

Albania - Rehabilitation and upgrading of 8 substations (220 kV - 400 kV)

Technical assistance



Country

Albania

Client

KESH sh. a.
(Albanian Power Corporation)

Date

2006-2008

Cost of works

USD 52 140 000

Sogreah's services

- ▶ Technical assistance to Kesh for project implementation (tendering procedure and supervision of works)

Context

This project is proposed as an important action for upgrading and developing the main transmission facilities in order to:

- ◆ increase their capability for exchanging electricity with neighbouring countries,
- ◆ develop the sub-transmission facilities in the Albanian Power System to satisfy growing internal demand.

The equipment in the 220 kV substations is more than 20 years old and requires substantial rehabilitation. In addition, spare parts are no longer available on the market.

The technology of the control, monitoring and protection systems is also old and inadequate. Several components are out of

operation.

Thanks to recent international financing, some modern SF₆-gas insulated switchgear has been installed in a few substations. Most studies have shown that faults in the transmission network are caused by the old equipment (switchgear, disconnectors, voltage and current transformers) and that the substations are handicapped by ineffective measuring systems.

Furthermore, during peak load periods, the main autotransformers are overloaded.

On the basis of these studies it was concluded that most of the components of the 220 kV and 400 kV substation network require rehabilitation, upgrading and development.

Description

The project includes rehabilitation and upgrading of 8 substations:

- ◆ HPP substations:
 - . Vau Deja (220/110 kV)
 - . Fierza (220/110 kV)
 - . Komani (220 kV, only control and monitoring part)
- ◆ Fieri TPP substation (220/110/35 kV)
- ◆ Tirana 1 (220/110 kV)
- ◆ Elbasan 1 (220/110 kV and 2 (400/220 kV))
- ◆ Burreli (220/110 kV)

Study

The assignment comprises six phases.

SETS/PHK/0206

Phase 1: Pre-construction Services

- Preliminary activities
- Design review:
 - . load forecasting
 - . generation expansion plan
 - . network, load flow and stability analysis
 - . fault current study
 - . communication and control system study
 - . technical specifications
 - . detailed implementation schedule
- Tender documents (cost estimates, issue of tender documents)
- Tendering period
- Bid evaluation
- Contract negotiations

Phase 2: Assistance in Project Management

- Project implementation manual
- Coordination and interfacing
- Site meetings, contractors' work programme
- Cost control
- Procedures

Phase 3: Review of Design & Factory Inspections

- Shop drawings
- As built drawings
- Testing and commissioning procedured
- Test witnessing

Phase 4: Supervision of Works

- Time schedules
- Quality insurance
- Supervision and inspection
- Taking over
- Additional works, payment on measured works
- Inspection reports
- Budget control and project accounting
- Environmental plan
- Monitoring of mitigation works

Phase 5: Reporting

Phase 6: Training and Transfer of Knowledge

- Training programme
- Project management training
- Training supervision