Abstract

Diploma thesis analyses the potential of Cyber Threats towards critical energy infrastructure in terms of network theories originating in graph theories, complex networks and technological possibilities how to compromise security of networks belonging to critical infrastructure. By the analysis of defined dependent and independent variables the author finds out how networks behave under which circumstances, what means exist in the field of network security and if adopted measures to increase security are in accordance with the effort of creation safe and decentralized system of critical energy infrastructure. Main emphasis is put on the concept of smart grids as possible solution of decentralization. In these terms technical means of security are studied especially with emphasis on SCADA (Supervisory Control And Data Acquisition) systems and the Internet as one of the essential component of communication in modern communication technologies.