Energy and Power System Planning Department

The researchers at the Energy and Power System Planning Department carry out long-term energy system planning.

Research is conducted in four basic fields:

▶ general power engineering and forecasting the consumption of energy,
▶ electricity generation development planning,
▶ transmission networks development planning,
▶ distribution networks development planning.

In these areas we comprehensively cover long-term planning of the electric power system: from complex predictions of electricity consumption, through covering the predicted consumption with power plants and transmission and distribution networks planning.

AREAS OF WORK

▶ Distribution networks development planning and optimisation,
▶ transmission networks development planning and optimisation,
▶ the development of distribution networks planning criteria,
▶ the development of software for analysing distribution and transmission networks within the scope of the GREDOS software package,
▶ the analysis of international connections with commercial lines,
▶ the inclusion of new production sources to EPS and the optimisation of production companies development,
▶ the development of programme tools for analysing the hydrological situation and potential generation of hydro power plants,
▶ the costs of electric power production, transmission and distribution,
▶ the development of energy consumption and loads,
▶ the impact of traffic electrification and heating on the electric power system development.

EiMV

www.eimv.si

GREDOS – DISTRIBUTION NETWORKS ANALYSIS PROGRAMME

The beginnings of the Gredos distribution networks analysis programme date back to 1996. Gredos programme combines the analyses of networks of all voltage levels by using a common GIS programme interface and various computing modules.

Gredos programme options:

▶ calculation of power flows (AC/DC),

▶ optimal decoupling (losses, reliability),

▶ optimal overvoltage,

▶ reliability analyses,

▶ short circuit calculations,

▶ AMI interface (advanced measurement systems),

▶ DS analysis module (dispersed sources),

▶ optimal grid construction (sales agent method),

▶ GIS support (ESRI ShapeFile, MySQL),

▶ AutoCad DWG support (Taigha Open Design Aliance).
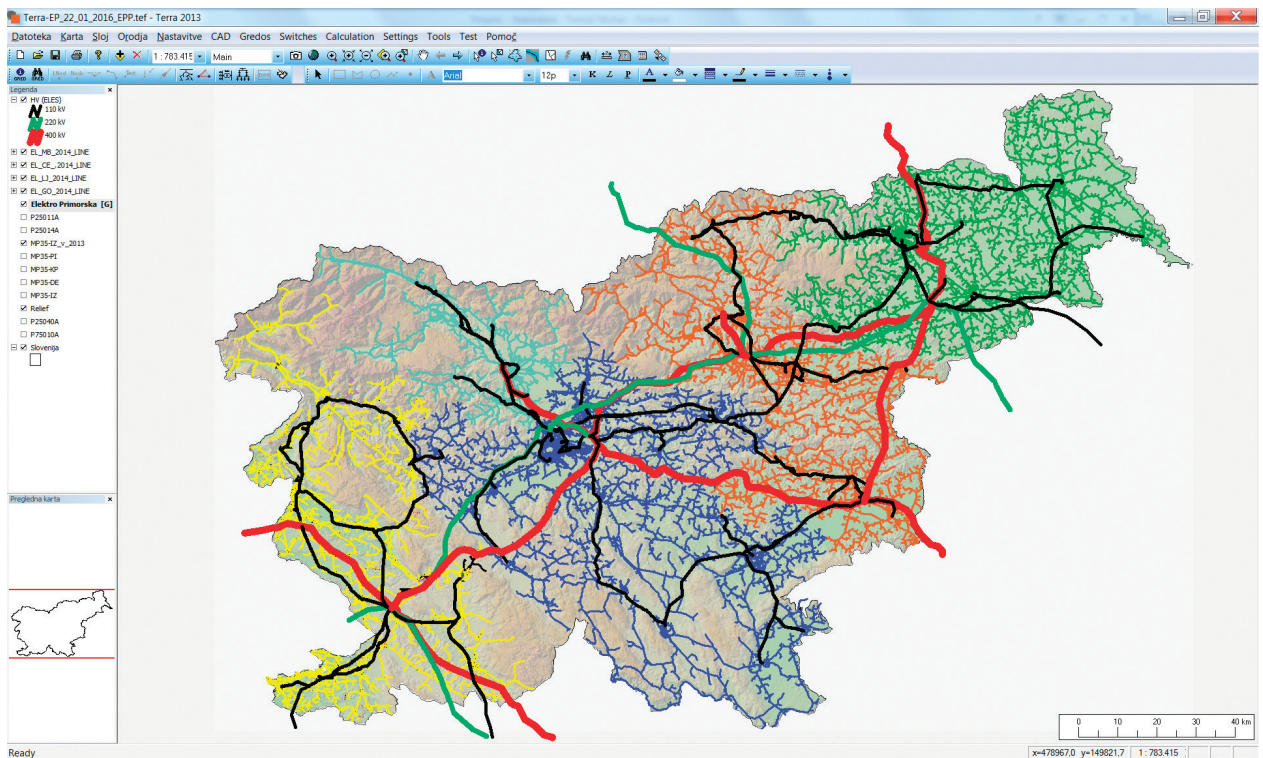
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