

**The 13th International Workshop on Electric Power Control Centers
Bled, Slovenia, May 17-20, 2015**

New ELES SCADA/EMS - Features and Challenges

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Abstract

Slovenian power grid consisting of 400 kV, 220 kV and part of 110 kV levels is operated by the Slovenian TSO – ELES using the two-level hierarchical SCADA/EMS system located at the National Control Center (NCC) and Regional Control Centers (RCC). ELES is also acting as an ENTSO-E Control block leader, maintaining the balance of the power interchange and frequency for the countries of Slovenia, Croatia and Bosnia&Hercegovina.

The project of implementation of new SCADA/EMS system intended to replace the aged system with the new one featuring necessary functionalities to support present and future operational, business, technical and IT requirements. The new system shall support variety of standardized as well as customized solution introduced in last 15 years.

New SCADA/EMS system supplied by ABB Sweden features SCADA functionality, modern utilization of RTU and inter control center communication, Automatic Generation Control (AGC), Scheduling support, System Analyses (SA), Short Term Load Forecast (STLF) and Voltage Var Control (VVC). The SCADA/EMS system implementation has been preceded by modernization of RTU communication (migration of serial to network protocol) as well as deployment of redundant process networks (RTU LAN, inter-site WLAN).

Despite intensive preparations of the tender specifications TSO ELES is facing the challenges posed by interactions between the new system and our environment. Successfully addressing these challenges is crucial to the success of the project and for the adoption of the system by the end users.