

Government of Jharkhand

JREDA

Empanelment of Agencies for Supply, Installation and Commissioning of Solar Hot Water System (SHWS) Including 5 Year CMC in the State of Jharkhand

NIB No.: 29/JREDA/SHWS/23-24



Jharkhand Renewable Energy Development Agency (JREDA)

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

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

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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.: 29/JREDA/SHWS/23-24

Dated: 31.07.2023

1	Name of the work	Empanelment of Agencies for Supply, Installation & Commissioning of 300000 LPD Solar Hot Water System (SHWS) of different capacities including five years Comprehensive Maintenance Contract (CMC) anywhere in the state of Jharkhand.
2	Total Quantity	3,00,000 LPD
3	Estimated cost (Rs.)	Rs. 6,00,00,000/- inclusive GST
4	Period of Contract	12 (Twelve) Months
5	Period of Completion	3 (Three) Months
6	Date of publication of NIT on website: http://jharkhandtenders.gov.in	02.08.2023 (Wednesday)
7	Date & Time of Pre-bid meeting	10.08.2023 (Thursday) at 02:00 P.M.
8	Last date & time for receipt of online bids	23.08.2023 (Wednesday) up to 05:00 P.M.
9	Submission of original copies of Bid fee & EMD (Offline)	23.08.2023 and 24.08.2023 up to 05:00 P.M.
10	Technical Bid Opening Date & Time	25.08.2023 (Friday) at 03:00 P.M.
11	Name & address of office inviting tender	Director Jharkhand Renewable Energy Development Agency (JREDA) 3 rd Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002 (Jharkhand)
12	Contact no. of procurement officer	0651-2491163/61
13	Helpline no. of e-procurement	0651-2491163/61

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: 29/JREDA/SHWS/23-24 **List of Important dates & details of Bids**

1	Name of work	Empanelment of Agencies for Supply, Installation & Commissioning of 300000 LPD Solar Hot Water System (SHWS) of different capacities including five years Comprehensive Maintenance Contract (CMC) anywhere in the state of Jharkhand.
2	Tender reference no.	29/JREDA/SHWS/23-24
3	Period of contract	12 (Twelve) Months
4	Mode of submission of Tender	Online through www.jharkhandtenders.gov.in
5	Tentative Quantity	Hot Water System Flat Plate Collector Based (FPC)/Evacuated Tube Collectors (ETC) Based systems: 300000 LPD
6	Lot size	Maximum: 50000 LPD Minimum: 10000 LPD No bidder shall submit bid for quantity more than maximum & not less than minimum lot size.
7	Cost of Bid document (Non-refundable)	❖ Rs 10,000/- (Rupees Ten Thousand Only) for General Bidder ❖ Rs. Nil for MSME of Jharkhand Only
8	Earnest Money Deposit	For General Bidder: Rs. 40,000/- (for 10000 LPD) For MSME of Jharkhand only: Nil. Bidders quoting for higher quantity shall have to submit EMD proportionately.
9	Publishing on website	Date: 02.08.2023 (Wednesday)
10	Period of downloading of bidding documents	Start date: 04.08.2023 (Friday) Time: 03.00 PM
		End date: 23.08.2023 (Wednesday) Time: 05.00 PM
11	Bid online submission	Start date: 05.08.2023 (Saturday) Time: 11.00 AM
		End date: 23.08.2023 (Wednesday) Time: 05.00 PM
12	Technical bid opening Date	Date: 25.08.2023 (Friday) Time: 03.00 PM
13	Authority inviting bids	Director, Jharkhand Renewable Energy Development Agency (JREDA)
14	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: The **tender fee** and **Earnest Money Deposit (EMD) in original** must be submitted between all working days from **23/08/2023 to 24/08/2023** by 5.00 PM in the office of JREDA. **If tender fee and EMD are not received before mentioned due date and time, tender shall be considered invalid. MSE seeking exemption from Bid fee & EMD, shall submit documentary evidence supporting the exemption.**

Place for receiving tender fee & EMD:

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

Section-2

NIB No: 29/JREDA/SHWS/23-24

Instructions to Bidders

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 mention 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 the scanned copies of cost of documents & EMD as specified in the tender document. Before submission of online bids, bidders must ensure that scanned copy of all the necessary documents have been attached with bid.
7. Bidder have to produce the original D.D. towards tender fee & EMD in approved form to the authority "Director, Jharkhand Renewable Energy Development Agency, Ranchi" on the date & time as mentioned in the NIT failing which bidder will be disqualified. The details of cost of documents, EMD specified in the tender documents should be the same as submitted online (scanned copies) otherwise tender will summarily be rejected.
8. Uploaded documents of valid successful bidders will be verified with the original before signing the agreement. The valid successful bidder has to provide the originals to the concerned authority. The department will not be responsible for delay in online submission due to any reason.
9. All the required information for bid must be filled and submitted online.
10. Other details can be seen in the bidding documents.
11. **Contractor Registration in JREDA is mandatory to participate in this tender.**

Details of documents to be furnished for online bidding

1. D. D. towards Tender fee.
- ii. Duly pledged EMD (Annexure).
- iii. GST certificate.
- iv. PAN Card.
- v. Firm's registration certificate/ Registration certificate of MSME of Jharkhand.
- vi. Certificate issued by Industry Dept. or MNRE for system manufacturing.
- vii. Audited Balance sheet of last three financial years or where audited annual accounts is not mandatory as per law the bidder has to submit annual financial turnover certificate duly certified by practicing chartered accountant.
- viii. Valid Test Certificates of the MNRE/MNRE approved test centers of Manufacturer on or after 01.04.2015 in the name of Manufacturer as per MNRE technical specifications.

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: Checklist for Technical Bid.
 - iii. Annexure-3: Information about the bidding firm
 - iv. Annexure-4: Declaration by the bidder.
 - v. Annexure-5: Annual Turnover.
 - vi. Annexure-6: Net Worth Certificate.
 - vii. Annexure-7: Format for power of attorney for signing of bid.
 - viii. Annexure-8: Proof of supply/execution of solar Hot Water System in any SNA/Govt. Organization/PSU in the last seven years. Attach copy of orders & corresponding satisfactory completion certificate.
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 has to provide the originals to the concerned authority on receipt of such letter, which will be sent through registered post.
5. **SBD (Tender Document) is not to be uploaded by the bidder.** The bidder has to give **affidavit** stating **agree / disagree** on the conditions in the SBD. The bidders, who disagree on the conditions of SBD, cannot participate in the tender.

Section-3

NIB No: 29/JREDA/SHWS/23-24 Notice Inviting Bid

Sub: - Empanelment of Agencies for Supply, Installation & Commissioning of 300000 LPD Solar Hot Water System (SHWS) of different capacities including five years Comprehensive Maintenance Contract (CMC) anywhere in the state of Jharkhand.

As a part of Solar Thermal Programme, JREDA invites bid for "**Empanelment of Agencies for Supply, Installation & Commissioning of 300000 LPD Solar Hot Water System (SHWS) of different capacities including five years Comprehensive Maintenance Contract (CMC) anywhere in the state of Jharkhand.**" for short listing of experienced & eligible bidders or its authorized dealer as a channel partner of JREDA to whom work shall be allocated for successful execution of the project in a defined time frame. The successful bidder shall be empaneled to execute Supply, Installation & Commissioning of complete Solar Hot Water System Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) based systems with five years Warrantee of various capacities with required specifications as per MNRE, Govt. of India guidelines along with other additional works required at site etc. The successful bidders have to identify the prospective customers/beneficiary i.e. marketing has to be done by successful bidder itself and JREDA will also provide the list of beneficiary, if available. JREDA will also provide necessary support in identification of beneficiary through paper advertisement. The successful bidders have to execute the supply, installation and commissioning of the SHWS after getting due approval from JREDA.

II. Technical Conditions:

In order to be eligible to participate in this tender for empanelment of agency, a bidder must have the following eligibility criteria: -

- 1) The manufacturer should be an MNRE approved manufacturer or its authorized suppliers having experience of similar type of works.
- 2) Bidder should have valid GST registration certificate and copies of the same duly attested shall be furnished.
- 3) The products must conform to technical requirements/ standards as per MNRE specification.
- 4) The bidders must be having or willing to open properly equipped service centers in the vicinity of their area for smooth operation of CMC period in the state of Jharkhand.
- 5) **The bidder should be a functional organization. To substantiate this claim, the bidder should submit the copy of audited balance sheet for last 3 years or from the date of establishment to 31.03.2022, whichever is applicable with income tax return. These balance sheets should be duly certified by the Statutory Auditor with his stamp.**
- 6) **The bidder should submit Turn over and Net Worth Certificate duly certified by the Statutory Auditor with his stamp.**

7) Registered Firms/Company/MSME of Jharkhand should submit the attested copy of Registration given by the Industry Department, Govt. of Jharkhand as per Jharkhand procurement policy 2014 and its amendment thereon.

• **Contractor Registration in JREDA is mandatory to participate in this tender.**

8) Turnover Requirement:

For General Bidder: Bidder should have the minimum average Annual Turnover should be 30% of estimated cost of minimum lot size and thereafter in same proportion for higher quantity derived from the last three financial years ending on 31.03.2022 on the basis of audited annual accounts, where audited annual accounts is not mandatory as per law the bidder has to submit annual financial turnover certificate duly certified by practicing chartered accountant.

For MSME of Jharkhand: Bidder should have the minimum average Annual Turnover should be 10% of estimated cost of minimum lot size and thereafter in same proportion for higher quantity derived from the last three financial years ending on 31.03.2022 on the basis of audited annual accounts, where audited annual accounts is not mandatory as per law the bidder has to submit annual financial turnover certificate duly certified by practicing chartered accountant.

New-MSME is defined as MSME which have not completed 3 financial years from the date of establishment of Solar Hot Water equipment manufacturing unit.

A :- Unit has not completed 1 Year – Financial Soundness Certificate issued from Bank is required not less than 10% of Quoted Quantity Cost.

B :- Unit has not completed 2 Year – should have annual turnover at least 10% of Quoted Quantity Cost.

C :- Unit has not completed 3 Year - should have Average Annual Turnover of last 2 years equal to 10% of Quoted Quantity Cost.

The certificate should be issued by CA who has performed audit of accounts with UDIN no. as per the Performa given at Annexure-5

9) Net Worth Requirement:

For General/MSME of Jharkhand Bidders: Net worth should be positive.

10) Bidders have to download the bid document from website (www.jharkhandtenders.gov.in) and submit the scan copy of the cost of the bid document to be submitted in shape of demand draft of Rs. 10,000/- (Rupees Ten thousand only) in favour of "Director, JREDA" on any Indian Nationalized Bank/Scheduled Bank, payable at "Ranchi". The tender fee in original must be submitted from **23/08/2023 to 24/08/2023 by 05.00 PM** in the office of JREDA.

MSMEs of Jharkhand have not required to submit Bid fee & EMD as per Jharkhand Procurement Policy 2014 and its amendment thereon.

11) Experience Requirement:

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: -

a. Three similar completed works costing not less than the amount equal to 40% of the Quoted quantity cost.

Or

b. Two similar completed works costing not less than the amount equal to 50% of the Quoted quantity cost.

Or

c. One similar completed work costing not less than the amount equal to 80% of the Quoted quantity.

For MSME of Jharkhand: One similar completed work costing not less than the amount equal to 10% of the estimated Project cost/ Quoted quantity from PSU/Govt. Organization/ SNA in last seven years.

New-MSME of Jharkhand shall be exempted from the Experience requirement.

12) Bidders should submit in

a) Part – I (Technical Bid) – Technical Bid comprising techno-commercial part with earnest money in the form of DD/FDR/Bank Guarantee of requisite value as mentioned in "Section-1 (List of Important dates & details of Bids)". The DD/FDR/Bank Guarantee shall be made in favour of "Director, JREDA" payable at Ranchi from any Indian Nationalized bank/Scheduled bank. The FDR/bank guarantee shall remain valid for 12 months from the date of opening of the Bid. Only Original DD/FDR/Bank Guarantee shall be accepted. The technical bid has to be uploaded on e-Portal and hard copy against EMD and Tender Fee have to be submitted in JREDA office till last date of tender submission.

b) Part – II (Financial Bid) – Financial Bid comprising Price Bid as per **Annexures 9 and 9 (a)** of the tender, must be uploaded on e-Portal.

13) Empanelment Procedure after opening of Financial Bid:

Technically qualified bidders shall be empanelled for the supply & Installation of Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) based systems.

Allocation of the quantity to MSME registered in Jharkhand will be made as per the provisions of Jharkhand Procurement Policy 2014 and its amendment thereon. MSME of Jharkhand should be functional & having running production unit in the State and should fulfill all the criteria as fixed in Jharkhand Procurement Policy 2014 and its amendment thereon. Successful bidders shall be required to furnish at the time of Agreement, documentary evidence of the quantity of production of the self-manufactured component/s for the last three years.

Release of capacity of supply, Installation & Commissioning of Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) based systems to successful bidders will be done batch-wise and next batch will be released on the basis of successful execution of the previous batch. If any bidder fails to fulfill the earlier commitment, quantity of such bidders may be allotted to another successful bidder/s based on their performance to complete the work within stipulated time.

SECTION-4

NIB No: 29/JREDA/SHWS/23-24

INSTRUCTIONS TO BIDDERS Table of Clauses

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Clause B. Bidding Documents

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Clause F. Award of Contract

- 27 Award criteria
- 28 JREDA's Right to accept any Bid and to reject any or all Bids
- 29 Notification of Award and signing of Agreement
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- 31 Performance Guarantee.
- 32 Five years CMC.
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34. Corrupt or Fraudulent Practices

Instructions to Bidders (ITB)

A. General

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

- 2.1 The JREDA has decided to undertake the works of "**Empanelment of Agencies for Supply, Installation & Commissioning of 300000 LPD Solar Hot Water System (SHWS) of different capacities including five years Comprehensive Maintenance Contract (CMC) anywhere in the state of Jharkhand.**" through funds from the Government of Jharkhand to be implemented through JREDA.

3 Eligible Bidders

- 3.1 This Invitation for Bids is open to all bidders as defined in 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 in Section 3, Forms of Bid and Qualification information, 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) Copy of Test Certificate confirming to MNRE guideline spelt out in the supply & Installation of Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) based systems.
 - e) Certificate to the effect that the systems to be supplied are indigenous and not fully imported must be furnished.
 - f) 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. Bidder should submit photocopy of work order of supply & Installation of Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) based Hot Water System and corresponding satisfactory completion report issued by concern SNA/Govt./PSU
 - 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.A (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.B 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 and financial failures.
- iii) Participated in the previous bidding for the same work and had quoted unreasonably high or low bid prices and could not submit 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 Site will be allocated to successful bidders as per the demand received or bidder at his own cost explore sites, which may be across the State. The bidder shall have no claim regarding economy of scale, choice of district/region in the State. However, bidder may visit site after allocation of site.

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. Qualifying 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 inform 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 Pre-bid meeting will be held on **10.08.2023 (Thursday)** at 2.00 P.M. in the Conference Hall of JREDA. The bidder or his authorized representative may attend the meeting.
- 9.3 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.
- 9.4 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.
- 9.5 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 (upto 31/3/2022) certified by chartered Accountant.
- f) Annual Turn over Details certified by Chartered Accountant.
- g) Net worth certificate 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) Authorized address & contact numbers of the bidder as per instruction in the Notice Inviting Bid duly digitally signed.
- k) Undertaking of Bidder that he is able to invest minimum of cash upto 10% as defined in ITB.
- l) Undertaking for validity of bid for 180 days.

B – Financial Bid – (Finance Cover)

- i) Duly Quoted & 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 Clause 1.1 of ITB.
- 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 except GST 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.
- 13.5 Tenderers should quote their rates considering wide variation of site conditions, variation in price of different components during the year 2020-21 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 cable. 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, as part of the Bid, Earnest Money, in the amount specified in the Notice Inviting Bid.

16.2 The Earnest Money shall, at the Bidder's option, be in the form of Bank Guarantee/Demand Draft/FDR of a scheduled commercial bank, issued in favour of the name given in the Notice Inviting Bid. The Bank Guarantee/FDR shall be valid for 12 months or more from the date of opening of the Bid.

16.3 Any bid not accompanied by an acceptable Earnest Money, 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 within 30 days of the end of the Bid validity period specified in Clause 15.1 of ITB.

16.5 The Earnest Money of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Security Deposit.

16.6 The Earnest Money may be forfeited:

- a) if the Bidder withdraws the Bid after bid opening 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. Sign the Agreement; and/or
 - ii. Furnish the required Performance Security and Security Deposit.

17 Alternative Proposals by Bidders

17.1 Bidders shall submit offers that comply with the requirements of the bidding documents, 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: To be opened on (date and time of Technical Bid opening as per clause 20.1 of ITB.)

Financial Bid: The contents of the Technical and Financial Bids shall be as 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 20.2 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 **Evaluation Criteria and Evaluation of Proposals**
JREDA will evaluate the proposal receipt through JREDA purchase committee for a detailed scrutiny. During evaluation of Proposals, JREDA, may, at its discretion, ask the Respondents for clarification of their Proposals.

20.8 Technical Evaluation: If a Technical Proposal is determined as not substantially responsive, JREDA will reject it. Technical Proposals conforming to eligibility criteria will be taken up for detailed technical evaluation.

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, i.e., priced bill of quantities, technical specifications and drawings.

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.

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.

- 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.
- 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.
- 25.4 After its evaluation, the JREDA may require that the amount of the performance security set forth in Clause 31 be increased 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 JREDA, which shall be final, binding and conclusive on the bidder.

26 Price Preference

- 26.1 There will be no price preference to any bidder; however any price preference shall be in line with Jharkhand Procurement Policy 2014 and its amendment thereon for MSME bidders.

F. Award of Contract

27 Award Criteria

- 27.1 Subject to Clause 29 of ITB, the JREDA will award the Contract to the Bidder whose Bid has been determined:
- i. to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 3 of ITB, and (b) qualified in accordance with the provisions of Clause 4 of ITB; and as per clause 14 of Notice Inviting Bid (Section-3).

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

- 28.1 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.

29 Notification of Award and Signing of Agreement

- 29.1 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 and 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").

- 29.2 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.
- 29.3 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.
- 29.4 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.

30 Security Deposit:

- 30.1 Successful General bidder shall submit a security deposit @**10%** of the allotted work order value in the form of DD or FDR/Bank Guarantee valid for one year in 15 days from the date of issue of work order. If DD/FDR/Bank Guarantee will not be submitted within stipulated period from the date of issue of work order then JREDA shall cancel the work order.
- 30.2 Successful MSME bidders shall be required to deposit only 10% of security deposit (General Bidder) i.e. @**1%** of the allotted work order value in the form of DD or FDR/Bank Guarantee valid for one year in 15 days from the date of issue of work order as per Jharkhand Procurement Policy 2014 and its amendment thereon. If DD/FDR/Bank Guarantee will not be submitted within stipulated period from the date of issue of work order then JREDA shall cancel the work order.
- 30.3 The Security Deposit shall be refunded / released to the bidder after expiry of 60 days from the actual date of successful completion of work.
- 30.4 The Security Deposit will have to be maintained by the bidder with JREDA till the satisfactory completion of the work. If the work extends beyond the expiry date of DD/FDR/Bank Guarantee, bidders shall submit fresh or extend the period of validity of DD/FDR/Bank Guarantee as per the direction of JREDA, otherwise JREDA may terminate the work order and blacklist the contractor.

31. Performance Guarantee:

- 31.1 Successful General bidder shall submit a performance guarantee @5% of the completed order value in the form of DD or FDR/Bank Guarantee valid for five years from the date of commissioning of unit on or before release of any payment.
- 31.2 Successful MSE bidders shall submit a Performance Guarantee @0.5% of the completed order value in the form of DD or FDR/bank guarantee valid for five years from the date of commissioning of unit on or before release of payment.
- 31.3 The Performance Guarantee will have to be maintained by the bidder with JREDA till the completion of CMC period.
- 31.4 The Security Deposit/Performance Guarantee shall be submitted in the form of DD/FDR/bank guarantee in favour of "Director, JREDA" payable at Ranchi from any Indian Nationalized bank/Scheduled bank.
- 31.5 Non submission of Security Deposit/Performance Guarantee within the time frame, shall lead to forfeiture of EMD and cancellation of work order.
- 31.6 If Bidder/MSME unit fails to carry out the work allotted to him as per the provisions of the tender documents then such Bidder/MSME unit may be black listed for future awards of work.

32. Five Years Comprehensive Maintenance Contract (CMC):

32.1 Five years mandatory CMC to ensure long term sustainability of Solar Hot Water 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 For any issue related to operation & maintenance, a contact number shall be made available to the concerned beneficiary 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 successful bidder, the bidder will be liable for a penalty of Rs. 100 per day beyond three days of reporting of such complaint. Further if the outage of the system is more than 30 days continuously, then the 50% PBG amount shall be encashed by JREDA and if the outage is exceeding more than 60 days than complete PBG amount shall be encashed by JREDA.

33 Advances

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

34 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.

Section-5

General Terms & Conditions

NIB No: 29/JREDA/SHWS/23-24

1.0 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:

Jharkhand Renewable Energy Development Agency (JREDA) proposes for "Empanelment of Agencies for Rate Contract to Supply, Installation and Commissioning of Solar Hot Water System (SHWS) for 300000 LPD capacity including 5 years CMC in the State of Jharkhand.

This Scope of work includes following works: -

- a. System installed shall be well grouted/ clamped with collectors installed in a way that it is able to sustain the highest wind pressure of that area.
- b. All the collectors will be south facing inclined at suitable angle to give best performance in winter.
- c. There will not be any shadow falling on the collectors from nearby structures or of other collectors in front or back row
- d. Hot water pipelines of any kind will be fully insulated from the point of drawl of water from tank to delivery points.
- e. System will be installed nearest to the point of hot water usage to avoid longer pipeline & higher heat losses.
- f. The workmanship & aesthetics of the system will be good and it should be visible to anybody
- g. Air vent pipe, make up water and cold water tanks will be installed as required for smooth functioning of the system.
- h. There should not be any leakage observed in the system from tanks/ collectors/pipelines.
- i. Supply, Installation and Commissioning of Solar Hot Water System (SHWS) in the individual households/institution with required specification as per MNRE, GOI guideline.
- j. The supplier shall after supplied/delivery at site, submit details of the same in the **Annexure 10**.
- k. The material to be supplied to the respective site should be as per the MNRE specification with at least Five years CMC period on devices supplied by the firm.
- l. The bidders have to identify the prospective customers/beneficiaries i.e. marketing has to be done by successful bidder itself and JREDA will also provide the list of beneficiary if available. JREDA will also provide necessary support in identification of beneficiary through paper advertisement. The successful bidders have to execute the supply, Installation & commissioning of Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) based systems after getting due approval from JREDA. Bidder will reimburse beneficiary/ firms entitled to the eligible subsidy amount subject to availability of funds/sanction of MNRE as per the guideline. In such case, the bidder/beneficiary should submit required documents and proof of supply, Installation & Commissioning of Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) based systems.

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 inclusive of all taxes, duties, levies and 5 years CMC etc. except GST as on the opening date of tender.*** 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 the materials before issue of dispatch order. 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 inspection.

6.0 Payment Terms & Conditions:

Subject to any deduction which JREDA may be authorized to make under this contract, the contractor shall be entitled to payment as follows:

- a. Bidder has to collect payment from beneficiary of his part after successful supply installation & commissioning of Solar Hot Water System (SHWS).
- b. Payment of subsidy as fixed by JREDA will be made to beneficiary; however payment can be done to agencies after getting certificate of supply and its satisfactory performance as per **Annexure-11** from beneficiary and its physical verification by JREDA representative.

The agency should submit the photograph of successful supply & installation of Solar Hot Water System (SHWS) with beneficiary with GPS location.

7.0 Liquidated Damages for Delay in Completion:

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.

8.0 Risk & Cost:

If the contractor fails to complete the awarded work up to 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.

9.0 Insurance:

Responsibility of security of materials till commissioning shall be of Contractor. Contractor may arrange for transit and erection insurance at his own cost.

10.0 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.

11.0 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 Bill of Materials (BoM)/BoQ or not.

12.0 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.

13.0 Agreement:

The successful qualified suppliers shall have to enter into an agreement with JREDA in prescribed format before commencement of supply.

14.0 Income Tax / GST:

Without prejudice to the obligations of the supplier under law, any income tax and GST 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.

15.0 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, lightning, 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 canceling this contract in whole or part thereof, at its discretion. The contractor shall not claim for compensation for force majeure conditions.

16.0 Jurisdiction of the Court:

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

Section-6

NIB No.: 29/JREDA/SHWS/23-24

Technical Specification

Detailed Technical Specifications of Various Components of different types of SHWSs:

A. Flat Plate Collector (FPC) Solar Hot Water System

FLAT PLATE COLLECTOR	BIS 12933 specifications issued on and after April, 2012	
COLLECTOR SUPPORT FRAME	Of non corrosive material or have corrosion resistant protective coating and shall be made with angle iron of 35 mm x 35mm x 4mm; will have vertical support at top and bottom edge of the inclined plane of the collector at a distance of 1.5 M or less. The vertical support shall be firmly grouted with the roof.	
STORAGE TANK (HOT WATER)	SS 304 or 316 grade	
a)Material		
b) Thickness	Minimum Thickness	Tank capacity
	20 gauge	(0.91mm)for 100 LPD
	20 gauge	(0.91mm) for 200 LPD
	20 gauge	(0.91mm)for 500 LPD
	18 gauge	(1.2mm)for 1000LPD
	18 gauge	(1.2mm)for 1500 LPD
	18 gauge	(1.2mm)for 2000 LPD
	16 gauge	(1.6mm)for 3000 LPD
	14 gauge	(2.0mm) for 4000 LPD
	14 gauge	(2.0mm)for 5000 LPD
c) Thermal Insulation of Storage tank	Minimum 50 mm thick CFC free PUF having density of 28-32kg/ cu. m for domestic systems and 100mm thick Rockwool of 48 kg per cu. m for other systems.	
d) Inner tank welding	TIG / Seam/ pressurized weld (Open arc weld not permitted)	
PIPING	GI/Composite PVC which can withstand temp. of 250 deg. C	
Material		
Insulation	Minimum 50 mm thick rock wool or 25 mm thick PUF On GI pipes. In case of composite pipes, protective material should be provided, to avoid cracks and damages due to weather.	
INSTRUMENTATION	Temperature gauge: 1 No. dial type (for Hot Water Storage Tank/Outlet)	
COLD WATER TANK	HDPE/LDPE material with Gun metal float valve (ISI marked) equal to the capacity of Hot water storage tank.	
MAKE UP TANK	The capacity of makeup tank should be 5 liters up to 500 LPD and 10 liters for 1000 LPD and above made of SS304 minimum 0.8 mm thick	

<p>STANDS & PEDESTALS FOR THE TANKS (hot water tank/ cold water tank)</p>	<p>The tanks will be mounted on stands made out of angle iron frame of 35x35x4mm up to 500 liters, 50x50x6 mm up to 2000LPD and 65x65x6mm for capacity above 2000 liters with each leg duly grouted with PCC 1:2:4 of 1'x1'x1' size.</p> <p>The cold water tanks will be placed over angle iron frame having 4 cross members in 4 legs with 5mm thick MS sheet for full bottom support fixed of 4 horizontal members based on the size of the cold water tanks.</p>
<p>SYSTEM LAYOUT & DESIGN</p>	<p>Maximum number of collectors in series should not be more than ten. Maximum number of collectors in parallel in one row without the use of any piping connections should not be more than six.</p> <p>Air venting at appropriate places without hindrance of a spring leaded valve to prevent air locking in the system should be provided. For this purpose, the system shall have, at a suitable point, atmospheric pressure conditions preferably in the high temperature zone.</p>
<p>HEAT EXCHANGER (SHELL/ COIL Type) Material and size</p>	<p>Cu/SS tube of ¾" dia. for thermo siphon systems only.</p> <p>It shall be so designed to ensure that pressure drop is less than 0.3 kg/cm. The surface area of the heat exchanger should not be less than 0.24 sq. m per sq. m of the absorber area of the system (for 100 LPD system, the tube length of 7 meter is required).</p>
<p>ELECTRICAL BACK UP (only upto 1000 LPD)</p>	<p>For 100 -200 LPD - 2 KW For 300-500 LPD- 2x2 KW Electrical wiring of 2:5 mm sq. 2 core unarmoured cable, thermostat of ISI mark of 16 amps.</p> <p>For 600 LPD- 6 KW For 800 -1000 LPD-9 KW</p> <p>Electrical back up control panel for 6 KW & above should be provided.</p>

B. Evacuated Tube Collectors (ETC)

The Evacuated Tube Collectors (ETC) based systems from MNRE approved manufacturers / Contractors. The Systems will have the following minimum requirements as per MNRE specifications / standards.

<p>Type of ETC</p>	<p>3 Layer solar selective coated Evacuated tube of outer dia of 58 mm and 1800 mm long tubes Inner layer of copper coating should be visible. Detailed specifications of tubes will be as per the guidelines laid down by MNRE.</p>
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Capacity wise number of Evacuated tubes and corresponding collector area in solar water heating system with evacuated tubes

The evacuated tubes for manufacturers of solar water heater systems are available in various sizes. The minimum collector area for any capacity of solar water heating system will be as per following Table.

Sr. No	System Capacity (lpd)	Collector Area (m ²)
1	50	0.75
2	75	1.18
3	100	1.50
4	150	2.25
5	200	3.0
6	250	3.75
7	300	4.50
8	400	6.0
9	500	7.5
10	Above 500	1.3m ² per 100 lpd

The no. of tubes for any capacity can be calculated as under.

No. of tubes = Minimum collector area as per above table / Area of single tube

The area of single tube can be calculated as follows.

Area of tube = 3.14 x Radius of cover glass tube (O.D. /2) x length of tube

Minimum no of tubes required for the system can be calculated as per following example:

For a system of 200 lpd, cover glass tube diameter 47 mm & length 1.5 m

	= 3.14 x 0.0235 x 1.5
Area of tube	=0.111 m ²
No. of tubes	= 3.0/0.111
	=27.09

Rounding of calculated no. of tubes should be done on higher side. Therefore, minimum no. of tubes required in the system is 28.

The area for some of the tubes generally used currently in the system as calculated according to above formula is given below for reference:

Type of tube

No. of tubes/ Absorber Area

Sr. no.	Cover Tube outside	Length of tube (mm)	Area of single tube (mm ²)
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	diameter (mm)		
1	47	1500	0.111
2	47	1800	0.133
3	58	1800	0.163

Area of other size of tubes may be calculated if required as per formula given above

Note 1 –The above collector area calculation is only applicable for subsidy purpose and not for testing of other thermal performance parameter of system.

Hot Water Storage Tank

Inner tank material	Stainless Steel 316 Grade
Inner tank thickness	Minimum 1.6 mm thickness
Manifold and heat conduction unit	Stainless Steel 316 grade minimum 0.5 mm thickness and PUF insulation with SS Cladding. OR Electric grade Copper of 0.8 mm thick and PUF insulation with SS Cladding
Storage tank capacity	Not less than system capacity (excluding the water inside the ETC Tubes)
Thermal insulation	Minimum 50mm thick with CFC free PUF having density of 28-32 kg per Cu.mtr.
Outer cladding and Frames	SS Sheet or /GI /MS sheet with anti-corrosive powder coating
Inner tank pipe fittings	SS 316 grade pipe fittings of suitable size
Support structure for Collectors & tanks.	MS Structure with non corrosive material powder coating or have corrosion resistant protective coating. They will be strong enough to sustain their pressure during the lifetime of system.
Bolt, Nuts, Screws and Clamp fittings etc.	Stainless Steel

ETC Tubes: Evacuated tubes consist of two concentric glass tubes which are sealed in a semi-circular shape on one side and are joined to one another on the other side. The space between the tubes is evacuated and then hermetically sealed (evacuated insulation). To use solar energy, the internal glass tube is coated with an environmentally friendly, highly selective layer on the outside, thus turning it into an absorber. This coating is thus protected in the vacuum cavity.

Manifold: The manifold contains the insulated collecting and distributing pipes. The flow and return pipe can be connected on the left or on the right, as selected. Each evacuated tube contains a direct flow U-shaped pipe which is connected to the collecting or distributing pipe such that each individual evacuated tube has the same hydraulic resistance. This U-shaped pipe is pressed against the inside of the evacuated tube with the heat transfer plat.

General Requirements

- System will be well grouted/ clamped with collectors installed so as to enable it to sustain the highest wind pressure of that area.
- All the collectors will be south facing inclined at suitable angle to give best performance in winter
- There will not be any shadow falling on the collectors from nearby structures or of other collectors in front or back row
- Hot water pipe lines of any kind will be fully insulated from the point of drawl of water from tank to delivery points. Also, care will be taken to avoid heat losses from pipelines.
- System will be installed nearest to the point of hot water usage to avoid longer pipeline & higher heat losses.
- The workmanship & aesthetics of the system will be good and it should be visible to anybody
- Air vent pipe, make up water and cold-water tanks will be installed as required for smooth functioning of the system
- There won't be any leakage observed in the system from tanks/ manifold/ pipelines
- An undertaking will be given by the manufacturer/Contractor confirming to above requirements. The manufacturer will also provide the engineering drawing and detailed specifications of each and every part of his system to the JREDA along with O&M manual.
- *Salient features of the system will also be highlighted on a plate fixed on front surface of the tank along with name of manufacturer/ dealer & his contact No.*

Operation Manual: An Operation, Instruction, and Maintenance Manual in Hindi and English should be provided with the Solar Water Heater systems. The detailed connection diagrams should also be provided with the manual.

Format for Covering Letter

NIB No: 29/JREDA/SHWS/23-24

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

To,

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

Sub: Empanelment of Agencies for Rate Contract to Supply, Installation and Commissioning of Solar Hot Water System (SHWS) for 300000 LPD capacity including 5 years CMC in the State of Jharkhand.

Sir,

We are hereby submitting our offer in full compliance with the terms and condition of the above NIB No. We have submitted the requisite amount of "Earnest Money" in the form of Bank Guarantee, valid for twelve months.

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

Checklist for Technical Bid**NIB No: 29/JREDA/SHWS/23-24**

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

SL. No.	Particulars	Uploaded Or not		Page No in the Technical Bid
		Yes	No	
1.	D.D towards Tender fee.			
2.	Duly pledged EMD			
3.	GST Certificate			
4.	PAN Card			
5.	Firm's Registration / MSE Certificate			
6.	Manufacturer/Authorized Dealer having valid test certificate as per MNRE guide line			
7.	Valid Test Certificate from MNRE			
8.	Audited Balance Sheet for Three Year			
9.	Quoted Quantity			
10.	Covering Letter (Annexure -1)			
11.	Checklist for Technical bid (Annexure -2)			
12.	Information about Bidder (Annexure -3)			
13.	Declaration by the Bidder (Annexure-4)			
14.	Annual Turn Over (Annexure -5)			
16.	Power of Attorney (Annexure -6)			
17.	Detail of order received and executed in last 07 years (Annexure -7)			
18.	Bank Guarantee for Earnest Money (Annexure-9)			
19.	Other if any			

*Please write page number in the box.

Please ensure:

- i) That all information is providing strictly in the sequence as mentioned in the checklist above.
- ii) Bidders are advised to strictly confirm compliance to bid condition 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 may 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 :

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

Annexure-3

Information about The Bidding Firm

NIB No: 29/JREDA/SHWS/23-24

(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.	Name & Designation of Authorized Signatory for Correspondence (Attach Power of Attorney as per Annexure-5)	
6.	Nature of Firm (Proprietorship/Partnership /Pvt. Ltd./Public Ltd. Co./Public Sector)	
7.	Permanent Account Number (PAN) (Attach proof)	
8.	Firm's Registration Number (Attach proof)	
9.	Sales Tax/Value Added Tax Registration Number (Attach proof)	
10.	Manufacturer/Authorized Dealer having valid test certificate as per MNRE guide Line	
11.	Office/ Dealer and Service network in Jharkhand (Give details)	
12.	Quoted Type (Evacuated Tube Collectors (ETC)/ Flat Plate Collector Based (FPC) or Both	
13.	Quoted Capacity (LPD)	
14.	Particulars of Earnest Money	
15.	Place where Materials will be Manufactured	
16.	Place where Materials will be Available for Inspection	
17.	Other details and remarks, if any	
18.	Name of the Contact Person for this NIB with Designation, email, phone & Mobile Number	

Yours faithfully,
(Signature of Authorized Signatory)

Name :
Designation :
Company seal :

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

Annexure-4

Declaration by the Bidder

NIB No: 29/JREDA/SHWS/23-24

(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 from similar type of work by any SNA/ Government Dept. /PSU.
11. This offer shall remain valid for 180 days 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: 29/JREDA/SHWS/23-24

[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

Sub: Empanelment of Agencies for Rate Contract to Supply, Installation and Commissioning of Solar Hot Water System (SHWS) for 300000 LPD capacity including 5 years CMC in the State of Jharkhand.

Dear Sir,

We certify that the Bidding Company had an average Annual Turnover of Rs. -----
----- -- based on audited annual accounts of the last three years ending 31.03.2022.

Sl. No.	Financial Year	Turnover (in Rupees)
1.	2019-20	
2.	2020-21	
3.	2021-22	
	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: 29/JREDA/SHWS/23-24

[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

Sub: Empanelment of Agencies for Rate Contract to Supply, Installation and Commissioning of Solar Hot Water System (SHWS) for 300000 LPD capacity including 5 years CMC in the State of Jharkhand.

Dear Sir,

This is to certify that Net worth of.....{insert the name of Bidding Company}, as on 31st March 2022 is RsThe 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 31st March 2022	

UID No.:

Authorised Signatory
(Power of Attorney holder)

Statutory Auditor
(Stamp & Signature)

Date:

Format of Power of Attorney for Signing Bid

NIB No: 29/JREDA/SHWS/23-24

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 **NIB No: 29/JREDA/SHWS/23-24** of Jharkhand Renewable Energy Development Agency, 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 with name & designation.

Accepted by

..... (Signature with name & designation)

(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.

NIB No: 29/JREDA/SHWS/23-24

Details of Orders Received and Executed in Last 7 Years

Details of Orders Received & Executed by the Manufacturer/Supplier for Supply & Installation of **Solar Hot Water System** during Last Seven Years.

SL. No.	Name of Agency/ Organization	Purchase Order No., Date.	Ordered Qty in LPD	Date of Full Supply with letter no. & date of performance certificate issued by Authorized Person	Page number in which P.O is uploaded	Page number in which Performance certificate is uploaded
1	2	3	4	5	6	7

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 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

Price Bid
NIB No: 29/JREDA/SHWS/23-24

Annexure-9

Sl. No.	Item	Quoted Quantity (to be entered by the bidder)	Rate per LPD Excluding GST and including all other taxes & charges (to be entered by the bidder)	
			In figure	In Words
1	Empanelment of Agencies for Rate Contract to Supply, Installation and Commissioning of Solar Hot Water System (SHWS) for 300000 LPD capacity including 5 years CMC in the State of Jharkhand for following types: I. Evacuated Tube Collectors (ETC) II. Flat Plate Collector Based (FPC)			

The quoted price shall be exclusive of GST and inclusive of all other taxes, duties, levies and 5 years CMC etc. as on the opening date of tender.

**SIGNATURE,
NAME & SEAL OF BIDDER**

PRICE Details in pdf.format

Sl. No.	Item	Make	Unit rate (in Rs.)
1	i. Evacuated Tube Collectors (ETC) ii. Flat Plate Collector Based (FPC)		
2	Collector Support Frame		
3	Storage Tank (Hot Water)		
4	Piping		
5	Cold Water Tank		
6	Stands & Pedestals for the Tank		
7	System Layout & Design		
8	Heat Exchanger (Shell/Coil Type)		
9	Installation charges of the system		
10	Other Miscellaneous charges		
11	Five Years CMC charges		
Total			

Note: The technical specifications of the above items are as per the NIB.

**SIGNATURE,
NAME & SEAL OF BIDDER**

Format for Submitting Bank Guarantee for Earnest Money

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

To,
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.

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.:" NIB No. 29/JREDA/SHWS/23-24

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.: **NIB No. 29/JREDA/SHWS/23-24**

1. in this regard, shall be final and binding on us and we shall not be entitled to question the same.
2. 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 180 days 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 & Seal)

Name of Bank Manager:

Address

.....

Certificate of Delivery cum Joint Inspection and Handing over Report

NIB No: 29/JREDA/SHWS/23-24

This is to certify that M/S ----- have supplied & installed Solar Hot Water System with all accessories in good condition as per the specification laid down in the supply order no- date-The system is working satisfactorily.

1.	Name of Beneficiary	:	
2.	Complete Address with Contact No.	:	
3.	Capacity in LPD	:	
	Signature With Seal	:	
	M/s		Signature (With Name) of the user / representative of the user's Organization with seal (if any)

Signature with Seal
Concern Officer / Staff of JREDA