

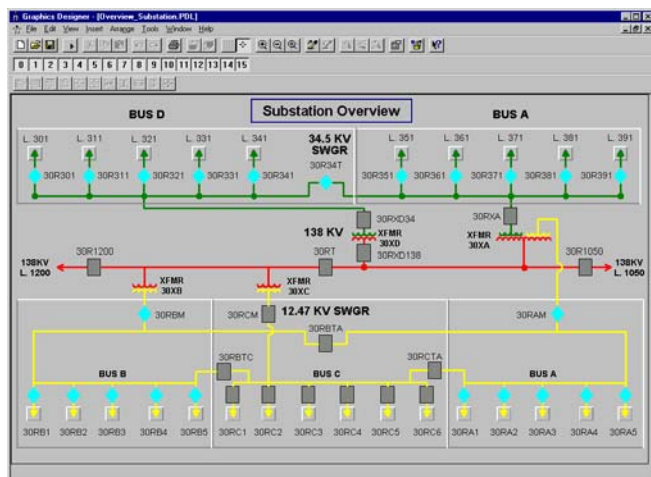
Substation & Distribution Automation Programming and Networking

Client: City of Naperville

The Substation Automation & Distribution Projects consisted of 8 distribution substations on the City of Naperville's Electrical System. At each substation, PLCs (Program Logic Controllers) and an HMI (Human Machine Interface) were installed and programmed to collect analog and status information as well as control of various breakers and distribution switches.

Several protocols were incorporated such as DNP 3.0, Profibus, TCP, IEC 61850 over fiber optic, and 900MHz Radio networks.

PCs at the substations were programmed with custom graphical screens to display live substation one-lines and feeder switch configurations, as well as metering values and station alarms.



The individual substations were networked together over a fiber optic junglemux loop to share information from substation to substation as well as to the city's electrical control center. All the stations were tied to a master server which provided a consolidated point of substation monitoring, allowing the city to run metering trend and fault event reports remotely. Also, the substation network server was programmed to provide for an automatic transfer switching sequence between two substations on the city's 34kV system.

To learn more, please contact us at:

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