

Network Manager News

News and Information for Users of Network Manager™ Worldwide

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ABB wins contract in Iraq

The Ministry of Electricity of IRAQ recently awarded ABB the implementation of the new National Control Center (NDC). The project is funded through the United Nations Development Program.

The main tasks of the NDC will be the real-time coordination of the operation of power plants and electricity transmission countrywide. Besides the quality, security and reliability of power supply, it is the aim of the National Dispatch Center to ensure the reliable production and transmission of power throughout the country in the most economical way. In particular the new system will be instrumental in securing the rehabilitation and expansion of the existing power system, which is currently underway. The NDC will also provide its operational planning section with updated and consistent data. ABB has a proven track record of reliable and fast track delivery of Network Manager systems in IRAQ. The project will be a joint effort between ABB in Sweden and USA and includes 40 new RTU560 and SA systems. Total project duration will be 18 months.

Luz y Fuerza del Centro: newest evergreen user

Luz y Fuerza del Centro (LyFC) is the distribution company serving a population of 20,000,000 in Mexico City and four neighboring states. LyFC acquired a Network Manager system that was commissioned in the year 2000. Mindful of the importance of keeping the system updated and maximizing system availability and security, LyFC joined the ABB Network Management Evergreen Program for a 3 year project. The comprehensive scope includes hardware upgrades and renovation, functional improvements, continued training activities, service support activities, on site system audits, preventive and corrective maintenance activities, periodic site visits, periodic technical/executive meetings and participation in the User Group meetings.



Sydkraft Nät Implements DMS

On November 25, Sydkraft Nat took over the information system that ABB delivered for improving management of their distribution network. Sydkraft, part of the E.On Group, is a major power utility operating in the deregulated Swedish electricity market and serves approximately 900,000 customers.

The project replaces 19 existing SCADA systems with one new Distribution Management System (DMS) for the entire supply area (indicated in red on the map). Data is acquired from more than 700 remote terminal units. The new system allows for a flexible manning among the distributed control centers in the supply areas, which in turn delivers a 50% improvement in operator efficiency.



The new DMS has also improved Sydkraft's management of outages, helping them to better handle their customers,



which is a major concern of the company. For example, in early January southern Sweden had the largest storm in more than one hundred years, with wind speed exceeding 40 m/s. The Sydkraft rural supply areas were heavily damaged.

During the turbulent weather conditions Network Manager DMS had no operational problems and performed its operations promptly and efficiently.

The system supports graphical network modeling all the way to each individual household. Interfaces to Sydkraft's business system (SAP R/3) as well as the Customer Information and Asset management modules were also part of the project. The system has been in trial operation for some time and provided Sydkraft with the opportunity to see the benefits of integration.



Sydkraft Vattenkraft Implements Network Manager GMS



Sydkraft Vattenkraft recently selected ABB's Network Manager Generation Management Systems (GMS) to optimize its overall system performance. The new system will make the operators' work more efficient, increase the availability of hydro stations, and reduce costs for both their operation and maintenance. "The new system is an important step for us to take to reach our vision of leadership in hydro generation", says Jan Hansson, project manager at Sydkraft Vattenkraft.

Operations

All of Sydkraft Vattenkraft's 130 hydro power stations are unmanned, and services for maintenance and fault corrections are received from various suppliers. Redundant and back-up control centers are established.

Sydkraft Vattenkraft's GMS is required to support a great number of operators connected to the system simultaneously. The communication network is structured so that operator workstations are delimited from regular office workstations, the latter being able to access information via a web-server.

All operators login to the system through an authentication shell that maintains strict definition of all roles and their present assignment. With the application for Operator Authority, Sydkraft maintains flexible control of all the authority functions that the company demands.

Applications and Servers

The hydropower generation system consists of 9 workstations with 34 VDUs in two control centers. Twelve application servers and 6 process communication servers running Windows and Linux operating systems host all the services.

Redundant application servers communicate with the two control centers and operator devices via Sydkraft's Wide Area Network (WAN). The data acquisition system and local control equipment are connected via the same WAN. The same arrangement is used for interfacing with other control centres and the Swedish power grid. The system utilizes a variety of access security measures to enhance IT security.

Points of Success

Early delivery of a portable laptop-based system made the conversion process shorter and improved the quality of data. This system is used for testing data from the hydro power stations, one by one, prior to converting over to the new system.

The flexibility of the design allows for distribution and physical location of each of the components according to Sydkraft's specific needs.

Sydkraft plans to develop new applications and upgrade their system as ABB and Powell release new modules.

Statnett implements advanced EMS Control Center system at the Norwegian main grid

In June 2004, Statnett SF, the Norwegian transmission system operator, officially inaugurated their new nationwide EMS for enhanced operations support. Statnett holds responsibility for grid operation and maintenance in the deregulated Norwegian electricity market. The company's overall goal is to establish both economic and secure operations with a continual balance between production and consumption. The new EMS dramatically improves Statnett's capabilities.

The new system comprises one National Control Center and three Regional Centers that monitor 140 substations on the Norwegian main grid. Additionally, data from 150 other substations is collected via direct computer links to 50 power utilities in Norway as well as the Swedish power grid in Stockholm.

The new system serves operators in four control rooms and also persons performing planning and following-up tasks. Twenty-

four workstations and 25 concurrent office PCs are used continuously by the Statnett organization.



Statnett benefits from a full scope of EMS functions that comprise real-time monitoring of the network, including modeling of the complete Nordel network. For example, the state estimator executes for the Nordel network every 10 seconds. As a result, Statnett has established an optimal operation and monitoring scheme against voltage collapse and violation of thermal stability limits. Planning functions include maintenance scheduling as well as record keeping of available personnel. Collecting historical information provides Statnett with new capabilities to learn from statistical data storage, both with regard to normal operations and disturbances.

Network Manager User Forum 2004 in Wuppertal

On November 17th and 18th, 2004 the German-speaking users of Network Manager met in Wuppertal, Germany at the site of local utility Stadtwerke Wuppertal, which recently completed an upgrade from SPIDER. Customers from Germany, Switzerland, Belgium and the Netherlands convened to share their experiences and learn more about the Network Manager system. A demonstration with the latest version of the software running on a LINUX machine allowed attendees to work with the latest version of WS500, explore the wide range of possibilities for using RTU560, and become familiar with new data management features.

Presentations demonstrated Network Manager's flexibility in supporting different types of installations, such as in Italy where it runs on a large number of workstations at 40 sites. ABB representatives also showed off Network Manager's state-of-the-art architecture and explained the available upgrade possibilities. Other presentations covered topics ranging from the implications of the new European deregulation authority, ABB's "evergreen" service concept, and extensions in data maintenance for improved integration of data entry for RTUs.

The user group also hosted two workshops to discuss future enhancements to the HMI and the practical use of Network Manager functions for network calculation and fault location. Of course, there was still time for some non-work related activities, including a rail voyage aboard the Kaiserwagen on the famous Schwebebahn, the overhead railway above the river Wupper.

Network Manager Supervises Power Distribution at Dubai Airport

Dubai Civil Aviation (DCA) has awarded a contract for Network Manager under the DUBAI Airport SCADA Project. The complete project comprises expansion of the airport with a new runway and two new terminal buildings. This contract concerns renewal of the electricity distribution in the airport including control equipment in the field and a centralized SCADA system for supervisory control from two control centers. These are located in major substation buildings.

The SCADA project is being executed in cooperation with local contractor Emirates Trading Agency (ETA), which has the main contract with DCA. ABB will supply electrical equipment as well as fiber-optic communication network and control equipment. ETA has the responsibility for data engineering.

Comments or suggestions?

If you have any comments, suggestions or ideas to make Network Manager News a more helpful tool or you would like to add a colleague to the mailing list please contact Trish Palys at trish.palys@us.abb.com.

