BID DOCUMENT

for

Supply, Installation and Commissioning of 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd. Batteries

NIT NO: 1/01(12)/2016-NISE PV(Inverter)

DUE ON: 15/7/2016

At

NATIONAL INSTITUTE OF SOLAR ENERGY

19th Milestone, Institutional Area,

Gurgaon-Faridabad Road, Gwal Pahari, Gurgaon, Haryana,

INDIA

Telefax No. : +91-124-2579207

NIT No. 1/01(12)/2016-NISE PV(Inverter)

National Institute of Solar Energy

Faridabad-Gurgaon Road
Gwalpahari, Gurgaon-122003 Haryana

TENDER NOTICE

Subject:Supply, Installation and commissioning of 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd. Batteriesat National Institute of Solar Energy, Gurgaon.

On behalf of Director General (DG), National Institute of Solar Energy(NISE) sealed tenders are invited from reputed manufacturers or their authorized Indian representatives,in two parts (Technical and Commercial separately) for Supply, Installation and commissioning500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd. Batteries at National Institute of Solar Energy, Gwal Pahari, Gurgaon, Haryana, India. The manufacturer should be a globally reputed company and should have sufficient experience in Design & Fabrication of 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd. Batteries. Preference may be given to the manufacturers having their authorized repair & service center(s) in India. A list of actual users/ customers should also be furnished along with the Technical Bid.

Bid Details

SI.No.	Description	Details
1	Notice Inviting Bid(NIT) No	NIT No. 1/01(12)/2016-NISE PV(Inverter)
2	Scope of work	Supply, Installation, commissioning and warranty for minimum 1 year of 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd. Batteries at NISE.
3	Battery simulator	500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd. Batteries
4	Place of issue &submission of biddocument and address for communication	NATIONAL INSTITUTE OF SOLAR ENERGY 19th Milestone, Institutional Area, Gurgaon-Faridabad Road, Gwal Pahari, Gurgaon, Haryana, India 122003
6	Last date & time of submission of bid	15 Julyby 12.00PM
7	Date & time ofopening of Part – I(Technical Bids)	15 July by 15.00PM

8	Date & time ofopening of Part – II(Price-Bid)	Will be informed after technical evaluation
9	Cost of biddocument (Non-refundable)	Free of Cost
10	Earnest Money(Refundable)	**Rs. 50,000/-**
12	Time ofsupply	1Months, before 30th August2016
13	Validity of offer	The offer should remain valid for 2months from the date of tender publication date
14	Validity of earnestmoney	The earnest money shall be submitted by the bidder in the form of CDR/FDR/BG from any bankoperations in India pledged to the Director General NISE.This shall remain valid for 12 months from the date of submission of bids.

DETAILED TENDER NOTICE

Name of Work: Supply, Installationand commissioning of 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd Batteries NISE.

1. ELIGIBILITY CRITERIA

1.1 Manufacturers who have past experience of fabricating such systems, or at least similar systems with at least 3-successful installations in India are preferred. A list of clients whose sites are open to visit by NISE officers for demonstration should be enclosed.

2. Technical Specifications:

Sr. No	Description	Range
01	Input Voltage	3 x 380 to 440 VAC, 50Hz
02	Power factor	≥ 0.90 (At nominal power)
03	DC-Output ratings	Voltage: 5 to 500 VDC Current: 50mA to +/- 260 A Power: 1W to +/- 50 kW

04	Operating Modes	Q1 active mode Q4 Sink mode Voltage regulation (CV) Current regulation (CC) Power regulation (CP) Battery Simulator must be regenerative type.
05	Voltage resolution Current resolution Power resolution	10mV 1mA 0.5W
06	Stability	CV, CC : 0.5% FS
07	Voltage accuracy Current Accuracy Power Accuracy	0.3% 0.3% 0.3%
08	Voltage measurement accuracy Current Accuracy Power Accuracy	0.05% 0.3% 0.3%
09	Protection Built-in protection :	1. OCP 2. OVP 3. Battery High Voltage / Power Warning 4. Battery Low Voltage / Power Warning 5. Battery Over Voltage Protection / Over Power Protection 6. Battery Low Voltage Protection / Low Power Protection
10	PC Interface	LAN / USB
11	Warranty	1-Years from the date of delivery.

12	Battery Pack Simulating Function	Multi-Channel Battery Pack Simulation up to 2-Channels minimum of any rating. But total current in 1-Channel is not less than 250 Ampere. Battery Pack Charging/Discharging Simulation Battery Behavior Curve Setting Starting Voltage and Capacity Initializing Battery Pack Total Capacity Setting Charging and Discharging Efficiency Setting Battery DCR Simulation Battery Pack Initialization Cycle Simulation Single Channel Bidirectional Power Supply Voltage /Current /Power Display Voltage /Current Setting Pre-charge Function: Set the time required to generate voltage
12	**Software**	1. PC-Software for Simulation of Batteries Li-ion, Lead Acid, Ni-MH and Ni-Cd. 2. Number of cells along with rated capacities, series/parallel configuration of cells 3. Optional cut-off voltage limits to simulate invalid battery states (overcharge / deep discharge state) 4. Exponential capacity and voltage levels 5. It can set the battery capacity, DCR, and V-SOC curve to be downloaded for charger, inverter, and motor driver testing via the proprietary software enclosed.

3. General:

1.The installation, commissioning & trials to demonstrate proper functioning of the all the systems will be the responsibility of the supplier.
2.The manufacturer have to supply the calibration reports from the authorized calibration laboratory.

4. EARNEST MONEY DEPOSIT (EMD)

A sum of Rs.**50,000/-**should be submitted as Earnest Money Deposit (EMD) **along with the technical bid** in the form of **bank demand draft/Bank Guarantee** drawn in favor of "National Institute of Solar Energy", and payable at Gurgaon, Haryana. The EMD of the accepted tender will be retained as Security Deposit and the EMD of other unsuccessful bidders would be refunded.

5. **RATES:**

The rates should be quoted specifically on the following lines:

a. Firm and final cost of the three numbers of 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd as per the above specifications and features along with costs of the installation charges as per the above specifications and features should be provided.

b. Taxes and freight etc. if any applicable should be indicated separately and clearly.

6. **DELIVERY PERIOD:**500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cd should be delivered in a single consignment at the site/consignee within 1month from the date of issue of confirmed supply order.

7. **INSPECTION:** The supplier should satisfy himself/herself that 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cdas per the above specifications and features along with options, accessories, conform to the specifications by carrying out complete pre-inspection of each component before dispatch.Final inspection will be carried out in the presence of firm's representative/Indian agent when the system is installed and commissioned at National Institute of Solar Energy (NISE), an Autonomous Institute under the Ministry of New and Renewable Energy, 19th Mile Stone, Gurgaon-Faridabad Road, Village & P.O. GwalPahari, District Gurgaon (Pin 122003), Haryana, India.

8. **CONSIGNEE:**Deputy Director General/ Sc"G" (SPV-Testing), National Institute of Solar Energy (NISE), (an Autonomous Institute under the Ministry of New and Renewable Energy), 19th Mile Stone, Gurgaon-Faridabad Road, Village & P.O. GwalPahari, District Gurgaon, Pin 122003, Haryana, India. The port of destination is Indira Gandhi International Airport, New Delhi, India and addressed to the consignee.

9. **GUARANTEE/WARRANTY:** System/Spares supplied should be covered by standard terms of warranty for a period of 24 months from the date of installation or 30 months from the date of delivery, whichever is later for manufacturing defects/performance.

10. **PENALTY:**

i. The supplier shall supply the stores in accordance with the particulars as expressly specified at the time/times and at the place/places only.

ii. The time for and the date of the stores stipulated shall be deemed to be the essence of the supply/work order.

iii. If for any reasons the contractor is unable to adhere to the contract delivery dates, he may seek extension in delivery/completion dates well in time by sending a request in writing in this regard to the office issuing the contract/supply order. The purchaser reserves the right to allow the extension of delivery period subject to such conditions as he may think fit. However, the decision of the purchaser shall be final and binding.

11. **DISPUITES:**In case of any dispute the decision of the Director General, National Institute of Solar Energy will be final and binding on both parties. Further dispute, if any will be settled in the Court of Law at New Delhi jurisdiction only
12. **VALIDITY:**The Tenders should be valid for 180 days from the date of opening.
13. **REJECTION:**Incomplete, conditional, fax, late tenders and tenders without EMD will be rejected summarily. Director General, National Institute of Solar Energy reserves the right to reject any or all the tenders at his discretion without assigning any reason whatsoever.
14. **Payment Terms:**

    Payment will be considered against irrevocable Letter of Credit on presentation of the following documents without discrepancies:
    - Clean Master Airway Bill/House Airway Bill in original.
    - Commercial invoice in quadruplicate.
    - Packing list in duplicate.
    - Manufacturer's certificate of warranty/guarantee, the inspection and calibration report.
    - Certificate of origin.
    - Copy of the negotiable bill of binding.
    - Address/Tel/Fax number of your banker.

15. **SUBMISSION OF TENDERS :** Sealed tenders are to be submitted in two parts i.e. **Part-I containing Technical competence/literature along with Demand Draft for EMD, and Part-II containing only commercial invoice in a separate sealed envelope, super scribed as commercial bid**. Both the technical and commercial envelops should be kept in large size sealed envelope super-scribed 500V, 250 A, 50KW Regenerative Type Battery Simulator for Li-ion, Lead Acid, Ni-MH and Ni-Cddue for opening on 15 July 2016and addressed to: Director (SPV), National Institute of Solar Energy, Gurgaon – Faridabad Road, Gwal Pahari, Gurgaon 122003, Haryana, India.

(O.S.SASTRY)
DDG/SC "G"-(SPV)