INEOS Chlor Significantly Reduces Critical Safety Testing Time on Chlorine Compressor using AMS® Suite

RESULTS

- Commissioning time reduced by 50 per cent enabling one week of additional production

APPLICATION

Trip system on a large chlorine compressor.

CUSTOMER

INEOS Chlor is one of the largest Chlor-Alkali producer in Europe and a global leader in chlorine derivatives. The Runcorn site, in the UK, is Ineos Chlor's largest site.

CHALLENGE

Prior to plant start-up, the 40 inputs to the shutdown system on each chlorine compressor need to be calibrated and tested. Each instrument on the compressor and the chlorine systems around it (pressure, temperature, vibration etc) require calibration and then driving to the trip point to test the operation of the shutdown system.

The majority of the transmitters are on toxic gas duty and would normally be required to remain in a completely clean and decontaminated state until the work was complete. Registered chlorine fitters would then re-joint the system in a highly controlled manner before pressure testing it for leaks. Getting this resource to shadow the instrument team whilst the shutdown tests were completed was very inefficient and time consuming.

Traditional testing methods would normally mean that the majority of the mechanical overhaul work would be completed first to give the assurance that the instrument systems had not been affected by that work. With so many inputs to the system, the test duration was significant and prevented other work (such as the pressure testing of the system with chlorine) from continuing until it was certain that the instrument tests were complete.

"By using AMS Suite to drive the transmitter output we were able to test the trip system in parallel with other work that was going on. This shaved time off the overall schedule."

Paul Young
Automation Manager

AMS Suite

For more information:
www.assetweb.com

EMERSON
Process Management

INEOS Chlor wanted to explore alternative methods of trip testing to remove the instrumentation tasks from the critical path of the project.

SOLUTION

By using the power of the PlantWeb® digital plant architecture, consisting of field instrumentation communicating digitally via HART® communications protocol to AMS® Suite: Intelligent Device Manager, it was possible to make use of the instruments simulation mode functionality. This enabled the instrument output, being read by the analogue trip system, to be varied remotely.

The instruments were decontaminated and calibrated during the mechanical outage. A team of dedicated instrument technicians and chlorine fitters were then able to reconnect, working methodically from one system to the next, rather than having to connect up piecemeal, as each instrument was tested. Pressure testing could then take place as soon as the fitters had finished.

Because the instruments had been checked and calibrated the technicians were highly confident they would function as required when the plant was operational. All that was then necessary was to test that the trip system would react correctly once the transmitter inputs reached set point.

The physical testing of the shutdown system was carried out by using AMS Suite to drive the output signal of each transmitter to the tripped state. This work could be carried out at any time once the mechanical tasks were completed and therefore did not hamper the ongoing process re-commissioning.

By using the capabilities of the PlantWeb architecture the overall time that the system was decontaminated was reduced by a number of days. The overall effect simplified the shutdown planning and resource requirements significantly and reduced the overall time to commission from two weeks to just one week.

The overall effect simplified the shutdown planning and resource requirements significantly and reduced the overall time to commission from two weeks to just one week.

Emerson Process Management
Asset Optimization Division
12001 Technology Drive
Eden Prairie, MN 55344 USA
Tel: 1(952)828-3206
Fax: 1(952)828-3006
www.assetweb.com

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

EMERSON™
Process Management