



**University of Calcutta**  
**Dept. of Applied Physics**  
**92 APC Road, Kolkata 700009**

### **Tender Notice**

**Enq No.: AP/UGC-SAP-DRS-II/JNB/ENQ/18-19/09**

**Date: 22/01/2019**

To  
**The All Interested Parties**

Dear M/s.

Please submit sealed quotation within **12.02.2019 (4PM)** 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 **400 KV Transmission line simulator modules** for customised power flow control through manual and remote selector switches along with installation and commissioning services for the entire system

#### **4. Scope of Work**

**Module: Simulator module of 400 kV Transmission line of 500 Km length with digital communication facility**

- I. The scope of work will cover design, engineering, supply, transportation to site, handling, erection, testing, trial run and commissioning of offered system to be interfaced with the smart grid test bed to act as smart grid load (remotely and locally

controllable) and all associated equipment including interconnection to the test bed system on turnkey basis. The basic scope of work includes the following:

II. The Simulator modules will be comprised of:

Simulation panel to work at 415V, 50 Hz supply to simulate 400 kV Transmission line of 500 Km length with digital communication facility. The length of the transmission line can be varied in multiple of 500 kM length by cascading such modules upto three (3) in numbers. Each module must have a central tapping facility so that the line can be simulated at 250 kM length. Each panel should have inbuilt panel for voltage and current monitoring through local meters as well remote meters. The remote control will be done by compatible digital communication system.

- III. Site survey for understanding the technical requirements.
- IV. Existing equipment to be relocated, if required.
- V. The modules should be portable, with provision for laying cable suitably (Tenderer to visit site for offering suitable solution). Necessary power terminals to be provided for external interfacing.
- VI. GI, conduits pipes, tools and tackles, cable trays racks, junction box, foundation bolts, inserts and anchor etc. and all the required materials fittings, and accessories to be provided as necessary.
- VII. Spares and consumables for commissioning of the total system.
- VIII. Any small civil work if necessary during erection.
- IX. Drawing documents to be furnished.
- X. Tenderer should supply required power cables for interconnection between the modules, between the loads as well as with smart grid supply. Necessary Communication cable will have to be included with this supply. For cable length estimations the tenderer is required to make prior site survey.

## 5. General terms of supply.

- XI. Power tapping source will be within 10 metres from the location of modules
- XII. Power supply will be 3 phase, 415 VAC, 50 Hz.
- XIII. Experts to be provided by the bidder for installation and commissioning till handover.

For  
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