

- Project Title** Assessment of Existing Distribution SCADA System and Definition of Migration Strategy for Elektra Noreste, Panama
- Contracting Agency** Elektra Noreste, Panama
- Project Organization** Prime Contractor: Energy Consulting International, Inc. (ECI). The work was performed by Savu C. Savulescu, with full responsibility for all the technical and project management activities
- Summary** The project entailed a feasibility study that encompassed the: assessment of existing SCADA, GSI and communications facilities; conceptual design of a new solution aimed at meeting the requirements for operating within the Panamanian Electricity Market; and the development of the migration strategy
- Background** At the time when the project began, the monitoring and operation of the distribution network of Elektra Noreste (Elektra) were performed with a SCADA system located near the Cerro Viento substation. Prior to installing this facility, Elektra was using a remote workstation connected to an old ILEX SCADA/EMS of the National Transmission Company (ETESA). In 2002, ETESA replaced the old ILEX with a state-of-the-art SCADA/EMS¹ and the remote workstation service to Elektra was discontinued practically without prior notice. This emergency situation led Elektra to hire, without competitive bidding and without a proper technical foundation, a small system house from Baltimore, MD to implement a new SCADA. This company, known as Digital Logic, had previously performed a USAID-TDA funded Feasibility Study for Elektra, and it was on this basis that this SCADA was implemented. However, the new system never worked properly, and Digital Logic failed to meet their technical and maintenance duties. As a result, Elektra had no other option but starting all over again, and it hired ECI to perform a rapid assessment of the existing situation, develop a reliable solution that would fix the existing problems while creating a solid background for the years to come, and propose a migration strategy that would allow Elektra to overcome these difficulties with maximum speed and efficiency²
- Objectives**
- Full and thorough evaluation of the existing SCADA of Elektra, with particular emphasis to: system and SCADA application software and its implementation by Digital Logic; communications network connecting the existing SCADA to the remote locations; and the RTUs, IEDs, and substation automation systems available at Elektra
 - Evaluate and quantify the performance of the existing system, analyze the currently implemented system configuration, and identify its limitations and risk areas

¹ The entire range of consulting activities related to the SCADA/EMS replacement at ETESA have been under the full responsibility of Savu C. Savulescu, in capacity of Independent Consultant, and are documented in the project data sheet *SCADA/EMS and Market System of Empresa de Transmisión Eléctrica ETESA, Panamá*

² As part of the Migration Strategy, ECI recommend that Elektra start without delay a systematic and fast paced project entailing the specification, commissioning and installation of state-of-art SCADA/DMS facilities. This project has been conducted between 2004 – 2008 as a joint-venture by Kema Consulting, Inc. and Energy Consulting International, Inc., and is documented in the project data sheet *New SCADA/DMS of Elektra Noreste (Nuevo Sistema SCADA/DMS) of Elektra Noreste, Panama*

- Evaluate the potential abilities, if any, of both the existing SCADA software and the functions not yet implemented but under contract with Digital Logic
 - Develop a strategy that would lead to a significant improvement of SCADA operations at Elektra and: identify functions that need to be added or replaced; define and quantify the strategy; perform market research and recommend reliable system vendors
- Scope of Work**
- Task 1: initial documentation visit aimed at familiarizing the Consultant with the actual problem at hand, acquire a preliminary knowledge of the existing system, meet with Elektra's technical personnel, conduct telephone contacts with Digital Logic, examine the existing system documentation, if any, and define the scope and schedule for the subsequent work
 - Task 2: perform the initial system analysis, develop preliminary recommendations, document this part of the work in a detailed draft report, and get started with the market research by soliciting technical information from SCADA/DMS providers that are well regarded in the industry
 - Task 3: second technical visit at Elektra for the purpose of discussing the draft report, assess the proposed recommendations, and develop preliminary cost estimates together with Elektra's technical personnel
 - Task 4: Consolidate the analysis results and the recommendations for migration in a Final Report
- Period of Performance** July – November 2003