

Lyondell Improves Training and Reliability with Honeywell Simulation Technology



“Thanks to Honeywell’s simulation technology we have been able to increase the overall knowledge base of current operators and provide broader scenario training to future employees. We have had about 40 percent of our operators go through the testing so far and have received nothing but positive comments. We have always had a very positive relationship with Honeywell and look forward to a continued partnership.”

Tommy Russell, Simulator Specialist, Lyondell Bayport Choate

Benefits

Lyondell’s Bayport Choate plant has made significant gains in plant performance over the past 10 years but faced a resource challenge to maintain and continue these gains because a majority of operators were retiring over the next few years.



Lyondell turned to Honeywell to implement simulation technology to increase the overall knowledge base of current operators as well as effectively train and build the confidence of new operators entering the plant. Benefits realized by using Honeywell’s UniSim® simulation technology include:

- Increased confidence in plant operation and familiarity of all processes including shutdown and startup
- Improved plant reliability and reduced downtime due to flattening operator learning curve
- Raised knowledge base among current and new workforce
- Retained investment in automation control systems
- Simplified training through familiar interface and graphical displays
- Testing and design change verification through simulation models

Background

Lyondell Chemical Company is North America’s third-largest independent, publicly traded chemical company. Lyondell is a leading global manufacturer of chemicals and plastics, a refiner of heavy, high-sulfur crude oil and a significant producer of fuel products. Key products include ethylene, polyethylene, styrene, propylene, propylene oxide (PO), titanium dioxide, gasoline, ultra low-sulfur diesel, MTBE and ETBE.

With headquarters in Houston, Texas, Lyondell operates on five continents and employs nearly 11,000 people worldwide.

The Lyondell Bayport Choate Plant sits on 280 acres and is one of two plants in the Bayport industrial district owned by Lyondell Chemical Company. The site produces PO, tertiary butyl alcohol (TBA), propylene glycol, propylene glycol ethers and tertiary butyl hydroperoxide (TBHP).

Challenge

With an aging workforce, Lyondell’s Bayport Choate facility needed a way to train its new employees and prepare them to deal with unexpected situations.

“Because our operations run so smoothly, our operators never really get a chance to practice their craft and experience shutdowns, troubleshoot processes and deal with the unexpected,” said Tommy Russell, Simulator Specialist, Lyondell Bayport Choate. “We realized that we needed a way to simulate various processes to refine our best practices and deal with the large group of retirees over the next five to seven years.”

Solution

Lyondell turned to Honeywell to deliver a simulation solution to train operators using a high-fidelity, dynamic training simulator. Lyondell implemented Honeywell's UniSim simulation technology.

UniSim offers a series of unified simulation solutions to support improved performance throughout the lifecycle of a plant, from offline use in steady-state design simulation, control checkout and operator training to online use in control and optimization, performance monitoring and business planning.

"Having the simulator onsite helps with our employee training while increasing the probability of future success for flawless execution," said Russell. "We have found a way to duplicate our control room as much as possible and simulate plant operations to increase operator proficiency and continued confidence."

In addition to using the simulator to help train its young workforce, Lyondell can also use various engineering studies to help simulate changes as appropriate and see how those changes will affect the plant lifecycle and production without changing production schedules.

Concluded Russell, "We have a great relationship with Honeywell and appreciate how easy they are to work with and the confidence that they instill in our employees. The more our operators see and experience things they can only talk about, the better run our site will be."

UniSim® is a trademark of Honeywell International Inc.

More Information

For more information on Honeywell simulation solutions, visit www.honeywell.com/ps or contact your Honeywell account manager.

Automation & Control Solutions

Process Solutions

Honeywell

2500 W. Union Hills Dr.

Phoenix, AZ 85027

Tel: +1-602-313-6665 or 877-466-3993

www.honeywell.com/ps

SS-07-25-ENG
October 2007
©2007 Honeywell International Inc.

The Honeywell logo is displayed in a bold, red, sans-serif font.