



**ज्वार अनुसंधान निदेशालय**  
**DIRECTORATE OF SORGHUM RESEARCH**  
(भारतीय कृषि अनुसंधान परिषद/Indian Council of Agricultural Research )  
राजेन्द्रनगर, हैदराबाद/Rajendranagar, Hyderabad-500030  
Phone: 24015349, 24018651, Fax no.24016378



F.No.NAIP/17/13-14/ST

Dt.19.06.2013.

To

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Dear Sirs,

Sub: INVITATION FOR QUOTATIONS FOR SUPPLY OF '**10 KVA Uninterrupted Power Supply through solar panel**' GOODS AS DESCRIBED

1. You are invited to submit your most competitive quotation for the following goods:-

Brief Description of the Goods	Specifications*	Quantity	Delivery Period	Place of Delivery	Installation Requirement if any
10 KVA Uninterrupted Power Supply through solar panel	As given below	1	30 days	Stores Officer, DSR, Rajendranagar, Hyderabad 500 030	Yes

*\* Where ISI certification marked goods are available in market, procurement should generally be limited to goods with those or equivalent marking only.*

**Detailed description**

**Specifications for 10 KVA Uninterrupted Power Supply through solar panel**

Solar power backup system for un-interrupted power supply to laboratory  
Power load: 10 Kw  
Power backup: minimum 5 hrs.

The system should comprise of the following components

1. Solar Module
2. Module Mounting Structures
3. Junction Boxes
4. Solar Inverter & Charge Controller
5. Battery Bank
6. Installation Cables

#### *Solar module specifications*

Photovoltaic module is to be packaged interconnected assembly of photovoltaic cells, which converts sunlight into energy.

PV Module Capacity: 250Wp

PV Module type: Poly/Mono crystalline

Mounting arrangement for solar module: On Module mounting structure

Max. Temperature rise of cells under severe working conditions over Max. Ambient temp.: 50 Deg C

Peak power voltage: above 29 V

Peak Power current: above 7A

Open circuit voltage: above 35V

Short circuit current (Isc): 8 or more

Mechanical Features: Structure should be toughened, contain low iron, high transmissivity from glass

Frame should be of anodized aluminum frame

#### *Module Mounting Structure specification*

Mounting structure should be of Fixed Type fixable in roof or ground. Material of mild steel hot dip galvanized (minimum of 70 microns) for the long life in external weather conditions.

#### *Specification of Junction Boxes*

Type: FRP / ABS /Polycarbonate

Construction: Dust, Water & Vermin proof

It should be provided with earthing, mounted on structure and IP 65 protected

#### *Specifications of Solar Inverter & Charge Controller*

Array Input: 240V

Charge controller type: MPPT based

Battery voltage: 240V DC

Inverter type: Stand Alones grid tie

Power capacity: 10 kW

Load Power factor: 0.8 lag to unity

Nominal voltage: 415 VAC Three Phase

Regulation:  $\pm 5\%$

Frequency: 50Hz ( $\pm 0.5\text{Hz}$ ) in standalone mode

Waveform: True sine wave

Duty : Continuous

Efficiency (at full load & nominal input voltage):  $> 85\%$

Operating Modes: Stand Alone & Grid Charging (First preference to Solar, second to Grid and third to battery)  
Working temperature & humidity: 0 to 40 Deg C temp. and up to 95% non-condensing RH  
Enclosure Protection Grade: IP 20  
Cooling: Forced Air

*Battery Bank specification*

Branded battery  
Battery rating: 240V/360Ah at C/10 to 1.8 ECV at 27 Deg C  
Type of Battery: Tubular  
Model: 240V/360Ah  
Battery Bank Capacity: 360Ah  
Applicable standards IS: 1400 or more  
AH Efficiency: 95 % (min.)  
WH Efficiency: 81 % (min)  
Self discharge: 3 % per month.  
Design float life: Minimum of 5 years  
Design cycle life: 1500 Cycles at 80% depth of discharge at 27 Deg C  
3000 Cycles at 20% depth of discharge at 27 Deg C  
Charge controller settings: On/ off Type  
Over voltage disconnect: 2.60 V/cell at 27 DegC  
Array Reconnection voltage: 2.75 V/cell at 27 Deg C  
Low voltage disconnect: 1.85 V/cell at 27 Deg C  
Load reconnect voltage: 2.0 V/cell at 27 Deg C  
Regulation voltage:  $\pm 1\%$  V/cell at 27°C  
Low voltage disconnect: 1.85 V/cell at 27°C  
Load reconnection voltage: 2.0 V/cell at 27°C  
Operating temperature range: Continuously 48 Deg C (max.) and for short period 55 Deg C; Minimum -10 Deg C to -15 Deg C  
Grid Alloy: Low Antimonial Selenium Lead  
Container & Lid Material: Hard Rubber & T.P.

*Installation Cables specification*

Type: PVC insulated and Sheathed  
Make: Polycab / Varsha / Havells / Finolex / Universal / Equivalent  
Material: Copper  
Test voltage: 650V/1.1kV  
Working Temperature: -15 Deg C to +70 Deg C

ISO certification: Minimum ISO 9001 certified company with recognizable presence in the market

User list needs to be provided

2. Government of India has received a credit from the International Development Association (IDA) in various currencies equivalent to US\$ 14 crores towards the cost of the NAIP Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

### 3. **Bid Price**

- a. The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
- b. All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
- c. Sales tax in connection with the sale shall be shown separately.
- d. The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- e. The Prices shall be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation. Bidder shall not contact other Bidders in matters relating to this Quotation.

### 5. **Validity of Quotation**

Quotation shall remain valid for a period not less than 15 days after the deadline date specified for submission.

### 6. **Evaluation of Quotations**

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

- a. are properly signed ; and
- b. conform to the terms and conditions, and specifications.

The Quotations would be evaluated separately for each item.

Sales tax in connection with sale of goods shall not be taken into account in evaluation.

### 7. **Award of contract**

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

7.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

8. Payment shall be made immediately after delivery of the goods.

9. Normal commercial warranty/ guarantee shall be applicable to the supplied goods.

10. You are requested to provide your offer latest by **11.00hours** on **15th JULY 2013**

11. We look forward to receiving your quotations and thank you for your interest in this project.

Administrative Officer  
DSR, Rajendranagar  
Hyderabad  
Fax: +91 40 24016378

FORMAT OF QUOTATION

Sl. No.	Brief description of goods/ equipments	Brief Specifications	Quantity	Unit	Unit Rate (Rs) in figures	Unit Rate (Rs) in words	Total amount in figures	Total amount in words
1.								
2.								
3.								
4.								
5.								
6.								

Gross total Cost : Rs.....(in figures)

Rs.....(in words)

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs.....(in figures) (Rs..... .. (in words) within the period specified in the invitation for Quotations.

We also confirm that the normal commercial Warranty / quarantee..... of months shall apply to the offered goods.

(Bidder)

Name : .....

Signature .....

Date.....