

11th International Workshop on Electric Power Control Centers – EPCC
May 22-25, 2011 Altea, Spain

Information and IT Security in Power System Operation

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The large scale utilization of computer communication network in power industry bring in the possibility to operate and control the power grid in a more accurate and responsible manner. However, the use of standard products exposes the power utilities to the common cyber threats as other IT-intensive industries, such as banking and finance, and critical infrastructures such as water and transport. The focus of this presentation is on raising the awareness of cyber-security issues within power system control centers.

The presentation gives an overview of the research and development efforts on power system cyber-security carried out in Sweden. It includes a summary of the Viking project where a modeling framework for the cyber-physical system for assessing control system vulnerabilities and their potential consequences on the power network operation is developed. Besides, the results from a cyber-defense exercise and system-level vulnerability analysis are presented. At the end the discussion is concluded by addressing the need of eliciting requirements in terms of cyber-security in the procurement of new power system monitoring and control systems coping with new requirements and legacy systems.