIL	20
750	Saraikela Kharsawan	K.G.B.V. GAMHARIA	20
751	Saraikela Kharsawan	K.G.B.V. TIKAR ICHAGARH	20
752	Saraikela Kharsawan	K.G.B.V. KHARSAWAN	20
753	Saraikela Kharsawan	K.G.B.V. KUCHAI	20
754	Saraikela Kharsawan	K.G.B.V. NIMDIH	20
755	Saraikela Kharsawan	K.G.B.V RAJNAGAR	20
756	Saraikela Kharsawan	KASTURBA GANDHI A.S SERAIKELLA	20
757	Saraikela Kharsawan	CHC Gamharia	10
758	Saraikela Kharsawan	CHC Rajnagar	10
759	Saraikela Kharsawan	Residential Boys High School Sanjay Saraikela	10
760	Saraikela Kharsawan	Gamharia PS	10
761	Saraikela Kharsawan	Kandra PS	10
762	Saraikela Kharsawan	Chauka PS	10
763	Saraikela Kharsawan	Rajnagar PS	10
764	Saraikela Kharsawan	Saraikela PS	10
765	Saraikela Kharsawan	Sub-Divisional Office Chandil	25
766	Saraikela Kharsawan	CHC Kuchai	10
767	Saraikela Kharsawan	CHC Chandil	10
768	Saraikela Kharsawan	CHC Nimdih	10
769	Saraikela Kharsawan	Kharsawan PS	10
770	Saraikela Kharsawan	Chandil PS	10
771	Simdega	DC Office, Simdega	60
772	Simdega	Mandal Jail Simdega	15
773	Simdega	Residential Middle School,Sewai ,Simdega	10
774	Simdega	Sadar Hospital Simdega	60
775	Simdega	KGBV BANO	20
776	Simdega	KGBV BOLBA	20
777	Simdega	KGBV JALDEGA	20

778	Simdega	KGBV KOLEBIRA	20
779	Simdega	KGBV KURDEG	20
780	Simdega	KGBV SIMDEGA	20
781	Simdega	KGBV THETHAITANGAR	20
782	Simdega	CHC Bolba	6
783	Simdega	CHC Kurdeg	10
784	Simdega	CHC Thethaitangar	10
785	Simdega	CHC Kolebira	10
786	Simdega	CHC Sisai	10
787	Simdega	CHC Bano	10
788	Simdega	PHC sewai	10
789	Simdega	SDO office Simdega	25
790	West Singhbhum	Akalabya Model Residential School, Todsiduri, Chaibasa	10
791	West Singhbhum	Mandal Jail Chaibasa	20
792	West Singhbhum	Residencial Boys High School, Kundrugutu, West Singhbhum	10
793	West Singhbhum	Residential High School, Lewda	10
794	West Singhbhum	Residential Girls High School, Chaibasa.	10
795	West Singhbhum	Residential Girls Middle School, Tebo	10
796	West Singhbhum	Residential Middle School, Thalkobadsamprati Manoharpur	10
797	West Singhbhum	Residential Middle School, Chhotanagara	10
798	West Singhbhum	Residential Primary School, Goyalkera	10
799	West Singhbhum	KGBV POTKA	20
800	West Singhbhum	KGBV PATAMDA	20
801	West Singhbhum	KGBV BANDGAON	20
802	West Singhbhum	KGBV CHAKRADHARPUR	20
803	West Singhbhum	KGBV JHINKPANI	20
804	West Singhbhum	KGBV KHUNTPANI	20
805	West Singhbhum	KGBV MAJHGAON	20
806	West Singhbhum	KGBV MANJHARI	20
807	West Singhbhum	KGBV NOAMUNDI	20
808	West Singhbhum	KGBV SADAR CHAIBASA	20
809	West Singhbhum	KGBV TONTO	20
810	West Singhbhum	K G B V BAHRAGORA	20
811	West Singhbhum	Residential Boys Middle School, Bhabernagar, Potka.	10
812	West Singhbhum	Residential Boys Middle School, Singhpura, Lalkota.	10
813	West Singhbhum	Residential Primary School, Dhusra, Patmad.	10
814	West Singhbhum	Range Forest Office, Chaibasa	2
815	West Singhbhum	Range Forest Office, Songara, Chakradharpur	2
816	West Singhbhum	Range Forest Office, Kera, Chakradharpur	2
817	West Singhbhum	CHC Tantanagar	7
818	West Singhbhum	CHC Sonua	10
819	West Singhbhum	CHC Bandgaon	10
820	West Singhbhum	CHC Chakradharpur	10
821	West Singhbhum	CHC khutpani	10
822	West Singhbhum	CHC Goilkera	10
823	West Singhbhum	CHC Manohapur	10
824	West Singhbhum	CHC Novamundi	10
825	West Singhbhum	CHC Tonto	10
826	West Singhbhum	CHC Manjhari	10
827	West Singhbhum	Kolhan University, West Singhbhum	100
828	West Singhbhum	CHC Jhikpani	10
829	West Singhbhum	CHC Jagannathpur	10
830	West Singhbhum	CHC Kumardungi	10
831	West Singhbhum	CHC Majhgaon	10
832	West Singhbhum	Jhinkpani PS	10
833	West Singhbhum	Sub-Divisional Office Jagannathpur	25
834	West Singhbhum	SDO OFFICE Podaiyahat	25
835	West Singhbhum	DC office, West Singhbhum	60
Total			14010