

Case study

Al-Baha Company for Caustic Chlorine Industries reduces operating costs, improves reliability, gains flexibility, and save time with Nexus Controls' OnCore System.

"Before 5 months we started a project for changing our system from Emerson DeltaV to Nexus Controls' OnCore Control System. There was a doubt about the time limit that we had in which is required to complete the system with a complicated process operation. During work I felt very happy with the kind of cooperation and team work effort that was done by your team, and their speed of response and accuracy in their work.

I would like to thank all and every member of Nexus Controls team from the engineering, erection, programming, FAT and SAT teams that worked with us, because the project would never see the light without their great effort and collaboration.

It was an honor to work with this team, and I hope that we will continue with this team spirit of work to achieve further success in the future.

Thank you for the system, it is marvelous."

Eng. Dherar Almukhtar
HOD of Instrument Department
Al-Baha Company for Caustic Chlorine Industries

60%

Reduction in Instrument Engineer after hours call out support

\$28K/YR

Avoided cost from alternative vendor's services support

66%

Fewer spare parts with OnCore Control System versus alternative solution

~1550

I/O Points

Al-Baha Company for Caustic Chlorine Industries had legacy site control systems that were old, obsolete, overly complex and expensive to maintain. Additionally, their HMI could only be run on a much older and no longer supported operating system. Downtime had to be kept to an absolute minimum so the plant control system being the "heart" of plant operations had to be upgraded within an extremely tight timeframe. The OnCore Control System was selected to replace the older, obsolete control system.

Challenge

Al-Baha Company for Caustic Chlorine Industries (Al-Baha) located in Al-Dulail, Jordan had an old, legacy Emerson DeltaV control system that was obsolete and urgently needed to be replaced. In addition, the Emerson control system HMI had to run on a very old Microsoft Windows® XP operating system that is no longer supported by Microsoft®. This created major security issues for Al-Baha's engineering department. There were also significant financial reasons for Al-Baha to upgrade their control system. The costs for the software license, I/O points, the historian and the support and services were mounting up and Al-Baha didn't feel that they were getting enough value for the money they were spending. Other factors leading Al-Baha to move away from the Emerson DeltaV were:

- its complexity for tuning PID
- its closed environment
- and the system tuning parameters would be lost when the DeltaV's system power was lost unless a procedure was followed for each control logic

- its complicated historian license structure. When new I/O needed to be added, the cost to do so included hardware, software licensing and historian capacity upgrades

The new control system needed to integrate with other subsystems in the plant including a Siemens S7-400 and various Rockwell PLCs to handle the Voltage Monitoring System (VMS), Boiler, Demineralized water system, and Water treatment.

Solution

Al-Baha chose to go with the Nexus Controls' **OnCore** Control System for their caustic chlorine chemical plant in Jordan. Due to the critical need to minimize downtime, a one-time shutdown of only 14 days was taken to remove and install the power and I/O cabling and fully implement the new control system of ~1550 I/Os including commissioning and loop testing of the control logic. The subsystems are connected together using the **OnCore** Control System with a profibus connection.

Results

Al-Baha was able to add functionality to the **OnCore** Control System without requiring assistance from the Nexus Controls service, support or engineering organizations after the successful commissioning of the system and its powerful structural design during the engineering phase of the project – something that was not easily accomplished with the Emerson DeltaV control system. The Al-Baha Company for Caustic Chlorine Industries also recognized the following savings:

- **60% reduction in call outs**
- **\$85K cost avoidance for 3 years of support services**
- **66% fewer spare parts required to have on hand**

The **OnCore** Control System is very reliable and has a “simplified & optimized process to make changes to system” which is substantially less complicated and risky than the alternative solution and makes for easy management and operation of all subsystems.

The **OnCore** Control System is intuitive and very easy to learn and use allowing Al-Baha staff to quickly come up to speed and increase productivity. In addition, the Nexus **OnCore** HMI was installed on Microsoft Windows 10 computers providing peace of mind to the Al-Baha technical team by eliminating the need to run on the non-supported Windows XP operating system.



Al-Baha Company for Caustic Chlorine Industries Chemical Plant