

DeltaV™ System Delivers Cost Savings, Fast Payback to Thermex' Tires-to-Clean-Burning-Fuel Process

RESULTS

- Reduced configuration cost
- Reduced operator training cost
- Reduced diagnostics, troubleshooting cost
- Increased documentation capabilities
- Increased process control capabilities



APPLICATION

Thermo-Sub, the packaged Thermex OEM process, gassifies the thermosetting rubber compounds that make up old car and truck tires and converts them into a continuous supply of clean burning, gaseous, boiler fuel. The patented energy recovery system offers great potential as a supplemental industrial energy source for tire manufacturers, paper mills, chemical and cement plants, waste treatment, and other industrial processes requiring steam.

CUSTOMER

Thermex Technologies, Inc., Montreal, Canada

CHALLENGE

As a venture capital OEM with limited resources, Thermex had to quickly activate the Montreal demonstration plant. Configuring the Thermo-Sub's controls and preparing the DeltaV system workstation's pages were among the most important assignments.

SOLUTION

"Thermex selected the DeltaV digital automation system because it could provide many of the features of a large, traditional process control system at significantly lower cost," said Thermex vice president and COO Normand Hupper.

Fast Commissioning

Configuring the Thermo-Sub's controls and preparing the DeltaV workstation's pages were accomplished in just two months, Hupper reports.

Thermex chose the DeltaV system's easy and highly graphical function-block diagram language for configuring most areas of the process. What-you-see-is-what-executes logic presentation saved time because

"We estimate a two-year investment payback for North American installations, including avoided fuel costs, income from a 50 cent per tire tipping fee, and sales of residual steel and carbon black. And with higher energy costs in Europe, payback there should be even faster."

Normand Hupper

Vice President and COO, Thermex



For more information:
www.EmersonProcess.com/DeltaV



the program could download directly into a process controller without a compiling step. The logic runs exactly as visualized and as-built documentation was automatically provided. The combination of features quickened checkout and startup. Because the control system is not address-based like a PLC, engineers could move tags between controllers without modification. And because there is only one database, Thermex eliminated the time and effort of preparing and mapping separate PLC and OI databases.

DeltaV System Handles Discretes Volume

The DeltaV system economically handles large numbers of discrete points in addition to analog channels. Even though the chambers and boiler require substantial numbers of PID loops and instrument inputs, the energy-recovery package as a whole is 70% discrete—an unusually high percentage in a package, primarily due to the extensive materials handling requirements.

The integrated automation eliminates customers' need for highly trained staff operators to manually trim the process. The process profile, including ramping, is always under close control and gas output is more stable than can be practically maintained by manual control. Boiler emissions are also constantly monitored and carefully controlled. Full automation is also essential because no two batches of tires have exactly the same process characteristics.

Rigorous, Documented Emissions Control

Automation is only one of Thermex's control requirements. Boiler emissions and critical process variables must be recorded because of public concern over toxic or polluting emissions from waste-recycling facilities. Thermex and its customers must be able to prove to EPA and other governing bodies that they've kept emissions within allowable limits.

Remote Diagnostics

Modem communications between Thermex offices in Montreal and customers anywhere in the world will provide support to Thermo-Sub installations. The company will perform remote diagnostics, troubleshoot, and recommend corrective action.

Flexibility Crucial

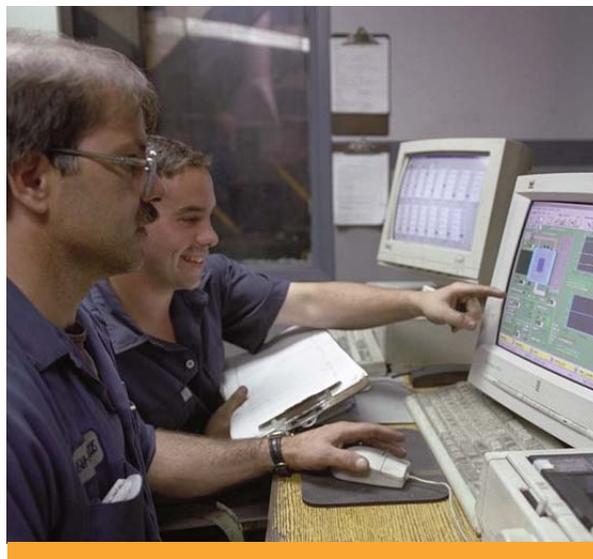
Because the pilot plant in Montreal is a research tool, engineers are constantly making control system adjustments. When the first European and US Thermo-Sub units are installed, they may need to quickly adapt to unforeseen local conditions. The DeltaV system's ease of use, flexibility, and speed in making on-site control alterations are essential.



The DeltaV system also allows Thermex the option to add advanced control functions like neural networks and fuzzy logic for even more sophisticated control and smoother energy output.

Fast process automation payback

Hupper estimates a two-year investment payback for North American installations, including avoided fuel costs, income from a 50 cent per tire tipping fee, and sales of residual steel and carbon black. And with higher energy costs in Europe, he says, payback there should be even faster.



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