

Tender Document
**Empanelment of Agencies for Design,
Supply, Installation, Testing &
Commissioning of 2000 nos. Solar
Water Pumping System (SWPS) for
Irrigation Purpose in the State of
Jharkhand**

NIB Number: 19/JREDA/SPV/SWPS-2000/17-18

JREDA
Government of Jharkhand



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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Jharkhand Renewable Energy Development Agency (JREDA)

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

E-mail: info@jreda.com; Website: www.jreda.com**e-Procurement Notice****Tender reference no.: 19/JREDA/SPV/SWPS-2000/17-18,****Dated 09.03.2018**

1	Name of the work	Empanelment of Agencies for Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand.
2	Estimated cost (Rs.)	Rs. 51.45 Crore
3	Contract Period	12 (Twelve) Months
4	Time of completion	04 (Four) months to 06 (Six) months
	Date of publication of NIT on website: http://jharkhandtenders.gov.in	12.03.2018 (Monday)
5	Date & time of Pre-bid meeting	21.03.2018 (Wednesday) at 1.00 P.M.
6	Last date & time for receipt of online bids	06.04.2018 (Friday) upto 05:00 PM
7	Submission of original copies of Bid fee & EMD (Offline)	06.04.2018 and 07.04.2018 up to 5.00 P.M.
8	Technical Bid Opening Date	09.04.2018 (Monday) at 03:00 PM
9	Name & address of office inviting tender	Director, Jharkhand Renewable Energy Development Agency(JREDA) 3 rd Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002 (Jharkhand)
10	Contact no. of procurement officer	0651-2491163/61
11	Helpline no. of e-procurement	0651-2491163/61

Any change 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: 19/JREDA/SPV/SWPS-2000/17-18

List of Important dates & details of Bids

1.	Name of work	Empanelment of Agencies for Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand.																																		
2.	Tender reference no.	19/JREDA/SPV/SWPS-2000/2017-18																																		
3.	Contract period	12 (Twelve) Months																																		
4.	Time of completion	04 (Four) months to 06 (Six) months																																		
5.	Mode of submission of tender	Online through www.jharkhandtenders.gov.in																																		
6.	Tentative Quantity	<p>Submersible Solar PV Water Pumping System:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Type of pump</th> <th style="text-align: center;">Nos.</th> <th style="text-align: center;">Rate (Rs.)</th> <th style="text-align: center;">Amount (Rs.)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 Hp DC</td> <td style="text-align: center;">500</td> <td style="text-align: right;">1,20,000.00</td> <td style="text-align: right;">6,00,00,000.00</td> </tr> <tr> <td style="text-align: center;">2 Hp DC</td> <td style="text-align: center;">500</td> <td style="text-align: right;">2,40,000.00</td> <td style="text-align: right;">12,00,00,000.00</td> </tr> <tr> <td style="text-align: center;">2 Hp AC</td> <td style="text-align: center;">200</td> <td style="text-align: right;">2,00,000.00</td> <td style="text-align: right;">4,00,00,000.00</td> </tr> <tr> <td style="text-align: center;">3 Hp DC</td> <td style="text-align: center;">200</td> <td style="text-align: right;">3,60,000.00</td> <td style="text-align: right;">7,20,00,000.00</td> </tr> <tr> <td style="text-align: center;">3 Hp AC</td> <td style="text-align: center;">300</td> <td style="text-align: right;">3,00,000.00</td> <td style="text-align: right;">9,00,00,000.00</td> </tr> <tr> <td style="text-align: center;">5 Hp DC</td> <td style="text-align: center;">100</td> <td style="text-align: right;">4,75,000.00</td> <td style="text-align: right;">4,75,00,000.00</td> </tr> <tr> <td style="text-align: center;">5 Hp AC</td> <td style="text-align: center;">200</td> <td style="text-align: right;">4,25,000.00</td> <td style="text-align: right;">8,50,00,000.00</td> </tr> </tbody> </table> <p>The quantity mentioned above is tentative and subject to increase or decrease depending on the actual requirement at the time of placing order, demand in each category and resources available. The Total estimated cost is about Rs.51.45 Crore on basis of bench mark cost of MNRE.</p>			Type of pump	Nos.	Rate (Rs.)	Amount (Rs.)	1 Hp DC	500	1,20,000.00	6,00,00,000.00	2 Hp DC	500	2,40,000.00	12,00,00,000.00	2 Hp AC	200	2,00,000.00	4,00,00,000.00	3 Hp DC	200	3,60,000.00	7,20,00,000.00	3 Hp AC	300	3,00,000.00	9,00,00,000.00	5 Hp DC	100	4,75,000.00	4,75,00,000.00	5 Hp AC	200	4,25,000.00	8,50,00,000.00
Type of pump	Nos.	Rate (Rs.)	Amount (Rs.)																																	
1 Hp DC	500	1,20,000.00	6,00,00,000.00																																	
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5 Hp DC	100	4,75,000.00	4,75,00,000.00																																	
5 Hp AC	200	4,25,000.00	8,50,00,000.00																																	
7.	Cost of Bid document (Non-refundable)	<ul style="list-style-type: none"> ❖ Rs.10, 000/- (Rupees Ten Thousands only) for General Bidder. ❖ Rs. Nil for MSME of Jharkhand. 																																		
8.	Earnest Money Deposit	<ul style="list-style-type: none"> ❖ For General Bidder: 2% of the value of quoted quantity. ❖ For MSME of Jharkhand: Nil. 																																		
9.	Publishing on website	12.03.2018 (Monday)																																		
10.	Pre-Bid meeting	Date. 21.03.2018 (Wednesday)	Time: 1.00 P.M.																																	
11.	Period of downloading of bidding documents	Start date: 12.03.2018	Time: 10.00 AM																																	
		End date: 06.04.2018	Time: 05.00 PM																																	
12.	Bid online submission	Start date:26.03.2018	Time: 11.00 AM																																	
		End date: 06.04.2018	Time: 05.00 PM																																	
13.	Technical bid opening date	Date. 09.04.2018 (Monday)	Time: 03.00 PM																																	
14.	Authority inviting bids	Director, Jharkhand Renewable Energy Development Agency(JREDA)																																		
15.	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 **06.04.2018** and **07.04.2018** by 5.00 PM. **If tender fee and EMD are not received before mentioned date and time, tender shall be considered invalid. MSME 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: 19/JREDA/SPV/SWPS-2000/17-18

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.
 - i. 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.

B. Details of documents to be furnished for online bidding:

11. **Scanned copies of the following documents to be up-loaded in pdf format on the website <http://Jharkhandtenders.gov.in>.**
 - i. 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. Certified copies of the annual returns with audited balance sheet and Income Tax Returns (ITR) submitted to the 'Registrar of Companies' (R.O.C.) should be enclosed. For the preceding year, a summarized sheet of turnover certified by registered CA may be enclosed.

- viii. For proprietary/partnership companies, copies of Income Tax returns with full details of turnover should be enclosed. A summarized sheet of turnover certified by registered CA should also be enclosed.
 - ix. IEC/IS certificate of Solar PV module.
 - x. Test certificate of solar water pumping system from a MNRE authorized testing centre. Test certificate should have been issued on or after 1st January, 2014.
 - xi. Any other documents as per other eligibility conditions of MNRE's Standard Bidding Document.
12. 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: Average Annual Turnover certificate issued by CA.
 - vi. Annexure-6: Net Worth certificate issued by CA.
 - vii. Annexure-7: Format for power of attorney for signing of bid.
 - viii. Annexure-8: Proof of supply/execution of solar pump and off-grid solar photovoltaic systems/ power plants in any SNA/Govt. organization/PSU in the last seven years. Attach copy of orders & corresponding satisfactory completion certificate.
 - ix. Annexure-11: Contact details of NIB.
13. **Duly filled in & digitally signed Price Bid.**
14. 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.
15. **SBD 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, can not participate in the tender.

Section-3

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

Notice Inviting Bid

Sub: Empanelment of Agencies for Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand.

Preamble:

As part of Solar Photovoltaic Programme, JREDA invites bid for **“Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand.”** for short listing of experienced & eligible bidders to whom work shall be allocated for successful execution of the project in a defined time frame. **No bidders shall submit bid for quantity less than the minimum lot size & not more than the maximum lot size.**

Part –I:- Minimum Eligibility Conditions:

Minimum eligibility conditions:-

The bidder should be :

1. Registered Company with manufacturing facility in India for:
SPV Modules OR Motor-pump Sets OR Solar Pump Controller
(Test Certificate for any one of the above components from a MNRE accredited Test lab is mandatory)

OR

A PV System Integrator with three years track record in OFF - GRID PV Systems.

OR

MNRE empaneled Company to Participate in Solar Pumping Programme through NABARD.

2. Bidder should not be blacklisted by any Govt. Agency.
3. The bidder should have ISO 9001:2008 certification.
4. At least 10% of the tendered quantity Solar Photovoltaic Water Pumping Systems should have been installed & commissioned by the bidder by the date of submission of technical bid
5. Cumulative Experience of the Bidder in executing contracts of Off-Grid Solar Photovoltaic Systems/Power plants (Installed &Commissioned) should be at least 20% of the tender value.

OR

Cumulative Manufacture and supply of Motor-Pump sets / Solar Pump Controller/ Inverter (Tested & Certified by MNRE accredited lab) of the Bidder should be at least 20% of the tender value.

6. Average Annual Financial Turnover in the last 3 years, ending 31st March of the previous financial year should be at least 30% of the estimated cost/ Tender Value.(OR Rs. 50 Crores, whichever is less).

[Certified copies of the annual returns submitted to the 'Registrar of Companies' (R.O.C.) should be enclosed. For the preceding year, a summarized sheet of turnover certified by registered CA may be enclosed.

For proprietary/partnership companies, copies of Income Tax returns with full details of turnover should be enclosed. A summarized sheet of turnover certified by registered CA should also be enclosed.]

7. Bidder should have Test Certificate for the tendered Model of Solar Water Pumping System from a MNRE authorized testing center at the time of bidding. Test Certificate should have been issued on or after 1 January 2014.
8. The Bidder should have valid GST registration certificate. A copy of which should be enclosed. If awarded contract, bidder will need to establish Service Centre (s) in the state of operation before supply. Till then, an undertaking to be given by the bidder.

OTHER ELIGIBILITY CONDITIONS

9. The "Financial bids" of only those bidders shall be opened, who qualify in "Minimum Eligibility Conditions" as above and score at least 60 Points in "technical evaluation". The "Points" for the "technical evaluation" shall be assigned as under:

Sr. No	Criteria	Points
1	<p>A Registered Manufacturing Company/Firm/ Corporation in India of:</p> <p>Solar PV Modules</p> <p>OR</p> <p>Motor-pump Set</p> <p>OR</p> <p>Solar Pump Controller (Conforming to relevant National / International Standards)</p> <p>[Test Certificate from a MNRE accredited lab is mandatory]</p> <p>OR</p> <p>MNRE approved Solar PV Channel Partner/ MNRE approved PV System integrator/ MNRE empaneled Company to Participate in Solar Pumping Programme through NABARD.</p>	10
2	<p>Bidder's cumulative experience in supply and installation/commissioning of total number of Solar Water Pumping Systems in last 7 years:</p> <p>> 250 nos.</p> <p>> 500 nos.</p> <p>> 750nos.</p> <p>> 1000 nos.</p>	<p>5</p> <p>10</p> <p>15</p> <p>20</p>

3	Value of a "Single Order " executed by the Bidder of : Solar Water Pumping Systems OR Indigenous Motor-Pump sets /Solar Motor Pump Controllers/ Inverters Valued more than Rs. 2.0 Crore Valued more than Rs. 5.0 Crores	5 10
4	The bidder has service centers: At least two in the state At least four in the state	5 10
5	Track Record of the Bidder (in Manufacturing Off-grid PV components): Number of years, bidder is in the Manufacturing of Off-grid PV components (PV modules/ Pumps / controllers), and has not been blacklisted by any Govt. Agency[for not honoring the order after bidding OR not supplying in time OR not providing after sales service]: More than 3 years More than 5years More than 7years	5 10 15
6	Track Record of the Bidder (in the installation/commissioning of Solar Pumps): Number of years, bidder is in the installation/commissioning of Solar Pumps and has not been blacklisted by any Govt. Agency[for not honoring the order after bidding OR not supplying in time OR not providing after sales service]: More than 3 years More than 5years More than 7 years	5 10 15
7	The bidder has ISO 14001 certification	10
8	The bidder employs more than 20 people in India (as per its PF return) The bidder employs more than 50 people in India (as per its PF return) (A copy of the PF return should be enclosed as proof)	5 10

General Terms and Conditions:

10. Bidder's experience should be in supply/ installation/commissioning (contracts executed, completed and handed over) for MNRE supported Schemes / Programmes, (including Projects executed by channel partners availing MNRE support) OR any Government Organisation / Agency/ SNA/PSU in India.

11. The above experience may be anywhere in India and should not be restricted to any particular state only.

12. The total experience of solar pumping systems should be taken into account irrespective of the experience being in AC or DC Motor pump sets and surface or submersible Pump sets.
13. Consortium agreements, joint ventures and assignment of the project are NOT permitted to seek eligibility in the projects/tenders below 5000 nos. of Solar Pump Tenders.
14. The same make of Solar Panels, pumps, inverter / controller for which the test report is submitted in the bid document should be supplied by the bidder.
15. Bidders who are black-listed in any state would not be eligible to bid in other states till they remove the cause of their being black listed.
16. No Brands or makes of any component of "Solar Pump" to be listed in the tenders.
17. Any specific type of pump or internal constructional details of Motor pump set should not be mentioned.
18. MNRE specifications for irrigation pumps as well as drinking water pumps should be followed as it is for respective application, without any modifications or intermixing of specifications.
19. In case the tender has PV ratings , other than 'Indicative ratings/models' specified in MNRE specifications, then the performance norms / requirements (i.e. water output per day per watt peak of PV capacity) must be appropriately specified, without compromising or enhancing the specifications .
20. Remote monitoring should not be a complex system involving flow and pressure sensors and transducers. Detailed specifications of any particular make to be avoided.
21. In case, the tenderer wishes to procure both AC and DC pumps, then separate quantities may be indicated and separate prices should be taken for AC and DC pumps from the bidder.
22. Payment terms: Minimum 60% on supply of material, 30% on installation and balance 10% to be released against Bank Guarantee (BG) from a nationalized bank of equivalent value. This BG can be in 5 equal parts respectively valid for 1, 2, 3, 4 and 5 years from the date of installation and the expired BG should be released every year. In case if "Bidder" does not provide service during the warrantee period, BG should be forfeited and "Bidder" be blacklisted
23. In case if "Bidder" does not execute the awarded quantity, "Bidder" should be blacklisted
24. In case of a requirement for more than 1000 Pumps, not less than two bidders (maximum Five) to be awarded the contract, subject to their matching the L1 price.
25. In case the "Tendering Agency" so desires, some quantity (max. of 20%) may be considered for local small and medium entrepreneurs/start ups subject to their meeting all the specifications and terms / conditions (except the experience and turnover) and matching the L1 price of the respective model. (This is to promote local expertise and ensure that more bidders gain experience).
26. 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 & EMD in original must be submitted from 06.04.2018 & 07.04.2018 by 05.00 PM in the office of JREDA. ***It is clarified that while submitting the details on-line, the details of EMD amount is to be entered as Rs. 1,02,90,000/-, irrespective of the applicable amount of EMD calculated as per the quoted quantity in the NIB. However, the evaluation would be done scan copy of EMD amount uploaded and as per the original Bank Guarantee (BG) submitted offline in the office of JREDA.***

27. Bidders should submit in Part – I (Technical Bid) the earnest money in the form of Bank Guarantee of requisite value as mentioned in "Section-1 (List of Important dates & details of Bids)". The Bank Guarantee shall be made in favour of "Director, JREDA" payable at Ranchi from any Indian Nationalized bank/Scheduled bank. The bank guarantee shall remain valid for 12 months. Only Original Bank Guarantee shall be accepted.
28. Allocation procedure of solar water pumping systems:
- i. The lowest rate i.e. the L1 rate received would be the appropriate rate for awarding the work.
 - ii. The bidders who are found to be successful in technical bid and accepts the lowest rate received in the bid shall be empaneled for Solar Water Pumping System work for 1 year.
 - iii. Allocation of the quantity to MSME registered in Jharkhand will be as per the provisions of Standard Bidding Document guidelines of MNRE. The MSME should be functional & having running production unit in Jharkhand and should fulfill all the criteria as fixed in Jharkhand Procurement Policy 2014.
 - iv. JREDA will allot the work to L1 bidder at lowest rate (L1) rate on the basis of quoted quantity & bid capacity, whichever is lower.
 - v. Other bidders who accepts the L1 rate shall be empaneled and quantity shall be allocated on pro-rata basis of their bid capacity evaluated in their bid.
 - vi. JREDA will empanel minimum 2 bidders and maximum 5 bidders as per MNRE guidelines.
 - vii. The successful bidders, who either fail to enter into agreements for the allocated quantity or fail to execute the work as per the work order, their EMD/Security deposit shall be forfeited and will be blacklisted under intimation to MNRE and other Nodal Agencies in the Country.
 - viii. Release of numbers of sites to successful bidders will be done batch-wise and next lot will be released on the basis of successful execution of the earlier lot commitment. If any bidder fails to fulfill the earlier commitment, quantity of the bidders shall be released to another successful bidders based on their performance to complete the work within stipulated time.
 - ix. Quantity of solar water pumping systems may change in each category as per the requirement and demand received from the beneficiaries. In case there is less demand from one category, quantity of the category having lesser demand may be re-allocated to successful bidder of other category where demand is available. Similarly, in case of 1HP, 2HP, 3HP & 5HP quantity shall be allocated based on the demand received for surface mounted Solar PV pump sets and submersible Solar PV pump sets.

SECTION-4

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

INSTRUCTIONS TO BIDDERS
Table of Clauses

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2	Source of Funds		
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6	Cost of Bidding	22	Clarification of Bids and Contracting the Employer
7	Site Visit	23	Examination of bids and
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B. Bidding Documents and Evaluation			
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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
	and to Reject any or all Bids		
12	Documents Comprising the Bid	29	Notification of Award
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15	Bid Validity	32	Corrupt or Fraudulent Practices
16	Earnest Money		
17	Alternative Proposals by Bidders		
18	Sealing and Marking of Bids		

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 "**Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand**" through funds from the Government of Jharkhand, Govt. of India & Beneficiary 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 /debarred/blacklisted 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 to commit the Bidder.
 - c. Experience in works of a similar nature and size for each of the last five years, and details of works in progress or contractually committed with certificates from the concerned officer or competent authority.
 - d. Evidence of ownership of one of the component of Solar water pump i.e. Solar PV module/Pump/Inverter/Controller.
 - e. Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the last three years.

- f. Certified copies of the annual returns submitted to the 'Registrar of Companies' (R.O.C.) should be enclosed. For the preceding year, a summarized sheet of turnover certified by registered CA may be enclosed.
 - g. For proprietary/partnership companies, copies of Income Tax returns with full details of turnover should be enclosed. A summarized sheet of turnover certified by registered CA should also be enclosed.
 - h. Authority to seek references from the Bidder's bankers;
 - i. 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;
 - j. the proposed methodology and programme of construction, backed with equipment and material planning and deployment, duly supported with broad calculations and Quality Management Plan proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications and within the stipulated period of completion.
- 4.3. Bids from joint venture are not allowed.
- 4.4. Bidder shall submit all the information required to be provided as per Annexure-1, 2, 3, 4, 5, 6, 7, 8 & 11.
- 4.5. Even though the bidders meet the qualifying criteria of Section-3, 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
 - c. 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 cause the proposals with the Bidder's participation to 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.

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.
 - a. Notice Inviting Tender
 - b. Instructions to Bidders
 - c. Qualification Information
 - d. Conditions of Contract
 - e. Specifications
 - f. Bill of Quantities
 - g. Form of Bid
 - h. 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 of Bidding Documents and Pre-bid Meeting

- 9.1. A prospective Bidder requiring any clarification of the bidding documents may notify the JREDA in writing at the JREDA's address indicated in the Notice Inviting Tenders.
- 9.2. Pre-bid meeting will be held on **21.03.2018 at 1.00 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 cable so as to reach the JREDA not later than two days before the meeting.
- 9.5. Any modifications of the bidding documents 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 a Corrigendum/Addendum pursuant to Clause 10 of ITB and not through the minutes of the pre-bid meeting.
- 9.6. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Documents

- 10.1. Before the deadline for submission of bids, the JREDA may modify the bidding documents by issuing corrigendum/addendum.
- 10.2. To give prospective bidders reasonable time in which to take a corrigendum/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 English language specified in the Notice Inviting Bid.

12. Documents Comprising the Bid

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

- i. 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. Bid fee and EMD to be submitted in original in the office of JREDA as per the instruction given in the Bid.
- ii. 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.
- iii. 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. Income Tax clearance certificate/PAN Card
 - b. GST certificate.
 - c. Proof of completion of similar works during the last 5 years in the prescribed formats in the ITB duly signed by the competent authority of the issuing Department.
 - d. Audited Financial Report for the last 3 years (unto 31/3/2017) certified by chartered Accountant with ITR.
 - e. Certified copies of the annual returns submitted to the 'Registrar of Companies' (R.O.C.) should be enclosed. For the preceding year, a summarized sheet of turnover certified by registered CA shall be enclosed.
 - f. For proprietary/partnership companies, copies of Income Tax returns with full details of turnover should be enclosed. A summarized sheet of turnover certified by registered CA shall be enclosed.
 - g. Annual Turn over Details certified by Chartered Accountant.
 - h. Net worth certificate certified by Chartered Accountant.
 - i. List of current litigant cases in which the bidder is involved.
 - j. An affidavit for non-engagement of related persons.
 - k. Proof of test certificates solar PV module and latest valid test certificate should confirm that Solar Water Pumping Systems are as per MNRE specifications. The test certificate issued before 01.01.2014 will lead to outright rejection of the BID
 - l. Authorized address & contact numbers of the bidder as per instruction in the Notice Inviting Bid duly digitally signed.
 - m. Undertaking of Bidder that they are able to invest minimum of cash upto 10% as defined in ITB.
 - n. Undertaking for validity of bid for 180 days.

12.2. Financial Bid – (Finance Cover)

- a. Duly Quoted & digitally signed Bill of Quantity (BoQ) in the file supplied by JREDA in .xls/.pdf format shall be uploaded.

NOTE:- All the documents should be digitally signed.

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

Section Particulars

- a. Notice inviting Tender
- b. Instruction to the bidders
- c. Conditions of Contract
- d. Contract Data
- e. Specifications
- f. Drawings if any

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 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. Quoted price for solar pumps shall be complete in all respect as per Technical Specifications inclusive of all Central/State/Local taxes & duties, packing, forwarding, transit insurance, loading & unloading, transportation & other charges etc. FOR destination at any site in Jharkhand and inclusive of installation, testing, commissioning, performance testing and training.
- 13.6. Tenderers should quote their rates considering wide variation of site conditions, variation in price of different components during the year 2017-18 and keeping the quantum and quality of work in mind. If JREDA anticipates that rate is abnormally low or high, tender may be cancelled.
- 13.7. The bidder shall have no claim on exposure of the rates while opening of the BOQ sheet of price bid.

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 that the bidders may extend 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 of a scheduled commercial bank, issued in favour of the name given in the Notice Inviting Bid. The Bank Guarantee shall be valid for 12 months or more after the last date of receipt of bids. Other forms of Earnest Money acceptable to the JREDA are stated in the Notice Inviting 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 finalization of the tender.
- 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 (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. sign the Agreement; and/or
 - ii. Furnish the required 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 file marked "Technical Bid". 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.)

The Technical bid file shall only contain Original of DD towards payment of bid fee and DD or BG towards payment of EMD or Bid fee and EMD exemption certificate (for MSME of Jharkhand only).
- 18.2. The file containing the Technical Bid 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 12.1 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 processing of bids 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. The "Financial bids" of only those bidders shall be opened, who qualify in "Minimum Eligibility Conditions" and score at least 60 Points in "technical evaluation". The "Points" for the "technical evaluation" shall be assigned as under:

Sr. No	Criteria	Points
1	A Registered Manufacturing Company/Firm/ Corporation in India of: Solar PV Modules OR Motor-pump Set OR Solar Pump Controller (Conforming to relevant National / International Standards) [Test Certificate from a MNRE accredited lab is mandatory] OR MNRE approved Solar PV Channel Partner/ MNRE approved PV System integrator/ MNRE empaneled Company to Participate in Solar Pumping Programme through NABARD.	10
2	Bidder's cumulative experience in supply and installation/commissioning of total number of Solar Water Pumping Systems in last 7 years: > 250 nos. > 500 nos. > 750nos. > 1000 nos.	5 10 15 20

3	Value of a "Single Order " executed by the Bidder of : Solar Water Pumping Systems OR Indigenous Motor-Pump sets /Solar Motor Pump Controllers/ Inverters Valued more than Rs. 2.0 Crore Valued more than Rs. 5.0 Crores	5 10
4	The bidder has service centers: At least two in the state At least four in the state	5 10
5	Track Record of the Bidder (in Manufacturing Off-grid PV components): Number of years, bidder is in the Manufacturing of Off-grid PV components (PV modules/ Pumps / controllers), and has not been blacklisted by any Govt. Agency[for not honoring the order after bidding OR not supplying in time OR not providing after sales service]: More than 3 years More than 5years More than 7years	5 10 15
6	Track Record of the Bidder (in the installation/commissioning of Solar Pumps): Number of years, bidder is in the installation/commissioning of Solar Pumps and has not been blacklisted by any Govt. Agency[for not honoring the order after bidding OR not supplying in time OR not providing after sales service]: More than 3 years More than 5years More than 7 years	5 10 15
7	The bidder has ISO 14001 certification	10
8	The bidder employs more than 20 people in India (as per its PF return) The bidder employs more than 50 people in India (as per its PF return) (A copy of the PF return should be enclosed as proof)	5 10

23.3. 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.

23.4. 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. After evaluation of the price analyses, the JREDA may require that the amount of the performance security set forth in Clause 32 of ITB 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 Employer, which shall be final, binding and conclusive on the bidder.
- 25.4. After its evaluation, the JREDA may require that the amount of the performance security set forth in Clause 30 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.

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 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 cable, email, telex or facsimile 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").
- 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 all agreements between the JREDA and the successful Bidder. It will be signed by the JREDA and the successful Bidder after the performance security is furnished.
- 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 Bank Guarantee 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 may cancel the work order.
- 30.2. Successful MSME bidders shall be required to deposit only 10% of security deposit as per Jharkhand Procurement Policy.
- 30.3. The Security Deposit shall be refunded / released to the bidder after expiry of 60 days from the actual date of successful completion.

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 valid for five years on or before release of any payment for installation.
- 31.2. Successful MSME bidders shall submit a Performance Guarantee @2.5% of the allotted work order value in the form of bank guarantee before release of payment for installation.
- 31.3. The Performance Guarantee will have to be maintained by the bidder with JREDA till the completion of warranty period (5 years from the date of commissioning).
- 31.4. 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.

- 31.5. 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. The solar water pumping system contract price includes the provision of 5 years mandatory Comprehensive Maintenance Contract (CMC). 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 shall include servicing & replacement guarantee for parts and components (such as Pump, Inverter/Controller, PV modules and other hardware) of SWPS for five years from the date of installation. **PV modules shall be warranted for 25 years.** The date of CMC maintenance period shall begin on the date of actual commissioning of SWPS. It is mandatory for the contractor to carry out CMC regularly and submit report to JREDA quarterly. Failure to submit quarterly CMC reports within 15 days ending the quarter, shall invite penalty and payments for such CMC quarter will not be made. If the contractor is found to be not performing CMC continuously as per the provisions of NIB, contractor's performance guarantee shall be forfeited and blacklisted for future awards of works.

33. Preventive/Routine Maintenance:

This shall be done by the contractor/contractor at least once in every three months and shall include activities such as, cleaning and checking the health of the SPV system, cleaning of module surface, tightening of all electrical connections, regular checks to identify any leakage of electricity, changing of tilt angle of module mounting structure and any other activity that may be required for proper functioning of the Solar Water Pumping System. 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 CMC means that the bidder should ensure smooth working of all Pumping Systems throughout the CMC 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. 100 per day beyond three days of reporting of such complaint.

35. Advances

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.

General Terms & Conditions

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

1. 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. Scope of work:

Designing, supply, installation & commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand.

The scope of work shall also include the followings:

- Survey of Sites, estimation of yield of bore well, Submission of yield report where the SPV Pumps are to be installed. A layout plan of the site should also be submitted clearly indicating the identified location for installation of SPV Modules, Structures and other components shall be installed. Successful bidder shall furnish all necessary information to beneficiary for Solar Water Pumping Systems (SWPS) Warrantee, Do & Don'ts etc. so as to avoid further misunderstandings and disputes.
- Design, supply, installation & commissioning of Solar Water Pumping Systems (SWPS) of required capacities as per design and specifications of MNRE, on turnkey basis.
- Civil work for erection of structure & mounting the panel.
- Providing User Manuals and Warrantee Cards to beneficiary /JREDA.
- Successful bidder shall have to submit JCCs within 15 days of Installation and Commissioning of Solar water pump in JREDA.
- Unconditional onsite warrantee for manufacturing defects for Five years faultless operation, assure inventory for maintenance.
- Risk liability of all personnel associated with implementation and realization of the project.
- Training of at least two persons nominated by user, for handling and operation after commissioning of the system.
- The successful bidder shall maintain sufficient inventory of the spares to ensure that the system can be made functional within 3 days from the communication of breakdown of the system during currency of the warrantee period.
- The successful bidder shall run the system on trial basis and shall closely monitor the performance of the system before handing over the system, so that the assured water discharge can be estimated for monitoring of the performance of the system. JREDA shall

examine the water discharge and ascertain if the discharge is adequate with reference to the capacity of the SPV Water Pump.

- Performance Guarantee Test: Successful performance guarantee test to demonstrate the rated capacity of SPV Pump as per JREDA's norms shall have to be conducted by successful bidder in the presence of representatives of JREDA, if required.
- Successful bidder shall have to establish their service stations in the allocated area and shall have to keep sufficient quantity of spares and man power to ensure proper service network for taking care of smooth functioning of SPV Water Pumps installed by them. Bidder shall have to give a toll-free number to register complaints.

3. 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. 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 and levies etc. including 5 years CMC 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. 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. Payment terms and 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) **60%** of the Contract Price shall be paid against supply and delivery of goods in full and in good condition as certified by Consignee & 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.
 - 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.
- (b) **30%** of the Contract Price shall be paid against Installation, Testing & Commissioning after submission of following documents:
- i. Copy of Original Commercial invoice raised at the time of supply in triplicate (1+2).
 - ii. Certificate for minimum seven days of satisfactory performance as per duly filled **Annexure-13**.
 - iii. Photographs of installed SWPS with flow of water with signature & seal of Contractor.

(C) Rest **10%** of the Contract Price shall be paid @2% of the Contract Price on completion of every one year period of the 5 year CMC period,

This payment can also be released against submission of Bank Guarantee of equivalent value valid till CMC period of complete system. For this bidder has to submit a total of 5(five) nos. of Bank Guarantees of 2% value to the work order each having validity respectively for 1 year, 2 years, 3 years, 4 years and 5 years & 3 months.

The Bank Guarantee shall revoked by JREDA in case the Contractor fails to submit the CMC report in JREDA within one month of end of the respective quarters.

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 quarterly reports of CMC undertaken by the manufacturer as per **Annexure-14**.
- iii. Verification by JREDA officials.

“The efforts will be made by JREDA to make available the 100% payment to the agency within three months against satisfactory completion of the work.”

7. Dispatch Instructions:

All items/equipment 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 conforming to NABL facility. The manufacturer will submit **test report** with regard conformity to technical specifications 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 manufacturers unit conforming to NABL facility. Failure to fulfill the PDI conditions shall lead to cancellation of work order and forfeiture of security deposit.

Randomly selected Sample/s from each lot offered for PDI, shall be sent to MNRE approved or NABL accredited lab for verification of Specifications and Performance of the System. The cost of such tests shall be borne by JREDA.

The items which are being procured through this bid have to be distributed/installed on the basis of demand to be received by JREDA. Therefore, JREDA does not take responsibility that it will procure 100% quantity as has been indicated in the bid. Further, as JREDA will receive the demand, the supply order shall be placed to the successful bidder for execution in due time.

After finalization of the tender, JREDA authority will take decision for issuing L.O.I. for the work under scope to the successful bidder; and thereafter on the basis of demands received in the JREDA office. Request for supply/ installation will be communicated. Then within 30/45/60 days period the contractor will have to ensure pre dispatch inspection from JREDA and within next 15 days JREDA will issue Dispatch instruction. Accordingly the work of supply & installation will be completed by the vendor within 75/90/105 days period from the date of issue of dispatch instruction. The bidders shall have no claim regarding economy of scale, choice of district/s or choice of region in the state, for the purpose of transportation of items/materials to the demand/work sites.

8. Timeline/ Completion Period:

The timeline to adhere shall be as per the table below:

Sr. No.	No. of Pumps	Completion Period
1	Upto 200 Pumps	4 Months
2	Upto 500 Pumps	5 Months
3	More than 500 Pumps	6 Months

9. Liquidated Damages for Delay in Completion:

If the contractor 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.

10. Risk & Cost:

If the contractor fails to complete the awarded work up to extended period of one year 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.

11. Insurance:

The contractor shall arrange for transit and erection insurance of the materials & equipments for setting up of Solar Photovoltaic System.

12. 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.

13. 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.

14. Compliance with Regulations:

The 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.

15. Agreement:

The successful qualified bidders shall have to enter into an agreement in the office of the Director, JREDA, in prescribed format before commencement of supply.

16. Income Tax / VAT:

Without prejudice to the obligations of the contractor under law, any income tax and VAT 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 contractor. JREDA shall provide the contractor a certificate for such deductions of tax.

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

- 17.1. The responsibility of organizing training program for SWPS 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 SWPS. Printed leaflet/literature should be made available in Hindi by the Contractor regarding the operation and maintenance of their SWPS.
- 17.2. The Contractor shall depute authorized Service Engineer within 7 days from the date of the intimation of fault, and establish sufficient inventory of spares in the State in consultation with JREDA to provide satisfactory and uninterrupted services during the warrantee period.

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

19. Cancellation of Work Order:

JREDA will be at liberty to terminate/blacklist in part or full the awarded contract 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) If at any time, during the tendering process or after award of work, any of the documents/informations submitted by the bidder is found to be incorrect, false or untruthful, the bid and/ or the resultant order may be summarily rejected/cancelled at the risk of the bidder and EMD/SD will be forfeit and bidder will blacklisted.

20. Jurisdiction of the Court:

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

Section-6
Technical Specification
Solar Photovoltaic Water Pumping Systems
NIB No: 19/JREDA/SPV/SWPS-2000/17-18

1. Introduction

A Solar Photovoltaic (SPV) Water Pumping System consists of:

- a. PV Array: PV Array should be mounted on a suitable structure with provision of tracking the sun.
- b. Motor Pump Set (submersible) :
 - D.C. Motor Pump Set (with Brushes or Brush less D.C.)
or
 - A.C. Induction Motor Pump Set with a suitable inverter
- c. Electronics :
 - Maximum Power Point Tracker (MPPT)
 - Inverter for A.C. Motors (Appropriate Electronic Controller in case of B.L.D.C.)
 - Electronic Protections.
- d. Interconnection Cables and
- e. "On-Off" Switch

2. Performance specifications and requirements

Solar PV Water Pumps with PV module capacity in the range of 1200Wp to 4800Wp may be installed on a suitable bore-well etc.

Under the "Average Daily Solar Radiation" condition of 7.15 KWh / sq.m. on the surface of PV array (i.e. coplanar with the PV Modules), the minimum water output from a Solar PV Water Pumping System at different "Total Dynamic Heads" should be as specified below :

For D.C. Motor Pump set with Brushes or Brush less D.C. (B.L.D.C.) :

- i. 35 liters of water per watt peak of PV array, from a Total Dynamic Head of 30 metres and the shut off head being at least 45 metres.
- ii. 21 liters of water per watt peak of PV array, from a Total Dynamic Head of 50 metres and the shut off head being at least 70 metres.
- iii. 14 liters of water per watt peak of PV array, from a Total Dynamic Head of 70 metres and the shut off head being at least 100 metres.
- iv. 9.5 liters of water per watt peak of PV array, from a Total Dynamic Head of 100 metres and the shut off head being at least 150 metres

The actual duration of pumping of water on a particular day and the quantity of water pumped could vary depending on the solar intensity, location, season, etc.

Indicative performance specifications for the Shallow and Deep well SPV Water Pumping Systems are given in the Annexure I.

For A.C. Induction Motor Pump Set with a suitable Inverter :

- i. 32 liters of water per watt peak of PV array, from a Total Dynamic Head of 30 metres and the shut off head being at least 45 metres.
- ii. 19 liters of water per watt peak of PV array, from a Total Dynamic Head of 50 metres and the shut off head being at least 70 metres.
- iii. 13 liters of water per watt peak of PV array, from a Total Dynamic Head of 70 metres and the shut off head being at least 100 metres.
- iv. 8.5 liters of water per watt peak of PV array, from a Total Dynamic Head of 100 metres and the shut off head being at least 150 metres.

The actual duration of pumping of water on a particular day and the quantity of water pumped could vary depending on the solar intensity, location, season, etc.

Indicative performance specifications for the Shallow and Deep well SPV Water Pumping Systems are given in the Annexure II.

3. PV ARRAY

The SPV water pumping system should be operated with a PV array capacity in the range of **1200 Watts peak to 4800 Watts peak (as per MNRE models)**, measured under Standard Test Conditions (STC). Sufficient number of modules in series and parallel could be used to obtain the required PV array power output. The power output of individual PV modules used in the PV array, under STC, should be a minimum of 125 Watts peak, with adequate provision for measurement tolerances. Use of PV modules with higher power output is preferred.

Indigenously produced PV module (s) containing mono/ multi crystalline silicon solar cells should be used in the PV array for the SPV Water Pumping systems.

- Modules supplied with the SPV water pumping systems should have certificate as per IEC 61215 specifications or equivalent National or International / Standards.
- Modules must qualify to IEC 61730 Part I and II for safety qualification testing.
- The efficiency of the PV modules should be minimum 14% and fill factor should be more than 70%.
- The terminal box on the module should have a provision for "Opening" for replacing the cable, if required.
- There should be a Name Plate fixed inside the module which will give:
 - a. Name of the Manufacturer or Distinctive Logo.
 - b. Model Number
 - c. Serial Number
 - d. Year of manufacture
 - e. Made in India

4. MOTOR PUMP-SET

The SPV water pumping systems may use any of the following types of motor pump sets:

- a. Surface mounted motor pump-set.
- b. Submersible motor pump set.
- c. Floating motor pump set.
- d. Any other type of motor set approval from Test Centers of Ministry.

The "Motor Pump Set" should have a capacity of **1hp (DC), 2hp (DC), 2hp (AC), 3hp (DC), 3hp (AC), 5hp (DC) and 5hp (AC)** and should have the following features:

- The mono block DC/ AC centrifugal motor pump set with the impeller mounted directly on the motor shaft and with appropriate mechanical seals which ensures zero leakage.
- The motor of the capacity 1hp, 2hp and 5hp should be AC, PMDC or BLDC type. The suction and delivery head will depend on the site specific condition of the field.
- Submersible pumps could also be used according to the dynamic head of the site at which the pump is to be used.
- It is recommended that all parts of the pump and the motor of the submersible pumps should be made of stainless steel.
- The manufacturers of pumps should self certify that, the pump and ***all external parts of motor used in submersible pump which are in contact with water, are of stainless steel.*** The pumps used for solar application should have a 5 years warranty so it is essential that the construction of the pump be made using parts which have a much higher durability and do not need replacement or corrode for at least 5 years.
- **Provision for remote monitoring of the installed pumps must be made in the controllers or the inverters** either through an integral arrangement or through an externally fitted arrangement. It should be possible to ascertain the daily water output, the power generated by the PV array, the UP TIME of the pump during the year, Number of days the pump was unused or under breakdown/repairs. **Seamless or with sim (data-card) with internet connection (data pack cost will be borne by bidder) provision for data fetching will be provided by successful bidder.**
- The following details should be marked indelibly on the motor pump set
 - a. Name of the Manufacturer or Distinctive Logo.
 - b. Model Number.
 - c. Serial Number.
- The Suction/delivery pipe (GI/HDPE), electric cables, floating assembly, civil work and other fittings required to install the Motor Pump Set.

5. MOUNTING STRUCTURES and TRACKING SYSTEM

The PV modules should be mounted on metallic structures of adequate strength and appropriate design, which can withstand load of modules and high wind velocities up to 150 km per hour. The support structure used in the pumping system should be hot dip galvanized iron with minimum 80 micron thickness.

To enhance the performance of SPV water pumping systems, manual or passive or auto tracking system **must** be used. For manual tracking, arrangement for seasonal tilt angle adjustment and three times manual tracking in a day should be provided.

6. MOUNTING STRUCTURES and TRACKING SYSTEM

- Maximum Power Point Tracker (**MPPT**) should be included to optimally use the Solar panel and maximize the water discharge.
- Inverter could be used, if required, to operate an A.C. Pump. The inverter must have IP 54 protection or must be housed in a cabinet having at least **IP54** protection.
- Controller for BLDC motor driven pumps, if required be used. The controller must have **IP 54** protection or must be housed in a cabinet having at least IP 54 protection.

- Adequate protections should be incorporated against dry operation of motor pump set, lightning, hails and storms.
- Full protection against open circuit, accidental short circuit and reverse polarity should be provided.

7. ON/OFF SWITCH

A good reliable switch suitable for DC use is to be provided. Sufficient length of cable should be provided for inter-connection of the PV array, Controller / Inverter and the motor pump set.

8. WARRANTY

The PV Modules must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. The whole system including submersible/ surface pumps shall be warranted for 5 years. Required Spares for trouble free operation during the Warrantee period should be provided along with the system.

9. OPERATION AND MAINTENANCE MANUAL

An Operation and Maintenance Manual, in English and the local language, should be provided with the solar PV pumping system. The Manual should have information about solar energy, photovoltaic, modules, DC/AC motor pump set, tracking system, mounting structures, electronics and switches. It should also have clear instructions about mounting of PV module, DO's and DONT's and on regular maintenance and Trouble Shooting of the pumping system. Name and address of the person or Centre to be contacted in case of failure or complaint should also be provided. A warranty card for the modules and the motor pump set should also be provided to the beneficiary.

10. NOTES

The type of pump set used must match the total dynamic head requirement of the site (i.e. the location at which it is installed). Moreover, it should be appropriately tested and certified by the authorized test centres of the Ministry to meet the performance and water discharge norms specified in section II above.

Indicative Technical Specification of **Solar Deep Well (submersible) Pumping Systems:**

With **D.C. Motor Pump** Set with Brushes or Brush less D.C. (B.L.D.C.)

Description	Model-I	Model-II	Model-III	Model-IV	Model-V	Model-VI	Model-VII	Model-VIII
PV array	1200 Wp	1800 Wp	3000 Wp	3000 Wp	3000 Wp	4800 Wp	4800 Wp	4800 Wp
Motor capacity	1 hp Submersible with controller	2 hp submersible with controller	3 hp submersible with controller	3 hp submersible with controller	3 hp submersible with controller	5 hp submersible with controller	5 hp submersible with controller	5 hp submersible with controller
Shut Off Dynamic Head	45 meters	45 meters	45 meters	75 meters	100 meters	70 meters	100 meters	150 meters
Water output*	42,000 liters per day from a total head of 30 meters	63,000 liters per day from a total head of 30 meters	105,000 liters per day from a total head of 30 meters	63,000 liters per day from a total head of 50 meters	42,000 liters per day from a total head of 70 meters	100,800 liters per day from a total head of 50 meters	67,200 liters per day from a total head of 70 meters	45,600 liters per day from a total head of 100 meters

- Water output figures are on a clear sunny day with three times tracking of SPV panel, under the "Average Daily Solar Radiation" condition of 7.15 KWh/sq.m. on the surface of PV array (i.e. coplanar with the PV Modules).

Notes:

1. For higher or lower head / PV capacity, or in between various models; water output could be decided as per the clause II. (i.e. performance specifications and requirements) specified earlier.
2. If surface pumps are used in lieu of submersible pumps, the water output must match that of the submersible pumps as specified in this table.
3. Module mounting structure shall be MS hot dipped galvanized, with a facility of manual tracking at least three times a day.

Indicative Technical Specification of **Solar Deep Well (submersible) Pumping Systems:**

With **A.C. Induction Motor Pump** Set and a suitable Inverter:

Description	Model-II	Model-III	Model-IV	Model-V	Model-VI	Model-VII	Model-VIII
PV array	1800 Wp	3000 Wp	3000 Wp	3000 Wp	4800 Wp	4800 Wp	4800 Wp
Motor capacity	2 hp submersible with controller	3 hp submersible with controller	3 hp submersible with controller	3 hp submersible with controller	5 hp submersible with controller	5 hp submersible with controller	5 hp submersible with controller
Shut Off Dynamic head	45 meters	45 meters	75 meters	100 meters	70 meters	100 meters	150 meters
Water output*	57,600 liters per day from a total head of 30 meters	96,000 liters per day from a total head of 30 meters	57,000 liters per day from a total head of 50 meters	39,000 liters per day from a total head of 70 meters	91,200 liters per day from a total head of 50 meters	62,400 liters per day from a total head of 70 meters	40,800 liters per day from a total head of 100 meters

- Water output figures are on a clear sunny day with three times tracking of SPV panel, under the "Average Daily Solar Radiation" condition of 7.15 KWh/sq.m. on the surface of PV array (i.e. coplanar with the PV Modules).

Notes:

1. For higher or lower head / PV capacity, or in between various models; water output could be decided as per the clause II. (i.e. performance specifications and requirements) specified earlier.
2. If surface pumps are used in lieu of submersible pumps, the water output must match that of the submersible pumps as specified in this table.
3. Module mounting structure shall be MS hot dipped galvanized, with a facility of manual tracking at least three times a day.

Format for Covering Letter

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

(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 Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose 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/Demand Draft, valid for twelve months and Bid fee.

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:

Check List for Technical bid

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

S. No.	Particulars	Uploaded Yes / No	Page No.
1	Covering Letter as per Annexure-1.		
2	Information about the Bidder as per Annexure-3.		
3	Declaration by Bidder as per Annexure-4.		
4	Average Annual Turnover for last three years ending 31.03.2017 (Attach average annual turnover certificate as per Annexure-5)		
5	Net worth as on 31.03.2017. (Attach proof & Net worth certificate as per Annexure-6)		
6	Authority Letter for Signing Bid Document & Attending Bid Opening Meeting as per Annexure-7		
7	The proof of supply of solar system in any SNA/Govt. organization/PSU in the last seven years as per NIB in Annexure-8 to indicate the quantity already supplied. Attach copy of the order and certificate indicating its successful execution.		
8	The bidder is registered PV System Integrator or Manufacturing company of SPV cells or PV Modules or PV System Electronics confirming to relevant National/International Standards (Attach relevant certificates of Industry Department or MNRE).		
9	To indicate the functionality of the firm attach the balance sheet of last three years ending 31.03.2017 of the firm duly certified by statutory Auditor.		
10	Registration certificate of MSME of Jharkhand State (Enclose certificate issued by Industry Department, Govt. of Jharkhand).		
11	IEC/IS certificates for Solar PV Module (Attach relevant certificate).		
12	Test certificate for solar water pumping system from the authorize test centers of MNRE (attach valid test certificate issued in the name of bidder)		
13	A copy of valid GST/ TIN registration certificate		
14	Details of tender document fee (Bank Draft No. and Date)		
15	Details of Earnest money Deposit (Bank Guarantee/DD Number & Date)		

** Please number the pages of the uploaded documents and write it 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:

Information About The Bidding Firm**NIB No: 19/JREDA/SPV/SWPS-2000/17-18**

(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-7)	
8.	Nature of Firm (Proprietorship/Partnership /Pvt. Ltd./Public Ltd. Co./Public Sector)	
9.	Permanent Account Number (PAN)/TIN (Attach proof)	
10.	Udyog Aadhar Number (MSME of Jharkhand)	
11.	GST Number (Attach proof)	
12.	System Integrator/ Manufacturer of SPV module/Controller/ Invertors/ Pump	
13.	Registration Number of the firm/co. (Copy of Registration Certificate issued by Industry Department)	
14.	Details of in-house testing facility (Attach Proof)	
15.	Office/ Dealer and Service network in Jharkhand with TIN No.(Give details)	
16.	Quoted quantity	
17.	Particulars of Earnest Money	
18.	Place where Materials will be Manufactured	
19.	Place where Materials will be Available for Inspection	
20.	Name of the Contact Person for this NIB with Designation, email, phone & Mobile number	
21.	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: 19/JREDA/SPV/SWPS-2000/17-18
(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 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: 19/JREDA/SPV/SWPS-2000/17-18

[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: Empanelment of Agencies for Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose 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 31.03.2017.

Authorised Signatory
(Power of Attorney holder)

Statutory Auditor
(Stamp & Signature)

Date:

Format for Financial Requirement - Net worth Certificate**NIB No: 19/JREDA/SPV/SWPS-2000/17-18**

[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: Empanelment of Agencies for Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand.

This is to certify that Net worth of _____ {insert the name of Bidding Company}, as on 31st March 2017 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 2017	

Authorised Signatory
(Power of Attorney holder)

Statutory Auditor
(Stamp & Signature)

Format of Power of Attorney for Signing Bid

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

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: 19/JREDA/SPV/SWPS-2000/17-18**, 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 (Name, Designation and Seal)

Accepted by

..... (Signature) (Name, Designation and Seal)

(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: 19/JREDA/SPV/SWPS-2000/17-18

Details of Orders Received & Executed by the Manufacturer/Contractor for Supply of **Solar Water Pumping System** to SNA/ Govt. Organization during Last Five Years.

SL. No.	Name of Agency/ Organization	Purchase Order No., Date & Ordered Qty.	Name of Model	Delivery Schedule	Date of Full Supply with letter no. & date of the performance certificate	Page number of the Work order/ purchase order submitted	Page number of the performance certificate submitted

Yours faithfully,

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

Note:

- (a) Attach Photocopies of Purchase 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 with page number. Proof of work order/purchase order and corresponding performance certificate should be submitted/enclosed in the bid. Non submission of the work orders and corresponding performance certificate will be treated as no experience.

Price Bid
NIB No: 19/JREDA/SPV/SWPS-2000/17-18

S. No.	Description	Type of Pump	Total Bid Quantity	Quoted Price (in Rs.)	
				In figure	In words
0	1	2	3	4	5
1	Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 500 nos. of 1 HP DC Solar Water Pumping Systems (SWPS) on Turnkey basis for irrigation purpose in the state of Jharkhand	Submersible			
2	Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 500 nos. of 2 HP DC Solar Water Pumping Systems (SWPS) on Turnkey basis for irrigation purpose in the state of Jharkhand	Submersible			
3	Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 200 nos. of 2 HP AC Solar Water Pumping Systems (SWPS) on Turnkey basis for irrigation purpose in the state of Jharkhand	Submersible			
4	Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 300 nos. of 3 HP DC Solar Water Pumping Systems (SWPS) on Turnkey basis for irrigation purpose in the state of Jharkhand	Submersible			
5	Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 200 nos. of 3 HP AC Solar Water Pumping Systems (SWPS) on Turnkey basis for irrigation purpose in the state of Jharkhand	Submersible			
6	Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 100 nos. of 5 HP DC Solar Water Pumping Systems (SWPS) on Turnkey basis for irrigation purpose in the state of Jharkhand	Submersible			
7	Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 200 nos. of 5 HP AC Solar Water Pumping Systems (SWPS) on Turnkey basis for irrigation purpose in the state of Jharkhand	Submersible			

1. Above quoted price for SWPS are complete in all respect as per Technical Specifications inclusive of all Central/State/Local taxes & duties, packing, forwarding, transit insurance, loading & unloading, transportation & other charges etc. FOR destination at any site in Jharkhand and inclusive of installation, testing, commissioning, performance testing and training.
2. Bidders shall quote the above rates as per the total rate quoted in Annexure 11 (a). It is mandatory to quote the rate component wise as per Annexure 11 (a) and should be scanned and uploaded in pdf. Format in BOQ.

3. Certified that rates quoted for SWPS are as per specifications, terms & conditions mentioned in the bid document.

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

(This bid Performa must be submitted duly signed in case separate sheet is submitted)

Price Bid (.pdf. format)

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

Statement showing the component wise cost details with brand name, for the quoted price, for Submersible solar pump sets.

S. No.	Items	Brand/Make	1 HP DC Pump set (in Rs. inclusive of all taxes & duties)	2 HP DC Pump set (in Rs. inclusive of all taxes & duties)	2 HP AC Pump set (in Rs. inclusive of all taxes & duties)	3 HP DC Pump set (in Rs. inclusive of all taxes & duties)	3 HP AC Pump set (in Rs. inclusive of all taxes & duties)	5 HP DC Pump set (in Rs. inclusive of all taxes & duties)	5 HP AC Pump set (in Rs. inclusive of all taxes & duties)
0	1	2	3	4	5	6	7	8	9
1	Solar PV Modules as per MNRE/IEC specifications								
2	Solar Inverter/VFD/ Controller with remote monitoring arrangement								
3	AC/DC Pumps								
4	GI Mounting Structure with manual tracking as per MNRE norms								
5	HDPE Pipe of 10 kg/Sqcm. Minimum 63 mm OD-PE 100 grade of 100 ft length with required copper Cable as per ISI standard.								
6	Submersible cable 3 core 2.5 sq.mm flat cable as per ISI standard of 120 ft. length.								
7	Civil works and all other necessary materials required for installation including transportation charges etc. at any location in the State.								
8	Installation, Commissioning and Insurance charge								
9	CMC charge for a period of 5								

	Years.								
10	Any other items, if any								
	Total								

All the above items are as per MNRE specifications and also as per the test report issued by the authorized test centers of MNRE. These rates are applicable for supply & installation of solar pumps sets anywhere in the State.

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

(This bid Performa must be submitted duly signed in case separate sheet is submitted)

Format for Submitting Bank Guarantee for Earnest Money Deposit

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

(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 (Contractor's name) (hereinafter referred to as "Contractor"), 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 Contractor 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 Contractor.

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 Contractor/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 Contractor/Tenderer for the work under "Notice Inviting Bid Ref. No.:" **19/JREDA/SPV/SWPS-2000/17-18**.
2. Your decision as to whether the Contractor/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 Contractor/Tenderer for the work under "Notice Inviting Bid Ref. No.:"

19/JREDA/SPV/SWPS-2000/17-18 in this regard, shall be final and binding on us and we shall not be entitled to question the same.

3. Notwithstanding anything contained in the foregoing, our liability under this Guarantee shall be restricted to Rs. (Rupees only).
4. 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.
5. We shall not revoke this Guarantee during its currency except by your consent in writing.
6. This Guarantee shall not be affected by any change in the constitution of the Contractor/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.
7. 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.
8. 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

.....

Contact Person for the NIB

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

[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:

Certificate of Delivery of Solar Water Pumping System received by the Consignee as Proof of Compliance by the Contractor

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

प्रमाण-पत्र

Consignee/प्राप्त कर्ता का नाम :पदनाम:

विभाग का नाम:

प्रमाणित किया जाता है कि सिंचाई कार्य हेतु सोलर पम्प कार्यक्रम के अंतर्गत ग्राम....., पंचायत.....
..... प्रखण्ड..... जिला..... में अधिष्ठापन हेतुअदद
..... Hp DC/AC Solar Water Pumping System (Set) प्राप्त किया।

इन सोलर उपकरणों की आपूर्ति मेसर्स द्वारा दिनांक.....
.....की गई है, जिसकी विवरणी निम्नवत् है:-

Sl. No.	Items	Qty.	Serial Number	Capacity
1	Solar Module			
2	Pump			
3	Controller			
4	BOS			

Consignee/प्राप्त कर्ता का हस्ताक्षर / Seal:

दिनांक :

ज्रेडा प्रतिनिधि का प्रमाण-पत्र

यह प्रमाणित किया जाता है कि उपर इंगित सामानों का निरीक्षण Specification के अनुसार प्राप्त करके उपर इंगित प्राप्त कर्ता को सुपूर्द की जा चुकी है।

आपूर्तिकर्ता का हस्ताक्षर एवं मुहर

ज्रेडा प्रतिनिधि का हस्ताक्षर एवं मुहर

Certificate of Installation of Solar Water Pumping System by the Consignee as Proof of Compliance by the Contractor

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

प्रमाण-प्रत्र

Consignee/प्राप्त कर्ता का नाम :पदनाम:

विभाग का नाम:

प्रमाणित किया जाता है कि सिंचाई कार्य हेतु सोलर पम्प कार्यक्रम के अंतर्गत ग्राम....., पंचायत.....
..... प्रखण्ड..... जिला..... में मेसर्स
..... द्वारा दिनांक.....कोHp DC/AC Solar Water Pumping
System (Set) का अधिष्ठापन किया गया है एवं कार्यरत है, जिसकी विवरणी निम्नवत् है:—

Sl. No.	Items	Qty.	Serial Number	Capacity
1	Solar Module			
2	Pump			
3	Controller			
4	BOS			

Consignee/प्राप्त कर्ता का हस्ताक्षर / Seal:

दिनांक :

आपूर्तिकर्ता का हस्ताक्षर एवं मुहर

ज्रेडा प्रतिनिधि का हस्ताक्षर एवं मुहर

Format for Quarterly O&M and CMC Report

NIB No: 19/JREDA/SPV/SWPS-2000/17-18

[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: Empanelment of Agencies for Design, Supply, Installation, Testing & Commissioning including 5 years Comprehensive Maintenance Contract (CMC) of 2000 nos. of Solar Water Pumping Systems (SWPS) capacity of 1HP (DC), 2HP (DC), 2HP (AC), 3HP (DC), 3HP (AC), 5HP (DC) & 5HP (AC) on Turnkey basis for irrigation purpose in the state of Jharkhand

Date of Installation.....

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

Place of Supply.....

Name of Technicians.....

S. N.	Place of Installed System	System Details	Date of Site Visit/CMC	Fault observation	Fault repaired	Status of the system
		Module No.				
		Pump				
		Inverter/Controller				
		Any other				

(Signature of Consignee)

Name:

Designation:

Seal:

Signature of Agency with Seal

Signature of JREDA representative