



**TRIPURA RENEWABLE ENERGY DEVELOPMENT AGENCY**  
(A Constituent Organization of Power Deptt., Government of Tripura)  
Vigyan Bhawan, Pandit Nehru Complex, Gorkhabasti, Agartala, Tripura  
Tele-fax: 0381-2325900, 2326139, email-tredaagartala@gmail.com

No.F. 6(261)/TREDA/NCES/19/3397

Date 15/02/2020

**AMENDMENT 2**

<b>NAME OF WORK:</b>	Design, manufacture, supply, erection, testing, commissioning for solarization of 1300 nos. grid connected 2 HP Agriculture Pumps in Tripura on turn-key basis and providing mandatory Annual Maintenance Contract for 5 (five) years including insurance coverage for the installed systems.
<b>DNIe-T</b>	No.F. 6(261)/TREDA/NCES/19/2811, dated 10/01/2020.
<b>AMENDMENT 1</b>	No.F. 6(261)/TREDA/NCES/19/3049, dated 31/01/2020
<b>TENDER ID</b>	2020-TREDA_7655-1

In addition to the amendments made in Amendment 1, the following amendments have been made in above e-tender:

REFERENCE OF CLAUSE IN DNIe-T		APPEARED AS	AMENDED AS
<b>SECTION-2:</b> BIDDERS TO INFORM FULLY	<b>CLAUSE NO.</b> <b>2.5:</b> EARNEST MONEY DEPOSIT (EMD)	<b>2.5 EARNEST MONEY DEPOSIT (EMD): Rs. 48,10,000/- (Rupees forty eight lakhs ten thousand)</b> only to be paid electronically using the Online Payment Facility provided by the e-procurement Portal. However, Government of India / State Government Undertakings will have the option of submitting EMD in the form of bank guarantee on any Nationalized Bank valid for 6(six) months from the scheduled date of opening of tender.	<b>2.5 EARNEST MONEY DEPOSIT (EMD): Rs. 48,10,000/- (Rupees forty eight lakhs ten thousand)</b> only to be paid in the form of Bank Guarantee on any Nationalized Bank / Scheduled Bank guaranteed by RBI valid for 6(six) months as per FORMAT 2 of the DNIe-T: <b>2.5.1</b> The Bank Guarantee is to be necessary drawn-up before closing of bid and a scanned copy of the Bank Guarantee is required to be mandatorily uploaded along with other documents as a part of Technical Bid. <b>2.5.2</b> The Bank Guarantee in physical form has to reach to Tendering Authority in a Sealed Envelop superscripting the tender Reference Number and Tender ID in person or by post <b>on or before 28/02/2020 upto 5:30 PM.</b> TREDA in no way will responsible for any postal delay or non-receipt of

*[Signature]*  
15/02/2020

			<p>the Physical Bank Guarantee within the time specified.</p> <p><b>2.5.3</b> Governments of India or State Government Undertakings / Public Sector Enterprise are exempted from depositing EMD.</p>
<b>SECTION-2:</b> BIDDERS TO INFORM FULLY	<b>CLAUSE NO.</b> <b>2.6:</b> PROCEDURE FOR DEPOSITING TENDER FEE (TF) AND EARNEST MONEY DEPOSIT (EMD)	<p>2.6.1 Tender Fee and Earnest Money Deposit are to be paid electronically using the Online payment Facility provided in the e-procurement Portal.</p> <p>2.6.2 After initiating the Bid Submission Process from “My Tender” option, an “Online Payment” page will appear which will display the total TF &amp; EMD.</p> <p>2.6.3 On submission of TF &amp; EMD payment option, System will redirect to the SBI Bank MOPS window.</p> <p>2.6.4 SBI MOPS will have two options for Net Banking – “SBI” &amp; “Other Bank”. Bidder can choose any of the options as desired and can complete the Online Payment process.</p>	<p><b>2.6.1 TENDER FEE</b> is to be paid electronically using the Online payment Facility provided in the e-procurement Portal.</p> <p><b>2.6.2</b> After initiating the Bid Submission Process from “My Tender” option, an “Online Payment” page will appear which will display the total TF &amp; EMD.</p> <p><b>2.6.3</b> On submission of TF option, System will redirect to the SBI Bank MOPS window.</p> <p><b>2.6.4</b> SBI MOPS will have two options for Net Banking – “SBI” &amp; “Other Bank”. Bidder can choose any of the options as desired and can complete the Online Payment process.</p> <p><b>2.6.5 EARNEST MONEY DEPOSIT (EMD)</b> to be paid in the form of Bank Guarantee on any Nationalized Bank / Scheduled Bank guaranteed by RBI valid for 6(six) months as per FORMAT 2 of the DNIE-T:</p> <p><b>2.5.3.1</b> The Bank Guarantee is to be necessary drawn-up before closing of bid and a scanned copy of the Bank Guarantee is required to be mandatorily uploaded along with other documents as a part of Technical Bid.</p> <p><b>2.5.3.2</b> The Bank Guarantee in physical form has to reach to Tendering Authority in a Sealed Envelop superscripting the tender Reference Number and Tender ID in person or by post <b>on or before 28/02/2020 upto 5:30 PM.</b> TREDA in no way will responsible for any postal delay or non-receipt of the Physical Bank Guarantee within the time specified.</p>
<b>SECTION-2:</b> BIDDERS TO INFORM	<b>CLAUSE NO.</b> <b>2.7</b>	Government of India / State Government Undertakings will have the option of submitting EMD in the	Governments of India or State Government Undertakings / Public Sector Enterprise are exempted from depositing EMD.

FULLY		form of Bank Guarantee on any Nationalized Bank valid for 6(six) months from the scheduled date of opening of tender.	
<b>PART - 4:</b> SCOPE OF WORK & TECHNICAL SPECIFICATI ONS	<b>CLAUSE NO.</b> <b>1</b>	1.1SPV arrays contain required number of Modules having same capacity, type and specification connected in series or parallel to obtain the required voltage or current output. The SPV water pumping system should be operated with minimum PV array capacity of <b>2000 watt</b> measured under Standard Test Conditions (STC). The power output of individual PV modules used in the PV array, under STC, should be a minimum of <b>250 Watts peak</b> , with adequate provision for measurement of tolerances. Use of PV modules with higher power output will be preferred. The PV Modules should be indigenous.	1.1SPV arrays contain required number of Modules having same capacity, type and specification connected in series or parallel to obtain the required voltage or current output. The SPV water pumping system should be operated with minimum PV array capacity of <b>2000 watt</b> measured under Standard Test Conditions (STC). The power output of individual PV modules used in the PV array, under STC, should be a minimum of <b>300 Watts peak (72 Cell)</b> , with adequate provision for measurement of tolerances. Use of PV modules with higher power output will be preferred. The PV Modules should be indigenous.
<b>PART - 4:</b> SCOPE OF WORK & TECHNICAL SPECIFICATI ONS	<b>CLAUSE NO.</b> <b>3:</b> PCU (POWER CONDITIONIN G UNITS)/ SOLAR GRID INVERTER	As SPV array produces direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage for operation of Agriculture Pumps. Conversion shall be achieved using an electronic inverter and associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, the PCU shall also house MPPT (Maximum	As SPV array produces direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage for operation of Agriculture Pumps. Conversion shall be achieved using an electronic inverter and associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter to maximize energy drawn from the array. The PCU / Inverter should be grid interactive and the Inverter output should be compatible with grid frequency, voltage etc. <b>During operation of the Pump, PCU should be in</b>

15/02/2020

		<p>Power Point Tracker), an interface between Solar PV array &amp; the Inverter to maximize energy drawn from the array. The PCU / Inverter should be grid interactive and the Inverter output should be compatible with grid frequency, voltage etc. <b>Primarily the output from the PCU will be utilized to operate the Agriculture Pumps (Pump to run on Solar Power only) and no power will be drawn from the grid for operation of the pump.</b> The power conditioning unit should be connected to grid through net metering or other suitable arrangements with the approval of TSECL for export of solar power to grid when the pump is not running. Typical technical features of the inverter shall be as follows:</p>	<p><b>OFF condition and once the Pump is OFF, the PCU should be Switched ON automatically.</b> The power conditioning unit should be connected to grid through net metering or other suitable arrangements with the approval of TSECL for export of solar power to grid when the pump is not running. Typical technical features of the inverter shall be as follows:</p>
<p><b>PART - 4:</b> SCOPE OF WORK &amp; TECHNICAL SPECIFICATIONS</p>	<p><b>ADDITIONAL CLAUSE</b></p>	<p>--</p>	<p><b>CLAUSE NO. 15: SPECIFICATION OF PUMP CONTROLLER:</b></p> <p>15.1 Maximum Power Point Tracker (MPPT) shall be included to optimally use the power available from the SPV Array and maximize the water discharge.</p> <p>15.2 The SPV Controller must have IP 65 protection or shall be housed in a cabinet at least IP 65 Protection.</p> <p>15.3 Adequate protections shall be provided in the SPV Controller to protect the solar powered pump set against the followings:</p> <p>15.3.1 Dry running</p> <p>15.3.2 Open circuit</p> <p>15.3.3 Accidental output short circuit</p> <p>15.3.4 Under voltage</p>

*15/02/2020*

			<p>15.3.5 Reverse polarity</p> <p>15.3.6 SPD to arrest high current surge</p> <p>15.3.7 Lightning arrestor</p> <p>15.4 DC Circuit breaker as per IS/IEC 60947-2 suitable for switching DC power ON and OFF shall be provided in the SPV Controller</p> <p>15.5 All cables shall be as per IS 694. Suitable size of cables shall be used in sufficient for inter-connection between SPV array to SPV Controller and the SPV controller to solar powered pump set. Selection of cables should be as per IS 14536.</p> <p>15.6 Controller shall be integrated with GSM/GPRS gateway with Geo tagging. GSM/GPRS Charges to be included in the costing till the end of Warranty period.</p> <p>15.7 AUTOMATIC MODE OF OPERATION:</p> <p>15.7.1 <b>CONDITION 1:</b> During daytime with good generation at solar PV array, primarily the agriculture pump will continue to run at rated capacity by taking power from solar panels only. In this case agriculture pump won't draw any power from the Grid supply.</p> <p>15.7.2 <b>CONDITION 2:</b> In switch OFF position of agriculture pump, the generated solar PV power will be exported to grid through suitable mechanism for recorded &amp; monitoring.</p> <p>15.7.3 <b>CONDITION 3:</b> For operation of pump during insufficient Solar power / night time, the agriculture pump shall run on drawing power from grid through inbuilt automatic / manual changeover switch in SPV controller.</p>
	<b>ADDITIONAL CLAUSE</b>	--	<p><b>CLAUSE NO. 16: PCU AND PUMP CONTROLLER HOUSING:</b></p> <p>16.1 A vented and corrosion resistant metallic box with a locking arrangement for outdoor use should be</p>

*15/02/2020*


			<p>provided for housing the PCU and Pump Controller.</p> <p>16.2 Controller housing and a canopy shall be fixed in MS Sheet (<math>\geq 2</math> mm thickness) and 2 (two) MS Pole (Minimum 2 meter pole height, with outer diameter of 76.10 mm, thickness 3.6 mm) painted with a corrosion resistant paint.</p> <p>16.3 Base foundation: 1:2:4 (1 Cement: 2 River sand: 4 1<sup>st</sup> class Brick aggregate/stone chips 20 mm N/size) Cement Concrete at the size of minimum 0.5 m X 0.5 m X 0.5 m (0.50 meter below the ground).</p>
--	--	--	--

Other terms & conditions of the DNIE-T No.F. 6(261)/TREDA/NCES/19/2811, dated 10/01/2020 and Amendment 1 vide No.F. 6(261)/TREDA/NCES/19/3049, dated 31/01/2020 will remain unchanged.

2. The last date of e-bidding is hereby extended upto **25/02/2020 upto 03:30 PM.**
3. The Bank Guarantee in physical form has to reach to Tendering Authority **on or before 28/02/2020 upto 5:30 PM**
4. Technical bid opening date: **29/02/2020 at 04:00 PM.**

  
15/02/2020

(D S DAS)  
Joint Director

  
15/02/2020