

Project Brief...

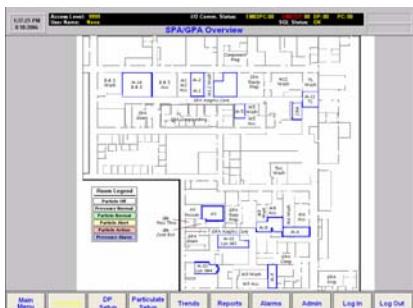
Environmental Monitoring System

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QSPEC Solutions' client is a confidential life sciences manufacturer. The purpose of the Environmental Monitoring System is to provide regulatory required monitoring of the air quality (differential pressures and particulate counts) in the production areas of the pharmaceutical plant. This project involved replacing the existing overloaded and unreliable Opto-22/PC based system with a PLC based SCADA system.

QSPEC Solutions' system monitors the various differential pressure sensors and particulate counters located in two separate production areas in multiple ControlLogix PLCs. The interface to the particulate counters required development of a custom program for a ProSoft serial card in the PLC, which provides direct access to the particulate data in its most accurate form.

The new PLCs monitor the various sensors and control alarm lights and horns based on alarm set points defined by the users. Live sensor data is recorded through a fault tolerant connection to the InSQL server. Custom-designed reports are generated to display collected data on maximum, minimum, and average values and alarms for particulate counts and room pressures, and on user interaction with the system.

QSPEC Solutions developed all project documentation, including Functional Requirements and Detailed Design Specifications, test protocols and drawings, programmed the PLC, created and configured clear and concise HMI screens, created reports and assisted in the overall system validation. The increased reliability of the system has saved the client considerable time in production while allowing for expansion and assisting in quality control.

Solution Overview

Requirements

Replace existing EMS (Opto-22/PC based monitoring system) with a PLC based SCADA system

Solution

ControlLogix PLC to monitor data, InSQL recording of data, report generation with Crystal Reports

Results

Virtually eliminated nuisance alarms and significantly reduced production down-time and paperwork

Processing capabilities of the new system enable expansion

Custom-designed Crystal reports provide support for batch reports and facilitate quality control

Technologies Used

Wonderware InTouch
Wonderware InSQL
Business Objects Crystal Reports

Allen Bradley ControlLogix
Custom-developed Communications Protocol

QSPEC Solutions

Automation Consulting and Technical Services