

Transportation Utility Receives Complete Turn-key Supply and Integration by QEI

Summary

QEI has been a long term supplier of SCADA systems and solutions for a prominent northeast electrified rail transit system. With 122 stations , five active lines and over 775 miles of track, it is one of the largest transit systems of its type in North America.

The operation of this network involves managing power distribution on a large scale. Power distribution substations have all of the same components present at other electrical utilities and installing, updating and maintaining these is a continuing task. When faced with the task of upgrading their distribution substations, this electrified transit utility turned to QEI for a **complete design, build, procure and install solution.**

An electrified rail substation control house contains a supervisory control gateway, switchboard panels, batteries, chargers, electronic meters, and protection relays. All of this is housed in a control house structure which provides all-weather protection and security, but with easy access for maintenance.

Project Scope

Teaming with Joaquin Manufacturing (www.joaquinmc.com), QEI resolved the user's



requirements into four areas:

- **Engineering**
- **Fabrication**
- **Construction and Testing**
- **Onsite Setup and Commissioning**

The existing transit utility substation houses hampered the utility's ability to retrieve operating data as the SCADA and protective-relaying equipment was approaching the end of it's design life. To address this task QEI worked closely with the utility's engineers to create a substation house design which could be easily re-produced at multiple locations (to enhance maintenance support) yet remain flexible enough for varying requirements. QEI brought it's **55 years of SCADA expertise** to the task and produced a joint design which focused on a standard replacement of the existing control house functions with the latest gateway technology.

Rather than providing loose pieces of technology for field integration, QEI designed and provided a unified answer including the IED Gateway, relays, control house structure, AC/DC panels,

Turn-key Engineering and Supply

cable trays, conduits, and batteries. After undergoing a complete factory acceptance test at the QEI Springfield New Jersey facility, this unified solution was then shipped to the transit substations for installation and end-user field acceptance.



ePAQ-9405 (Installed)

ePAQ-9405 Gateway

At the core of this control house design is the instrumentation necessary to provide monitoring and control of the control house as well as the immediate power distribution network. The ePAQ-9405 distributed I/O unit was selected for this function.

Field-tested features makes this unit ideal for control house usage:

May be Cabinet or Rack Mounted

Field-tested Library of Current and Legacy Protocols

Closed Loop Control (CLC) Programmable

Supports Standard Transducer and Linepost Analog Inputs.

Front Panel Connections and LED Indicators for Easy Installation and Troubleshooting

In addition to hardwired status, analog and control capabilities, the ePAQ-9405 also serves as a data concentrator for IEDs utilizing common and open protocols such as DNP3 or Modbus. Configuration is

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accomplished with the Windows® based CONFIGWIZ 2.0® through a familiar drag-and-drop procedure using any standard PC or laptop. All

connections and LED indicators are on the front panel to allow flush mounting of this gateway.



ePAQ-9405 Multifunction Gateway

For further information as to how QEI can provide complete turn-key solutions for your organization, contact your local QEI representative or:

sales@qeiinc.com

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