

Request for Expression of Interest (EOI) for hiring Consulting Firm

TERMS OF REFERENCE

International Consultancy Services of Survey, Preparation of detailed Design & Bidding Document to Establish a SCADA Network, Implementation Supervision, taking and handover of SCADA systems for new and existing 33/11kV Distribution Sub-Stations including extension or up-gradation of existing SCADA System (where ever applicable) under four Power Distribution Zones of BPDB namely Chattogram, Cumilla, Sylhet and Mymensingh.

1. BACKGROUND INFORMATION

Bangladesh Power Development Board (BPDB) is responsible for major portion of generation and managing sub-transmission, distribution and bulk supply of power mainly in urban areas except Dhaka, West Zone and Northern part of the country. BPDB has taken a massive capacity expansion plan to add about 11600 MW Generation capacity in next 5 years to achieve 24000 MW Capacity according to PSMP-2010 by 2021 with the aim to provide quality and reliable electricity to all the people of the Country for desired economic and social development. The power system has been expanded to keep pace with the fast growing demand. The Government of the People's Republic of Bangladesh as well as BPDB has taken initiatives for Power System Enhancement and Efficiency Improvement project. Under such initiatives for reliable and quality power supply, BPDB has already implemented Supervisory control and Data Acquisition (SCADA) project in Chattogram City by taking soft loan from Kuwait Fund. Now BPDB intends to procure, installation and commissioning of SCADA System in Sylhet, Cumilla, Mymensingh and rest of the Chattogram Power Distribution Zones along with extension/up-gradation and integration of existing SCADA Network of Chattogram Zone to make it functional and effective. In this regard BPDB wants to hire a Consulting Firm (or, JVCA of Consulting Firms) to Survey, Design, Preparation of Bid Document by selection of best communication option considering site specific information and best international practices. Moreover, the Consulting Firm has to perform as Owners Engineer for Implementation Supervision and taking and handover of the same facility. The scope of the works would include (48 new & 34 existing SCADA [by Abbey System Ltd., New Zealand and Total Tel (Bangladesh)] for Chattogram, 19 new & 16 existing [by BUET] for Cumilla, 30 new & 17 existing [by BUET] for Mymensingh and 11 new & 10 existing [by BUET] for Sylhet of 33/11 KV Distribution Sub-Stations and networking with respective zonal Grid Sub-Stations including integration of existing SCADA System (where ever applicable). The service is to be provided by the consulting firm (s) is estimated at 52 person-months of International and 84 person-months of National consultants. The duration of the assignment shall be up to June, 2022 and the Consulting Firm must have a combination of Foreign Experts and Local Experts in the context of SCADA System feasibility study, installation, commissioning and networking, construction supervision along with solid knowledge about best technology and practices, information about service providers, very good estimation for SCADA Systems and choice of technology skills. The consulting firm shall have demonstrated experience of project management, procurement, design, engineering, supervision of installation, testing and commissioning of Radio Frequency or Microwave link, Fiber Optic Backbone based SCADA project for electricity Transmission/Distribution network.

The aim of this project is that Govt. of Bangladesh is considering a Resilient and reliable Electric Networking (REN) for power supply in efficient manner to the consumers and it is proposed to integrate or interfacing (wherever applicable) the S/S to create communication network with SCADA system in four Power Distribution Zones of Chattogram, Cumilla, Sylhet and Mymensingh Divisions.

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CHATTOGRAM ZONE:

Chattogram is a port city and commercial capital of Bangladesh. Many big and heavy industries like Karnafully Fertilizer Company, Eastern Refinery Limited, BSRM, PHP Glass Industry, KAFCO, several ship breaking industries have been established here. Chattogram EPZ, Karnafully EPZ and Korean EPZ are lying in this region. Moreover, about 30,000 acres of land at Mirsharai in Chattogram district is developing by BEZA for establishing an economic zone, where many bulk industries will be setup in near future. So, reliable and stable power supply in Chattogram region is very much necessary.

Considering the importance of Chattogram region, first SCADA system was installed in Chattogram in the year 1989-90 under Greater Chattogram Power Distribution Project (Phase-II). But the system was damaged mostly by the devastating cyclone in April, 1991. This SCADA system again brought under operation by Greater Chattogram Power Distribution Project-SCADA Rehabilitation which has been completed in June, 2016. After completion of the project, most of the 33 kV & 11 kV network [33 kV/11 kV Feeders of 13 Nos. Grid S/S is using Fiber Optic Communication medium and 33 kV/11 kV Feeders of 21 Nos. Distribution S/S using Radio Communication medium] of Distribution Zone, Chattogram has come under the SCADA system and Supervisory control (Load control), Data acquisition [e.g. Energy (kwh), Load (MW), Reactive (MVAR), Power Factor (P.F) etc.] & Monitoring work are doing from one point, i.e. from a control room located at Khulshi, Chattogram. Now, it comes easier to continuously monitor the system network and control it as and when necessary. All sorts of system data acquisition and recording work are doing regularly in a systematic manner. These data are helping for decision making in day to day system operation and for system planning. Meanwhile, due to thunder storm and lightening the system was affected and now remains stopped. Therefore, a repair/rehabilitation is necessary to run the existing system again.

As per instruction of PEC of Planning Commission, an eight member's Feasibility Committee was formed. An In-house Feasibility study has been done by the committee having BPDB's engineers including a representative of Sub-station consultant, Engineer's Associate Ltd., Dhaka appointed by PDSDP, Chattogram Zone to bring the present 33 kV & 11 kV feeders of existing 33/11 kV sub-stations which are at present outside the coverage of the SCADA, Chattogram; as well as to bring the 33 kV & 11 kV feeders of 33/11 kV sub-stations which are to be built newly and upgraded/renovated by the on-going distribution projects: (a) "Power Distribution System Development Project, Chattogram Zone" and (b) "Development of Power Distribution System in Three Hilly Districts" under the coverage of SCADA, Chattogram.

According to the Feasibility Study Report, the scope of works is as follows:

Status	All 33 kV & 11 kV Feeders(Breakers) of new 33/11 kV S/S to be brought under SCADA Newly	Only remaining 33 kV & 11 kV Feeders(Breakers) of existing 33/11 kV S/S to be brought under SCADA Newly	Project Completion Period
Existing	3 Nos. S/S	21 Nos. S/S	-
Dist. System Dev. Project, Ctg. Zone.	3 Nos. S/S	4 Nos. S/S	31 Dec, 2019
Three Hilly District Power Dist. System Dev. Project	5 Nos. S/S	-	31 Dec, 2019
Total:	11 Nos. S/S	25 Nos. S/S	

"Greater Chattogram Power Distribution Project - SCADA Rehabilitation (Phase-II)" has been prepared and planned with the unspent loan amount of "Greater Chattogram Power Distribution Project - SCADA Rehabilitation (Phase-I)" of Kuwait Fund for Arab Economic Development (KFAED) on the basis of the feasibility study report. After completion of the proposed project, all 33/11 kV sub-stations will be under the coverage of existing SCADA and the whole 33 kV & 11 kV

