

6.0 MALLAM SUBSTATION UPGRADE PROJECT (MSUP)

Background

Bulk power supply to the city of Accra is affected from two (2) substations – Achimota and Mallam substations.

Achimota substation is presently providing power almost at its designed capacity and due to the fact that the power demand in Accra is high (over 350 MW), there is the need to provide additional supply and some amount of back-up supply.

This has been provided at the Mallam substation, located in the west of Accra. The Mallam substation, which has been in operation since 2001, is however been implemented for only 50% of its capacity. The substation is presently made of two (2) 161 kV transmission lines and two (2) power transformers.

Project Objective

The Ghana Grid Company intends to improve on the security/reliability of power supply to Accra by upgrading the Mallam substation into the ultimate four (4) diameter breaker-and-half bus scheme equipped with 4No. 161/34.5kV, 50/66MVA power transformers and four (4) 161kV lines. The upgrade when completed will result in improved reliability, operational flexibility and maintenance of equipment for both Achimota and Mallam Substations which are serving Accra and its immediate environs.

Scope of Works

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

- Expansion of the Mallam Substation for the termination of the existing 161kV Winneba – Achimota (W2H) transmission lines and installation of 2Nos 50/66MVA, 161/34.5kV Power Transformers. This will involve the design, manufacture, testing, supply, installation and commissioning of 161kV balance of plant for the termination of the lines and installation of the power transformers.
- Breaking into the existing 161kV Winneba - Achimota (W2H) transmission line at the Mallam Substation.
- Supply and installation of 2No 50/66MVA 161/34.5/11.5kV Power Transformers.
- Upgrade of the existing SCADA and Communication systems at Mallam, Achimota and Winneba Substations as well as undertake SCADA software modification at the Master Station at Tema.
- Supply and installation of three (3 Sets) 34.5kV, 2x10.8MVar packaged/containerized capacitor banks and their related switchgear.

- Provision of related civil works and remedying of any defects.

Duration for Contract Implementation

The duration for contract implementation shall be 18 months.

Project Status

Preliminary designs, preparation of technical specifications and bidding documents about 90% completed.

Funding

Funding has been secured for this project through a special arrangement between ECG and the World Bank to use part of funds allocated to ECG under GEDAP to support GRIDCo.