

2.0 SUNYANI - MIM LINE UPGRADE PROJECT

Background

The Sunyani-Mim line was constructed in 1990 as part of the Northern Electrification and System Reinforcement Project.

The line is built of lattice steel structure, grillage foundations, 265mmsq ACSR conductors insulated for 161kV operation of about 60km.

Due to small size of load to be supplied at the time, the line was energized at 34.5kV and has been operated at this voltage since 1990.

The line presently supplies a maximum demand of about 10MW and continues to increase at about 5% per annum. The line also supplies power to several localities under NED operations but cannot sustain any further extensions due to the fact that the line has reached its limit. For this reason, voltages are generally low.

Furthermore, the Electricity Company of Ghana (ECG) has indicated its intentions of extending supply to some parts of the western region under its jurisdiction. Unfortunately, the closest high voltage grid supply point to any of these ECG loads is Mim, thus requiring an immediate upgrade and reinforcement of the system at Mim.

Project Objective

The Ghana Grid Company (GRIDCo) intends to improve on the supply reliability to Northern Electricity Department (NED) for Mim and its environs and also to provide an alternative supply source to the Electricity Company of Ghana (ECG) to serve their load in the northern section of the Western Region which is currently being served from the Bogoso substation.

In order to achieve this objective GRIDCo intends to upgrade the existing Sunyani – Mim transmission line which is insulated at 161kV but currently energized at 34.5kV and to construct a 161/34.5kV substation at Mim.

Scope of Works

The scope of works includes but not limited to the following:

- Design and construction of a 161/34.5kV substation, which will be configured as a single bus arrangement to be converted, in the future, into a ring bus This will involve the design, supply and installation of balance of plant including but not limited to 161kV circuit breakers, 161kV disconnect switches, 161kV current and voltage transformers, 161kV surge arrestors, 34.5kV feeder equipment complete, protection and control system, AC/DC station auxiliary, metering equipment, buswork, associated civil work, etc.
- Supply and installation of 1Nos. 161/34.5kV, 25/33MVA Power Transformers
- Supply and installation of 1Nos. Grounding/Auxiliary transformers 1Nos. Auxiliary transformers.
- Supply and installation of line terminal equipment for the new Sunyani outgoing line to Mim.

- Provision of communication and SCADA system at Mim substation and upgrade of the SCADA and Communication systems at Sunyani substation.
- All civil works associated with the above works including but not limited to survey, substation site clearing, leveling, filling and compaction, control building, drainage, fencing with gates, equipment plinths, tower foundations, etc.
- Sunyani-Mim transmission line right of way bush clearing, provision of culverts and access roads rehabilitation

Duration for Contract Implementation

The duration for contract implementation shall be 15 months.

Project Status

Preliminary designs and preparation of bidding documents are in progress.

The Call For Bids is expected in June 2009.

Funding

This project is being funded by GRIDCo from its internally generated funds.