

Govt. of Jharkhand

Energy Department

Jharkhand Renewable Energy Development Agency (JREDA)

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

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

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

Corrigendum_III

Tender Reference No. : 17/JREDA/GCRT/RC/22-23

In the light of suggestions received from the prospective bidders, JREDA has decided to make following amendments in the Tender Reference No: **17/JREDA/GCRT/RC/22-23** for "Rate Contract for Design, Manufacture, Testing, Supply, Installation & Commissioning of 05 MWp Grid connected Rooftop SPV Power Plants of different capacities including five years Comprehensive Maintenance Contract (CMC) on Turnkey basis on Government Buildings anywhere in the state of Jharkhand":-

| Section/ Annexure | Original | Read as / Amended as |
|-----------------------------|--|--|
| e- Procurement Notice | Last date & time for receipt of online bids: 19.10.2022 (Wednesday) upto 05:00 PM | Last date & time for receipt of online bids: 02.11.2022 (Wednesday) up to 5.00 PM |
| | Submission of original copies of Bid fee & EMD (Offline): 19.10.2022 and 20.10.2022 up to 5.00 P.M. | Submission of original copies of Bid fee & EMD (Offline): 02.11.2022 and 03.11.2022 up to 5.00 P.M. |
| | Technical Bid Opening Date: 21.10.2022 (Friday) at 3.00 P.M. | Technical Bid Opening Date: 04.11.2022 (Friday) at 3.00 P.M. |
| e- Procurement Notice | 2 Estimated cost (Rs.) | Deleted |
| | 3 Tentative quantity (kWp) | |
| | Rs. 40,00,00,000/- | |
| | 5 MWp | |

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| <p>Section -2: Instructions to Bidders Subsection 'B' Clause 1</p> | <p>xxv. Annexure-8: Experience Certificate- Details of orders received and executed in last 5 years.</p> | <p>xxv. Annexure-8: Experience Certificate- Details of orders received and executed in last 7 years.</p> |
| <p>Section -3: Notice Inviting Bid Clause 4</p> | <p>For General Bidder: Experience of having successfully completed similar works in any SNA / Govt. Organization / PSU during last 5 years ending last day of month previous to the one in which applications are invited should be either of the following: - I. Three similar work equal to the maximum capacity under the category one below the category applied for. e.g. If bidder is applying for group "B" then he must have three complete sites of 10 kW each.</p> <p>or II. One similar site work capacity equal to the applied group. e.g., If bidder is applying for group "B" then he must have one complete site of 50 kW.</p> <p>For MSEs of Jharkhand: Experience of having successfully completed similar works in any SNA / Govt. Organization / PSU during last 5 years ending last day of month previous to the one in which applications are invited should be either of the following: - I. Two similar work equal to the maximum capacity under the category one below the category applied for. e.g. If bidder is applying for group "B" then he must have two complete sites of 10 kW each.</p> <p>or II. One similar site work capacity equal to the applied category. e.g., If bidder is applying for group "B" then he must have one complete site of 50 kW.</p> | <p>For General Bidder: Experience of having successfully completed similar works in any SNA / Govt. Organization / PSU during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following: - I. Three similar work equal to the maximum capacity under the category one below the category applied for. e.g. If bidder is applying for group "B" then he must have three complete sites of 10 kW each.</p> <p>or II. One similar site work capacity equal to the applied group. e.g., If bidder is applying for group "B" then he must have one complete site of 50 kW.</p> <p>For MSEs of Jharkhand: Experience of having successfully completed similar works in any SNA / Govt. Organization / PSU during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following: - I. Two similar work equal to the maximum capacity under the category one below the category applied for. e.g. If bidder is applying for group "B" then he must have two complete sites of 10 kW each.</p> <p>or II. One similar site work capacity equal to the applied category. e.g., If bidder is applying for group "B" then he must have one complete site of 50 kW.</p> |

| <p>Section-4: Instructions to Bidders</p> <p>Clause 32.1</p> | <p>Plant Performance:</p> <p>The successful bidder shall be required to meet minimum guaranteed generation with Performance Ration (PR) at the time of commissioning and related Capacity Utilization Factor as per the GHI levels of the location during the O&M period. PR should be shown minimum of 75% for Grid connected/ Hybrid/Standalone plant at the time of inspection for initial commissioning acceptance to qualify for release of CMC payment. Minimum CUF of 15% for Grid connected plant should be maintained for a period of 5 Years for fulfilling one of the conditions for release of PBG. The bidder should send the periodic plant output details to JREDA for ensuring the CUF. The PR will be measured at inverter output level during peak irradiation conditions.</p> | <p>Plant Performance:</p> <p>For On-grid Solar PV Power Plant only, the successful bidder shall be required to meet minimum guaranteed generation with Performance Ration (PR) at the time of commissioning and related Capacity Utilization Factor as per the GHI levels of the location during the O&M period. PR should be shown minimum of 75% for Grid connected plant at the time of inspection for initial commissioning acceptance to qualify for release of CMC payment. Minimum CUF of 15% for Grid connected plant should be maintained for a period of 5 Years for fulfilling one of the conditions for release of PBG. The bidder should send the periodic plant output details to JREDA for ensuring the CUF. The PR will be measured at inverter output level during peak irradiation conditions.</p> | | | | | | | | | | | | |
|--|---|--|--|-------|--|--|----|--|---|---------|----|---|--|---------|
| <p>Section-4: Instructions to Bidders</p> <p>Clause 13.5</p> | <p>Price bids submitted by New MSEs shall not be considered. However, to complete the tender process New MSEs have to submit price bids. They have to accept the L1 rate derived in tender for award of work.</p> | <p>Price bids submitted by New MSEs shall not be considered. However, to complete the tender process New MSEs have to submit price bids. They have to accept the L1 rate derived in tender for award of work.</p> <p>Price Bid shall be evaluated and opened on the basis of quoted quantity. Price bid shall be opened and evaluated for the bidders who shall quote the minimum requirement of quoted quantity as indicated below, however all the bidders shall quote the Price Bid to complete the bid process :</p> <table border="1" data-bbox="1121 1032 1934 1443"> <thead> <tr> <th data-bbox="1121 1032 1236 1235">S No.</th> <th colspan="2" data-bbox="1236 1032 1728 1235">Group</th> <th data-bbox="1728 1032 1934 1235">Minimum requirement of Quoted Quantity for considering opening & evaluation of Price Bid</th> </tr> </thead> <tbody> <tr> <td data-bbox="1121 1235 1236 1325">1.</td> <td data-bbox="1236 1235 1514 1325">Group "A" 1 to 10 kWp (Without Battery System)</td> <td data-bbox="1514 1235 1728 1325">Group "A-1" 1 to 10 kWp (With Battery System)</td> <td data-bbox="1728 1235 1934 1325">100 kWp</td> </tr> <tr> <td data-bbox="1121 1325 1236 1443">2.</td> <td data-bbox="1236 1325 1514 1443">Group "B" 11 to 50 kWp (Without Battery System)</td> <td data-bbox="1514 1325 1728 1443">Group "B-1" 11 to 50 kWp (With Battery System)</td> <td data-bbox="1728 1325 1934 1443">250 kWp</td> </tr> </tbody> </table> | S No. | Group | | Minimum requirement of Quoted Quantity for considering opening & evaluation of Price Bid | 1. | Group "A" 1 to 10 kWp (Without Battery System) | Group "A-1" 1 to 10 kWp (With Battery System) | 100 kWp | 2. | Group "B" 11 to 50 kWp (Without Battery System) | Group "B-1" 11 to 50 kWp (With Battery System) | 250 kWp |
| S No. | Group | | Minimum requirement of Quoted Quantity for considering opening & evaluation of Price Bid | | | | | | | | | | | |
| 1. | Group "A" 1 to 10 kWp (Without Battery System) | Group "A-1" 1 to 10 kWp (With Battery System) | 100 kWp | | | | | | | | | | | |
| 2. | Group "B" 11 to 50 kWp (Without Battery System) | Group "B-1" 11 to 50 kWp (With Battery System) | 250 kWp | | | | | | | | | | | |

| | | 3. | Group "C" 51 to 100 kWp (Without Battery System) | Group "C-1" 51 to 100 kWp (With Battery System) | 500 kWp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|--|---|---------|------------------------|-------|---|---|---------|---|-----------|---------|----------|--------------------------|----------------|----------|-------------------------------|----------------|----------|----------------------------------|----------------|---|--|--|--|---------|------------|--------------------|---|------------------------|-------|---|---|---------|---|-----------|---------|----------|--------------------------|----------------|----------|--|-----------------|
| | | 4. | Group "D" above 100 kWp (Without Battery System) | Group "D-1" above 100 kWp (With Battery System) | 500 kWp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section-4: Instructions to Bidders Clause 25 | Award Criteria JREDA will award the Contract to the Bidder whose Bid has been determined: i. to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid price. | Award Criteria JREDA will award the Contract to the Bidder whose Bid has been successful and who has been empaneled. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section-4: Instructions to Bidders Clause 26, 1.4 | JREDA shall empanel New MSEs of Jharkhand at the discovered lowest rate for each category. The purchase committee shall decide the quantity of the tendered capacity may be awarded to successful New MSEs of Jharkhand. | JREDA shall empanel New MSEs of Jharkhand at the discovered lowest rate for each category. JREDA shall decide the quantity of the tendered capacity may be awarded to successful New MSEs of Jharkhand. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section -5: General Terms & Conditions Clause 4 | Timeline of project completion | Timeline of project completion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Particular</th> <th>Timeline (in Days)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Execution of Agreement</td> <td>0 Day</td> </tr> <tr> <td>2</td> <td>Survey of Building and submission of report</td> <td>15 Days</td> </tr> <tr> <td>3</td> <td>PDI Offer</td> <td>30 Days</td> </tr> <tr> <td>4</td> <td>Material Dispatch</td> <td>45 Days</td> </tr> <tr> <td>5</td> <td>Commissioning of plant</td> <td>60 Days</td> </tr> <tr> <td>6</td> <td>Installation of Net Meter</td> <td>75 Days</td> </tr> </tbody> </table> | Sr. No. | Particular | Timeline (in Days) | 1 | Execution of Agreement | 0 Day | 2 | Survey of Building and submission of report | 15 Days | 3 | PDI Offer | 30 Days | 4 | Material Dispatch | 45 Days | 5 | Commissioning of plant | 60 Days | 6 | Installation of Net Meter | 75 Days | <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Particular</th> <th>Timeline (in Days)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Execution of Agreement</td> <td>0 Day</td> </tr> <tr> <td>2</td> <td>Survey of Building and submission of report</td> <td>15 Days</td> </tr> <tr> <td>3</td> <td>PDI Offer</td> <td>30 Days</td> </tr> <tr> <td>4</td> <td>Material Dispatch</td> <td>60 Days</td> </tr> <tr> <td>5</td> <td>Installation & Commissioning of plant</td> <td>120 Days</td> </tr> </tbody> </table> | | | | Sr. No. | Particular | Timeline (in Days) | 1 | Execution of Agreement | 0 Day | 2 | Survey of Building and submission of report | 15 Days | 3 | PDI Offer | 30 Days | 4 | Material Dispatch | 60 Days | 5 | Installation & Commissioning of plant | 120 Days |
| Sr. No. | Particular | Timeline (in Days) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Execution of Agreement | 0 Day | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Survey of Building and submission of report | 15 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | PDI Offer | 30 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Material Dispatch | 45 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Commissioning of plant | 60 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Installation of Net Meter | 75 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sr. No. | Particular | Timeline (in Days) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Execution of Agreement | 0 Day | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Survey of Building and submission of report | 15 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | PDI Offer | 30 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Material Dispatch | 60 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Installation & Commissioning of plant | 120 Days | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| <p>Section-6: Technical Specification</p> <p>Clause 1</p> | <p>Solar PV Module / Array:</p> <p>1.1. Solar Photo Voltaic (SPV) modules/ array shall be of high efficiency made of crystalline silicon solar PV cells and shall also satisfy the MINIMAL TECHNICAL REQUIREMENTS / STANDARDS FOR SPV SYSTEMS</p> | <p>Solar PV Module / Array:</p> <p>1.1. Solar Photo Voltaic (SPV) modules/ array shall be of high efficiency made of crystalline silicon solar PV cells satisfying the MINIMAL TECHNICAL REQUIREMENTS / STANDARDS FOR SPV SYSTEMS. Office Memorandum of Ministry of New & Renewable Energy (MNRE) issued "Approved Models and Manufacturers of Solar Photovoltaic Modules (Requirements for Compulsory Registration) Order, 2019 and Amendment – reg. is applicable for supply of SPV Module.</p> |
| <p>Section-6: Technical Specification</p> <p>Clause 5</p> | <p>Battery Bank:</p> <p>The batteries shall be for SPV application LMLA, VRLA (Smf or Gel) or Lithium Ferro Phosphate, Battery Bank voltage will be 24V/48V/96V/120V/240V/480V or as per design.</p> <p>The batteries shall use minimum nominal cell voltage 2V / Lithium ferro phosphate 3.2V battery capacity shall be rated at C10. Self-discharge of the battery shall be less than 3% per month at 30°C. Charging instructions shall be provided along with the batteries. A suitable battery rack with interconnections & end connector shall be provided to suitably house the batteries in the bank. Battery shall conform as per IEC 61427and / relevant IS specifications as per MNRE requirements. Undertaking letter of the above specifications must be submitted along with the consignment. The Battery should be warranted for a minimum period of 5 years and Lithium ferro phosphate shall have a warranty of minimum 10 years. Original Equipment Manufacturers (OEM) Warranty of battery shall be submitted. There should be a separate Battery Management System if the Lithium Ferro Phosphate Battery is used for the PV Power Plant.</p> <p>Features:</p> <ul style="list-style-type: none"> - The battery bank can be LMLA, VRLA (Smf or Gel) or Lithium Ferro Phosphate - The batteries shall be suitable for recharging by means of solar modules via incremental / open circuit regulators. - Battery interconnecting links shall be provided for interconnecting the battery in series and in parallel as needed | <p>Battery Bank:</p> <p>The batteries shall be for SPV application Lead Acid type AGM-VRLA or Tubular Gel, Battery Bank voltage will be 24V/48V/96V/120V/240V/480V or as per design.</p> <p>The batteries shall use 2V battery capacity to be designed for C10 rate. Charging instructions shall be provided along with the batteries. A suitable battery rack with interconnections & end connector shall be provided to suitably house the batteries in the bank. Battery shall conform as per IEC 61427 and / relevant IS specifications as per MNRE requirements. Undertaking letter of the above specifications must be submitted along with the consignment. The Battery should be warranted for a period of 5 years.</p> <p>Features:</p> <ul style="list-style-type: none"> - The batteries shall be for SPV application and shall be Lead Acid type AGM-VRLA or tubular Gel. - The batteries shall use 2V battery capacity to be designed for C10 rate. - Charging instructions shall be provided along with the batteries. - A suitable battery rack with interconnections & end connector shall be provided to suitably house the batteries in the bank. - The batteries shall be suitable for recharging by means of solar modules via incremental / open circuit regulators. - Battery interconnecting links shall be provided for interconnecting the battery in series and in parallel as needed and shall be Lead coated heavy duty copper strips. - Connectors for inter cell connection (series / parallel) shall be maintenance free screws. Front covers shall be provided for each |

| | <p>and shall be Lead coated heavy duty copper strips.</p> <ul style="list-style-type: none"> - Connectors for inter cell connection (series / parallel) shall be maintenance free screws. Front covers shall be provided for each battery bank. Copper connector shall not be less than 25 microns. - The operating range will be 0°C to +55/60°C. - Ah Efficiency: >95% and WH Efficiency: >85% - Recombination Efficiency shall be >98% | <p>battery bank.</p> <ul style="list-style-type: none"> - The operating range will be 0°C to +55/60°C. - AH Efficiency: >95% and WH Efficiency: >85% - Recombination Efficiency shall be >98% - Self-Discharge of battery shall be <0.5% per week at 27°C. - The minimum warranty of the Battery should be 5 years. | | | | | | |
|---|--|---|-------------|-----------|---|-----------|---|----------------|
| <p>Section-6: Technical Specification</p> <p>Clause 5.1</p> | <p>Standards and Certifications Major IS/IEC Certification for LMLA/VRLA / Lithium Ferro Phosphate batteries are listed below:</p> <table border="1" data-bbox="310 594 1096 1419"> <thead> <tr> <th data-bbox="310 594 495 639">Standard</th> <th data-bbox="495 594 1096 639">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="310 639 495 902">IEC 61427</td> <td data-bbox="495 639 1096 902">IEC 61427 This series gives general information relating to the requirements for the secondary batteries used in photovoltaic energy systems (PVES) and to the typical methods of test used for the verification of battery performances.</td> </tr> <tr> <td data-bbox="310 902 495 1419">IEC 60896</td> <td data-bbox="495 902 1096 1419">This part of IEC 60896 applies to all stationary lead IEC 60896 acid cells and Monobloc batteries of the valve regulated type for float charge applications, (i.e. permanently connected to a load and to a d.c. power supply), in a static location (i.e. not generally intended to be moved from place to place) and incorporated into stationary equipment or installed in battery rooms for use in telecom, uninterruptible power supply (UPS), utility switching, emergency power or similar applications.</td> </tr> </tbody> </table> | Standard | Description | IEC 61427 | IEC 61427 This series gives general information relating to the requirements for the secondary batteries used in photovoltaic energy systems (PVES) and to the typical methods of test used for the verification of battery performances. | IEC 60896 | This part of IEC 60896 applies to all stationary lead IEC 60896 acid cells and Monobloc batteries of the valve regulated type for float charge applications, (i.e. permanently connected to a load and to a d.c. power supply), in a static location (i.e. not generally intended to be moved from place to place) and incorporated into stationary equipment or installed in battery rooms for use in telecom, uninterruptible power supply (UPS), utility switching, emergency power or similar applications. | <p>Deleted</p> |
| Standard | Description | | | | | | | |
| IEC 61427 | IEC 61427 This series gives general information relating to the requirements for the secondary batteries used in photovoltaic energy systems (PVES) and to the typical methods of test used for the verification of battery performances. | | | | | | | |
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| | IS 13369:1992 | This IS 13369:1992 standard specifies Ah capacities, voltage, overall dimensions, performance requirements and tests for stationary lead Monobloc container. | |
| | IS 1651:2013 | This standard specifies rated Ah capacities, overall dimensions, performance requirements and tests for Stationary Lead Acid Cells and Batteries using Tubular Positive Plates | |
| | IS 15549:2005 | This standard specifies capacities and performance requirements and corresponding test methods for all types of high integrity series stationary Valve regulated lead acid batteries. | |
| | IS 16046: 2015 / IEC 62133: 2012** | Defines requirements and tests for the safe operation of portable sealed secondary cells and batteries containing alkaline or other nonacid electrolyte , under intended use and reasonably foreseeable misuse. | |
| | IEC 61056* | IEC 61056-1:2012 specifies the general requirements, functional characteristics and methods of test for all general-purpose lead-acid cells and batteries of the valve-regulated type | |
| | IS 16220* | IS 16220 defines the general requirements, functional characteristics and methods of test for all general-purpose lead- acid cells and batteries of the valve- regulated type. | |

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| IEC 62133-2: 2017** | IEC 62133 requirements and tests for the safe operation of portable sealed secondary lithium cells and batteries containing non-acid electrolyte, under intended use and reasonably foreseeable misuse. | |
| IEC 62620:2014** | IEC 62620 defines marking, tests and requirements for lithium secondary cells and batteries used in industrial applications including stationary applications. | |
| * Recommended ** Applies for Lithium Ferro phosphate batteries | | |

- 1 Changes made as above in NIB may be read accordingly for similar changes in other places of Bid document.
- 2 The Corrigendum shall form the integral part of the tender documents.

Sd/-
Director,
JREDA, Ranchi