

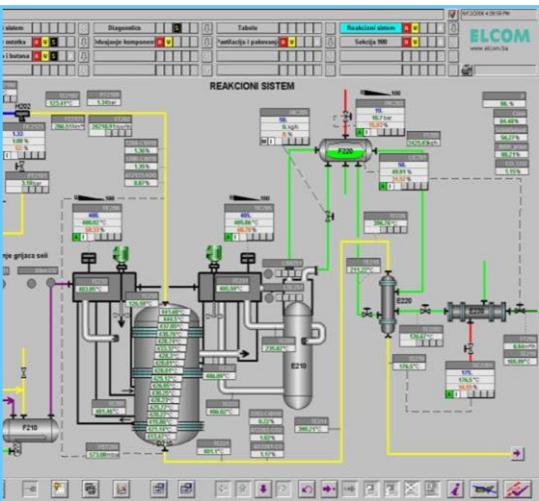
reference

ELCOM d.o.o. is specialized in Totally Integrated Automation (TIA), containing electrical engineering and software development for the automation of production processes and machines, production of MCC and control cabinets as well as onsite installation, commissioning and acceptance testing (FAT, SAT, SIT)



Automation solution for Anhydride Maleic Acid production plant based on n-butane

Customer: Global Ispat Coke Industry Lukavac, B&H



Certificates

We have proven our competence as Siemens Solution Partner Automation in the following areas:

- Automation System SIMATIC
- Human Machine Interface SIMATIC HMI
- Process Control System PCS7

Process description

Existing plant consist of a fixed-bed reactor which was originally designed as a two zone reactor operated with Benzene feed.

The existing Benzen Feed System was to be modified to mix superheated butane with air and to feed a uniform air-butane mixture to the reactor instead of benzene. Atmospheric air is filtered and compressed to 2.35 bar by motor driven centrifugal air compressor. The Start Up Heater is not used normally. However for plant start-up, it is used to preheat the compressed air to the desired temperature.

Liquid n-butane from OBL is fed into the Butane Vaporizer Drum, where it is vaporized. Butane vapour is then superheated to approximately 120°C in Butane Superheater. Butane vapour is mixed uniformly with the compressed air in the Butane Mixing Station.

In order to stabilize the performance of catalyst and minimize yield loss as function of operating time, a small quantity of promoter is to be fed continuously to the reactor by mixing with the fed air.

Challenge

Implementation of a cost efficient and user friendly process control system with as less as possible classical cabling

which have to result in a very fast and easier cabling, engineering and commissioning of a very high level.

A very detailed diagnostics and maintenance management for the components of the process control system was a must. Installation of a reliable fail-safe system to protect the plant in case of process malfunction.

Solution

The solution is a PCS7 v6.1 SP1 architecture with a completely network based topology. 2 Clients and 2 redundant servers are connected via industrial Ethernet to 2 controllers (one process controller AS414-4H, and one redundant fail-safe controller AS414-4FH). All process instruments are connected to the system via Ex barriers. Installation of process instrumentation with HART capability enables fast commissioning and maintenance.

Project overview

- Sections in Atex zones (zone 1, zone 22)
- 30 motors
- 50 on/off valves
- 30 control valves
- 150 analogue instruments
- 1000 digital signals
- Control system PCS7 V6.1 SP1

- process controller AS414-4H
- redundant fail-safe controller AS414-4FH
- 1 redundant OS server pair
- 2 OS clients
- ET 200M
- Based on network topologies
- Industrial Ethernet and Profibus DP
- Almost all instruments and control valves with HART capability



Information about the Siemens Solution Partner Program

Under the Siemens Solution Partner Automation and Power Distribution Program, we join forces with our Solution Partner. By merging our product and systems expertise with the application and industry knowledge of our partners, we have created a common basis for the fast, smooth and highly efficient implementation of your requirement –customized solutions for your competitive advantage.

www.siemens.com/automation/solutionpartner

ELCOM d.o.o.

M.M.Dizdara-Stupine B-2
75 000 Tuzla
Bosnia and Herzegovina
Phone: +387 35 305-700
Fax: +387 35 305-710
www.elcom.ba
info@elcom.ba

