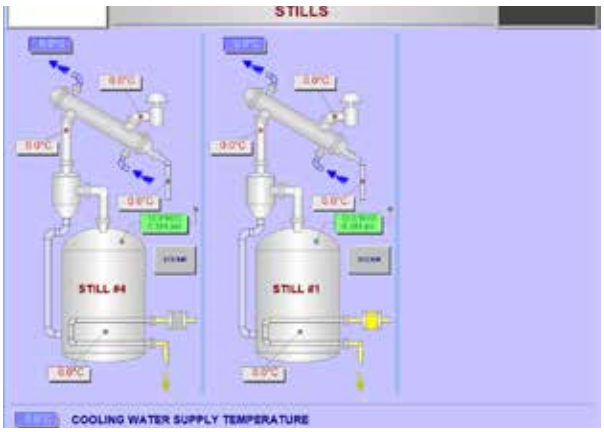
Chemical Refining Cooling Water Controls

Company Profile

This customer is a transnational company with activities in three main service and utility areas traditionally managed by public authorities: water management, waste management, and energy services.

Challenge

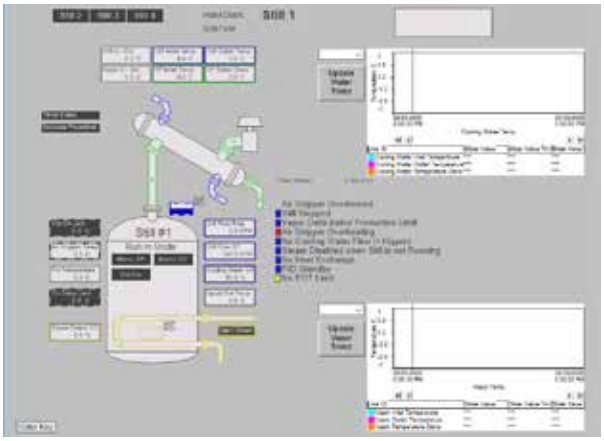
A waste oil separation and recycling company wanted to make use of their remediated water supply to cool their distilling operations before sending it out to the county sewer. Their chemical refining and distilling processes were being controlled by GE 90-30 PLCs, which were originally installed in the 1990's and were also in need of updating.



The mechanical design of the cooling system required accurate flow control of four distinct lines to maintain the appropriate temperature without overfilling the sump.

Solution

Rawson/Industrial Controls upgraded the customer's obsolete 90-30 PLCs to the current Emerson RX3i, which is a direct drop in replacement for the 90-30, allowing for re-use of I/O cards and no rewiring. Replacing the serial I/O network with a fiber-optic, high-speed Profinet network allowed for more flexible and reliable I/O communication. Hardware redundancy was added as well with the simple addition of another CPU rack.



Because the migration of Emerson PLCs does not require any reprogramming, Rawson/Industrial Controls' engineering team was able to add the required functionality to control the water-cooling manifold while performing the upgrades.

Results

In addition to providing the automation components and engineering, Rawson/Industrial Controls also specified and supplied the needed temperature instruments and automated control valves that make up the complete system. Rawson/Industrial Controls' history with the installed products, new products, and process systems allowed for an easy transition to a modern control system.