



University of Calcutta

Dept. of Applied Physics
92 APC Road, Kolkata 700009

Tender Notice

Enq No.: AP/UGC-SAP-DRS-II/JNB/ENQ/19-20/15

Dated: 23/12/2019

To
The All Interested Parties

Dear M/s.

Please submit sealed quotation within **07/01/2019 (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 **Hybrid Renewable Energy penetrated AC and DC Bus 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: Hybrid Renewable Energy penetrated AC and DC Bus 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 monitoring and controlling the power flow status from different AC bus converters as well as different DC bus converters. The panels should have the facility of two types of buses namely AC bus and DC bus. The maximum 3 in no. of custom made converters are to be interfaced within ac and dc buses or between the renewable energy resources (like SPV, biomass, storage Battery etc.) and ac bus. While three DC converters are to be used with the RESs and the DC buses. The ac bus of this panel 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 all the necessary converters along with battery units. Tenderer will supply the control panel of 10 A per phase rating.
- IV. Integration: The necessary interfacing provision with Smart controller panel (profibus) should be available for monitoring and control of the individual controller from PLC.
- V. A 4" Panel Display to be provided for such purpose. Necessary configuration software license to be considered in the supply.
- VI. 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.
- VII. Site survey for understanding the technical requirements.
- VIII. Existing equipment to be relocated, if required.
- IX. 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.
- X. Panel should have space provision for future installation of another drive module.
- XI. 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.
- XII. Spares and consumables for commissioning of the total system.
- XIII. Any small civil work if necessary during erection.
- XIV. Drawing documents to be furnished.
- XV. Tenderer should supply required power cables for incoming power to AC and DC buses. 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

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

For
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