Checking Safety Interlocks with QuickCheck™ and AMS® Suite: Intelligent Device Manager Saves Time and Money at Syngenta

RESULTS

- $13,140 savings each time interlocks are checked over previous method

- Hundreds of thousands of dollars of additional sales opportunities from increased output

- Time for verifying safety interlocks reduced from 2-3 days to 1 day

APPLICATION

The Multi-Product Facility in the Syngenta plant in St. Gabriel, Louisiana, has some 20 sets of safety instrumented functions involving approximately 60 inputs and outputs. The safety interlocks on this system must always be validated before a new herbicide goes into production.

CUSTOMER

Syngenta is a world-leading agribusiness committed to sustainable agriculture through innovative research and technology. The company is a leader in crop protection and ranks third in the high-value commercial seeds market. Sales in 2006 were approximately $8.1 billion. Syngenta employs 21,000 people in more than 90 countries.

CHALLENGE

The job of verifying safety interlocks in the Multi-Product Facility occupied three or four technicians for several days, depending on conditions in the plant. Since a maintenance turnaround was often in progress when a changeover to a new product was made, there were often delays in completing the required interlock checks. Even under ideal conditions, three technicians needed three days to complete the task before production could start. Since those involved were stationed in different places, radio miscommunications frequently resulted in additional delays.

"With QuickCheck, one person can do what took three people before. With a little more coordination, we should be able to check the safety interlocks in one day."

Ron Harlow
Principal Automation Engineer

For more information:
www.assetweb.com

AMS Suite

EMERSON Process Management

SOLUTION

Instrument technicians in the plant had been using Emerson's AMS Device Manager predictive maintenance software to monitor and troubleshoot critical field devices when they learned of a compatible application designed to improve and hasten the checking of safety interlocks.

The QuickCheck SNAP-ON™ application greatly simplifies the job of interlock verification, according Ron Harlow, Principal Automation Engineer at the plant. "AMS Device Manager is in a laptop connected to our plant LAN along with the DeltaV™ digital automation system. QuickCheck allows us to do all the necessary simulations right from the control room without need for techs or current generators in the I/O room. A good deal of communication occurs between the person doing the interlock checks and the board man, but since we're in the same room, we can communicate verbally, and there are no misunderstandings. We can now do the required checks in less time with fewer people."

Harlow said the financial benefit of this procedure goes well beyond saving a few days of technician time. Although the improved procedure may save as many as nine man-days, valued at about $13,140 per product changeover, the greater benefit is in getting production started faster.

"Since we are fully booked, every additional day of production is worth a lot of money," he said. "Faster startups allow us to deliver additional product that could result in hundreds of thousands of dollars in additional sales."

In addition, Harlow uses AMS Device Manager to uncover problems in instruments before they affect the process. He can see when a current isolator may be slightly out of calibration or a valve may not opening fast enough. When such problems are identified and fixed, the process runs smoother with less variability.

The QuickCheck SNAP-ON application has been used twice in the facility and will be expanded to another area soon. The plant is also planning to expand its use to another production unit in the St. Gabriel facility.

"We obtained AMS Device Manager initially to monitor smart field devices and digital valve controllers to catch problems before they occur, and it has served us well in that regard."

Glenn McKinley
Senior Control Systems Technician

PlantWeb

AMS Suite: Intelligent Device Manager powers PlantWeb through predictive and proactive maintenance of intelligent field devices to improve availability and performance

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Process Management