



Hawaiian Electric Company - SCADA/DMS

Sector of activity :

Energy Control Systems

Client :

Hawaiian Electric Company

Year of completion :

1997

Financing :

Client

Mandate :

To design, supply, install, and commission a new SCADA/DMS for the Hawaiian Electric Company, which operates and maintains the power distribution network on the island of Oahu. The scope of work included the delivery of all hardware, software, documentation and training for the new system, as well as all necessary testing, field installation and adaptation services.

island of Oahu with the objective of improving the quality and reliability of service; this is achieved primarily by the distribution management applications developed by SNC-Lavalin Energy Control Systems. These applications provide a means to effectively manage the operation of the distribution system in real-time, and provide planning tools that identify ways to optimize the use of the utility's resources.

the servers and workstations on the local area network for optimal performance. All database edits can be performed online without the need to failover any servers or workstations to bring the changes online. The system includes redundant serial channels supporting the Telegyr 8979 and DNP3 protocols. The system also includes an interface to the corporate Power Outage Management Systems (POMS).

Description :

The Hawaiian Electric Company and its subsidiaries provide electricity and services to 95 percent of the state's 1.2 million residents. Established in 1891, Hawaiian Electric remains one of the few locally owned and operated major companies in the state. The company is also one of the state's leading employers and a major contributor and supporter of community and educational programs. On Oahu, 138 kV transmission lines transport bulk electricity to transmission substations that reduce the power to 46 kV. The 46 kV lines go to local area substations, which further reduce the voltage to 12 kV or 4 kV for local distribution.

The SCADA/DMS is based on a distributed client/server architecture designed to internationally recognized standards. Commercial off-the-shelf equipment is used throughout the system, which provides simplified maintenance and easier system expansion. The system includes redundant HP Alpha servers, HP Alpha workstations, communication equipment, and peripheral equipment connected to a redundant local area network. The SCADA/DMS is fully redundant for high availability, and provides automatic fail-over features.

The SCADA/DMS includes sophisticated distribution management applications, including connectivity analysis, three-phase unbalanced distribution power flow, load forecasting, demand allocation, loss minimization, load balancing, load shedding, and feeder voltage control.

HECO is in the top 15% of U.S. utilities with the shortest outages. The company continues to work hard to reduce the number of customer outages; in 1999, that number was the lowest in 20 years.

The SCADA/DMS supplied by SNC-Lavalin Energy Control Systems is installed in Honolulu, Hawaii. The system is used to monitor and control the power distribution network on the

The SCADA/DMS software is based on the GEN-3 product developed by SNC-Lavalin Energy Control Systems. The distribution network model is maintained in an Sybase RDBMS stored on RAID-1 storage arrays, and is complemented by a set of memory-resident real-time databases that are replicated to all of

Services provided :

A turnkey contract including project management, hardware, software, system integration, acceptance testing, documentation, customer training, and all necessary field installation and adaptation services.



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SNC-LAVALIN ENERGY CONTROL SYSTEMS INC. SNC-Lavalin is Canada's largest engineering and construction firm. SNC-Lavalin Energy Control Systems has nearly 40 years experience, with systems installed on six continents. Our SCADA, Distribution Management System (DMS), Energy Management System (EMS) and Generation Management System (GMS) products are being used by some of the world's largest utilities. We also offer SCADA systems to monitor and control water distribution networks and natural gas distribution systems.