NETWORK ELECTRICAL STUDIES

DURATION

5 days

TARGET AUDIENCE

Ministries in charge of energy

Rural electrification agencies

National utilities

Engineering firms

Engineering school and training institutes

PREREQUISITES

Mastering GIS software

A FEW REFERENCES

CI-ENERGIES (Ivory Coast)

SBEE (Benin)

USED TOOLS

Manifold©, Giselec©

Innovation Énergie Développement

2 chemin de la Chauderaie

69340 Francheville FRANCE

Telephone : +33 4 72 59 13 20

Fax : +33 4 72 59 13 39

Mail : ied@ied-sa.fr

Website: www.ied-sa.fr

OBJECTIVES

In rural areas and, more broadly, for LV and MV distribution networks, few electrification projects include detailed and systematic sizing studies.

As a result, electricity distribution equipment is often improperly sized, which leads to excessive investments or poor service quality. The economic consequences of this are not or insufficiently addressed, even though distribution often represents more than half the electrification costs.

This course, centred on mastering the GISELEC© software, targets the acquisition of skills necessary for **the electrical optimization of MV and LV network** at the stage of preliminary studies: optimal transformer coverage, network layout and conductor sizing.

TRAINING PROGRAMME

1. Basic theoretical concepts
♦ MV/LV network architecture an technologies
♦ Electrical calculation : Max intensity, voltage drops, network losses

2. Study area modelling
♦ Using the associated GIS software
♦ Creation of background maps
♦ Concept of load points and load forecast model

3. Coverage of the study area by MV/LV transformers
♦ Assessing demand within the study area
♦ Distribution of the transformers' impact zones
♦ Optimal transformer sizing and positioning in order to reduce network losses

4. Layout and electrical modelling of MV and LV networks
♦ Layout of LV networks and validation of user coverage zones
♦ LV network sizing (technical-economical optimization)
♦ Layout and sizing of MV networks

5. Presentation of electrical study results
♦ Publishing network maps
♦ Power study results

6. To go further
♦ Handling real cases using GISELEC©