

Hoffman LaRoche Monitors Total Utility Metering

Hoffman LaRoche, a pharmaceutical manufacturer, initiated an energy saving program focused on the reduction of utility usage. When evaluating their 100,000-acre campus in Nutley, New Jersey, Hoffman LaRoche contacted POWERLOGIC to develop a system to incorporate multiple utility monitor systems into a single application. This consolidation of water, air, gas, electric, and steam monitoring has become more commonly known by the acronym WAGES.



Their goal was to develop a facility-wide monitoring system to track parameters of each utility, and present this data in graphical reports. In the short-term, the company would use this data to identify trends in energy usage, and detect opportunities to reduce costs. Long-term objectives for this system were to incorporate these reports into a web-based system, and allow users to access cost allocation and department billing information via web browser connections.

The first phase of the job included an order for approximately \$200,000 in equipment and services, with the potential of future orders for 145 additional Momentum panels. For the initial installation, the following systems were installed in each building.

- SMS-3000, System Manager Software
- GFX-1000, Interactive Graphics Client
- Billing Module software
- Momentum and/or Quantum PLCs
- POWERLOGIC Circuit Monitors
- POWERLOGIC Ethernet Gateways
- Modicon Ethernet Bridges

SCHNEIDER ELECTRIC POWERLOGIC Circuit Monitors were used to collect electrical readings within the system. Although the existing electrical switchgear had been installed previously by another manufacturer, the appropriate metering hardware was easily retrofitted into the competitor's equipment.

In each of these systems, 4-20mA pressure and temperature compensated signals were input to the Momentum / Quantum PLCs. The non-electrical signals were averaged on 15-minute intervals and totalized daily. Total BTU consumption was determined by monitoring chilled water supply and return temperatures, and calculating boiler and chiller efficiencies based on kW input and BTU output.

The operator interface for each of these systems was primarily through SMS System Manager Software, and the GFX graphical interface application. To enhance the user interface, custom screens were developed to display detailed electrical one-lines, as

well as gas, water, and steam systems. Additionally, chiller and boiler scattergrams were displayed using a custom Visual Basic program was written for the customer. Monitoring workstations for these systems were installed in the offices of the Site Electrical Engineer, Project Manager, and the Energy Manager.

Using the SCHNEIDER ELECTRIC POWERLOGIC solution, Hoffman LaRoche was able to accomplish the following:

- Visualization of all utility systems in one graphical user interface using GFX-1000. This WAGES application included readings for water, air, gas, electric, and steam.
- Key personnel in the facility management group were able to consolidate information from various systems into a common application, and now use this data to allocate energy expenses to various groups within the organization.
- The foundations for future expansion are now in place. With the core components for utility monitoring installed, Hoffman LaRoche can easily upgrade their systems to take advantage of other SCHNEIDER ELECTRIC POWERLOGIC solutions, including web-based reporting.