



University of Calcutta

Dept. of Applied Physics
92 APC Road, Kolkata 700009

Tender Notice

Enq No.: AP/UGC-SAP-DRS-II/JNB/ENQ/19-20/14

Dated: 20/12/2019

To
The All Interested Parties

Dear M/s.

Please submit sealed quotation within **06/01/2019 (4 PM)** at the Office of the Department of Applied Physics for the following item.

Please enclose the copy of the following papers along with the quotation.

1. Trade License, 2. PAN Card, 3. VAT & Service Tax Registration wherever necessary

1. Introduction

Department of Applied Physics, University of Calcutta (CU) invites sealed bids from GST compliant bidders for a turnkey contract based jobs

2. Background

Department of Applied Physics, University of Calcutta (CU) wants to make a smart power system lab, which is a part of smart grid test bed system, will facilitate hardware based simulation of power systems phenomena including major features of smart grid, testing and analysis for experiments and research purpose. The requirement envisages supplies to be made as modular components and future expansion of the modules to be integrated with the present scope to further introduce additional components for necessary analysis and testing.

3. Requirement for this Tender

Supply of 1 (one) no. Module for **Doubly Fed Induction Generator and/or Permanent Magnet Synchronous Generator (DFIG and/or PMSG) Control panel with digital communication** for a customised remote monitoring and control along with installation and commissioning services for the entire system.

4. Scope of Work.

Module: DFIG and/or PMSG Control panel with digital communication.

- I. The scope of work will cover customised design, engineering and manufacturing of control panels with digital communication along with all associated equipment in fully integrated manner on turnkey basis. The basic scope of work includes the following:
- II. Fabrication/ manufacturing of the panels with all the relevant equipment for controlling the AC motor associated with the AC motor driven DFIG system. One panel should have the controller system for AC drive as well as provision for transformer coupled bidirectional rectifier-inverter unit. The transformer with suitable capacity must be connected with the Bus supply. The other panel for the DFIG BUS system where its output will have to be connected to the bus through CB and to the grid with the Tie-lines along with all necessary monitoring and control units.
- III. The buyer is having a AC motor coupled DFIG set, which is required to be controlled through AC drives units. Tenderer will have to supply the drive based control panel for AC motor (prime mover) of 5 kW rating.
- IV. This DFIG Bus system panel must also have the provision of integration of output of ac motor coupled PMSG unit through rectifier-inverter modules. A separate drive panels for the ac drive must also to be manufactured and are to be kept adjacent to the DC drive panels for DFIG.
- V. The ac drive of 5 kW and rectifier inverter unit are to be the scope of supply. The supply of AC motor coupled PMSG system are within the scope of buyer.
- VI. Integration: The Drive system should be integrated with the DFIG and PMSG generators and necessary interfacing provision with Smart controller panel (profibus) should be available for monitoring and control of the AC drives remotely from PLC.
- VII. A 4" Panel Display to be provided for such purpose. Necessary configuration software license to be considered in the supply.
- VIII. The procurement of all associated material/equipment, supply, inspection, transportation to site, storage, insurance, handling, erection, testing, trial run and commissioning of offered system etc. all are of inclusive within this work.
- IX. Site survey for understanding the technical requirements.
- X. Existing equipment to be relocated, if required.
- XI. The panel should be floor mounted, with provision for laying cable suitably (Tenderer to visit site for offering suitable solution). Necessary power and control terminals to be provided for external interfacing. 20% spare terminals to be provided.
- XII. Panel should have space provision for future installation of another drive module.
- XIII. GI, conduits pipes, tools and tackles, cable trays racks, junction box, foundation bolts, inserts and anchor etc. and all required materials fittings, and accessories to be provided as necessary.
- XIV. Spares and consumables for commissioning of the total system.
- XV. Any small civil work if necessary during erection.
- XVI. Drawing documents to be furnished.
- XVII. Tenderer should supply required power cables for incoming power to Drive panel, Motor and Alternator excitation connection from Drive. Profibus communication cable will be part of this supply. For cable length estimations the tenderer is required to make prior site survey.

5. General terms of supply.

- a. Power tapping source will be 10 metres from the location of control panel.
- b. Power supply will be 3 phase, 415 VAC, 50 Hz.
- c. Experts to be provided by the bidder for installation and commissioning till handover.

6. Preferred make list

- Drives: Siemens, Rockwell, ABB
- Enclosure: Rittal, Pyrotech, Valrack, or any reputed make
- Panel Display: Siemens, Beckhoff, Mitsubishi

For
Professor JitendranathBera
Coordinator,
UGC SAP DRS-II Program
Dept of Applied Physics
University of Calcutta

For queries, please contact: jitendraber@rediffmail.com; jnbaphy@caluniv.ac.in
Mobile: 09231513793



University of Calcutta

Dept. of Applied Physics
92 APC Road, Kolkata 700009

Tender Notice

Enq No.: AP/UGC-SAP-DRS-II/SC/ENQ/19-20/16

Dated: 24/12/2019

To
The All Interested Parties

Dear M/s.

Please submit sealed quotation within **03/01/2019 (4 PM)** at the Office of the Department of Applied Physics for the following item.

Please enclose the copy of the following papers along with the quotation.

1. Trade License, 2. PAN Card, 3. VAT & Service Tax Registration wherever necessary

1. Introduction

Department of Applied Physics, University of Calcutta (CU) invites sealed bids from GST compliant bidders for a turnkey contract based jobs

2. Background

Department of Applied Physics, University of Calcutta (CU) wants to make a smart power system lab, which is a part of smart grid test bed system, will facilitate hardware based simulation of power systems phenomena including major features of smart grid, testing and analysis for experiments and research purpose. The requirement envisages supplies to be made as modular components and future expansion of the modules to be integrated with the present scope to further introduce additional components for necessary analysis and testing.

3. Requirement for this Tender

Supply of 2 (two) no. Module for **3 phase Inverter Stack** for a customised power converter to be integrated with solar or grid system.

4. Scope of Work

Supply of 2 (two) no. Module for **3 phase Inverter Stack** with the following specifications-

Configuration (B6i PWM Inverter) : for 3 phase power converter
Input DC Voltage :700 V (max)
Output AC Voltage : 415 V (nominal)
Output AC Current :10 A
Switching Frequency : 10 kHz
Fundamental Output Frequency : 50 Hz
Type of cooling: Forced Air cooled/ Natural cooled
Ambient Temperature : 35 °C
Duty class / Overload : 100 % continuous
Single stack / Parallel stack : Single stack
Application details : Wind/ Solar or any other suitable DC-AC bus system
Total No of stacks needed (Total quantity of the above configuration): two
Any special requirements : No. of Test Points.

This stack will be used only for R&D purposes within the academic institute which does not have any commercial utilisation.

Circuit diagram : a complete circuit diagram is to be provided along with the supply of inverter stack.

5. General terms of payment

The payment will be made at the earliest (preferably within 30 working days) after delivering the stacks.

For
Professor Jitendra Nath Bera
Coordinator,
UGC SAP DRS-II Program
Dept of Applied Physics
University of Calcutta

For queries, please contact: jitendrabera@rediffmail.com; jnbaphy@caluniv.ac.in
Mobile: 09231513793