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building value

Project Profile

Lorillard Tobacco



Founded in 1760, Lorillard Tobacco is the fourth largest, and oldest, tobacco company in the United States, employing 3,336 people in 48 states, and doing business in all 50 states and Puerto Rico.

In 1956, Lorillard constructed its new home for its manufacturing plant based in Greensboro, NC, on what was once a military base during World War II.

As one of the tobacco industry's leading cigarette manufacturers, Lorillard has manufacturing plants and systems that require integral and critical conditions to ensure a superior

product and consistent production. Part of Lorillard's success can be attributed to their ability to maintain constant, repeatable conditions crucial to the cigarette manufacturing process. Threatening this process was an antiquated PLC network controlling the vital HVAC system and had developed communications problems, leaving Lorillard faced with the challenge of taking down the system and bringing a new system online without losing control of critical manufacturing area conditions. These conditions are maintained by a complex network of air washers (also known as open spray units) that spray a fine mist of water to condition the production area and keeping temperature and humidity in a constant state. More than 30 washers, 14 air handlers with chilled water coils, six air handlers with DX cooling, and 5,000 tons of chiller capacity was involved in the switchover.

In order to meet project specifications, a large point count on the controllers would be needed to accommodate the existing points connected to the PLC. Techtrol was contacted for this project and was able to increase the point count by utilizing Modbus I/O modules by programming a Modbus driver to work through the Open Systems Port on the Teletrol Integrator CS (ICS) controller installed. With this configuration, two air washer units could be controlled from one ICS controller as specified in the bid documents.

The next challenge faced by Techtrol was the need to utilize the existing control enclosures. The existing controllers had to be removed and the new ICS controllers installed during weekend hours in order to avoid the interruption of day-to-day opera-



tions. Lorillard personnel and Techtrol technicians worked together to accomplish this challenge with very little interruption to the manufacturing process. Techtrol provided the drawings, programming, hardware, and checkout for the project, while Lorillard provided the panels, panel hardware, and panel construction. It was decided during the switchover that it would be much easier if new panels containing all of the I/O and power supplies were pre-constructed and ready for terminations. Conduit and wire were pulled between the existing control cabinets and the new I/O cabinets with terminal strips pre-wired ready for termination to the terminal strips in the old cabinets. This technique allowed for an almost seamless switchover from the old control system to the new Teletrol system.

Lorillard's new control system needed a graphical user interface for ease of use. They selected Wonderware's In-Touch graphic software package for the workstations. Teletrol's OPC Server for the ICS controllers was incorporated to allow the point data to be polled from the workstations. With In-Touch installed on the plant network, the system can be viewed from several locations in the facility as well as remote locations. Since the HVAC units are located throughout the plant, a local operator interface was required in each mechanical room. This was accomplished by

utilizing a portable handheld operator terminal and more programming of the ICS Open Systems Port. Ensemble programming software was used to create the control programs and verify proper operation of all the control and monitoring hardware. Ensemble operates seamlessly with the Wonderware workstations due to both programs sharing the Allegro communications engine.

Glenn Bogue, Lorillard's lead engineer quotes, "With the new Teletrol system in place, Lorillard is now benefiting from more accurate control, better enthalpy switchover, and utilization of outside air on each individual unit as conditions will allow." He also

added that the handheld operator stations are a benefit to the operators because of their ability to view and modify the system from each control panel location. Techtrol's method of enthalpy switchover, better manufacturing conditions through room dew point control, and integration utilizing Teletrol's OPC communications platform have made this project a success for all involved.



Lorillard's history dates back to 1760 and is the fourth largest, and the oldest, tobacco company in the United States. Their new manufacturing facilities, established in 1956, has seen great benefits from its new Teletrol building automation system.

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