

Optimizing Gas Plant Performance with the Symmetry Process Software Platform

Symmetry platform supports DCP Midstream’s vision of a smart gas plant network to increase operating margins and improve asset decision making

CHALLENGE

Optimize gas plant performance for DCP Midstream and facilitate the creation of a smart gas plant network.

SOLUTION

- Deploy the Symmetry* process software platform to provide functionalities not available with DCP Midstream’s former process simulator packages, including cryogenic gas plant modeling, pipeline gathering system modeling, acid gas treating, and sulfur recovery.
- Complete installation and training in less than 60 days.
- Assist DCP Midstream with creation of real-time digital models of its gas plants, which included postdeployment integration of the Symmetry platform with streaming operational data and market prices.

RESULTS

- Quickly provided mission-critical functionalities for cryogenic gas plants, multiphase pipeline modeling, acid gas treating, and sulfur recovery.
- Converted more than 100 models from legacy process simulation technology and trained all users in less than 60 days with minimal disruption to operations.
- Enabled creation and rapid deployment of 36 digital models of gas plants that delivered real-time insight to DCP Midstream’s engineers to increase operating margins and improve decision making.

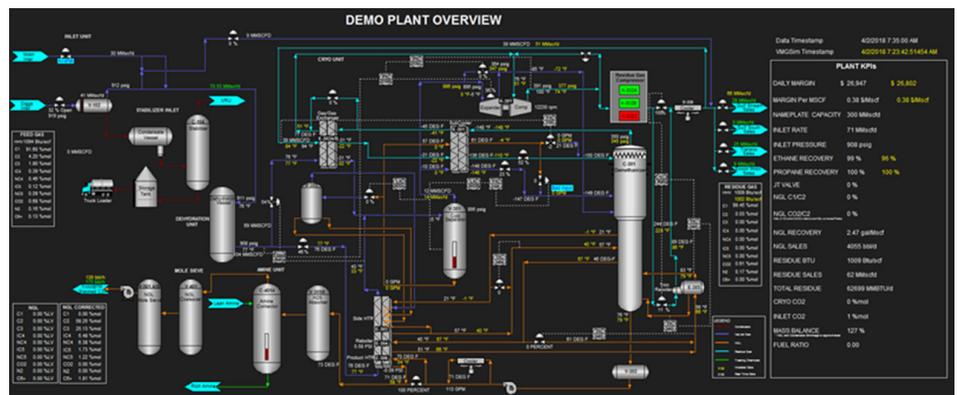
Optimize gas plant performance with new process simulator

DCP Midstream LLC is a Fortune 500 midstream company that operates 61 gas plants, 12 fractionating facilities, and more than 64,000 miles of NGL, gathering, and transmission pipelines across the US. To increase operational efficiency, the company needed to optimize the performance of its nationwide network of gas plants. DCP Midstream determined that its current process simulator lacked mission-critical functionalities such as cryogenic gas plant modeling, multiphase pipeline modeling, acid gas treating, and sulfur recovery, so it needed a new process simulator to accommodate these functions. Not only did DCP Midstream need a process simulation solution that could deploy quickly to ensure minimal interruption to its operations, but the company also sought a technology that could support its vision of a real-time smart gas plant network.

Provide mission-critical process system modeling functions and integrate the Symmetry platform with SCADA systems and financial data

DCP Midstream chose the Symmetry platform to provide missing critical functionalities for cryogenic gas plants, multiphase gathering and pigging, pipeline modeling, acid gas treating, and sulfur recovery. More than 100 existing models were converted from one of the legacy process simulator packages, and user training was completed in less than 60 days.

Following the initial deployment, the Symmetry platform’s technology team worked closely with DCP Midstream to facilitate its vision of a smart gas plant network that would deliver insights to users in real time. The Symmetry platform was integrated with streaming data from field operations and other data sources such as real-time market prices and financial systems. This enabled DCP Midstream to manage multiple virtual facilities using real-time data. During the integration process the Symmetry platform’s technology deployment team worked closely with the DCP Midstream team to supply stable and accurate models and ensure compatibility of the Symmetry platform with the company’s other systems and software.



The Symmetry platform’s process simulation technology was integrated with real-time SCADA and financial data.



"[Schlumberger] has gone above and beyond in so many ways to assist DCP in this unique undertaking. They have provided software to control repetitive process simulations of our plants so current operational data and simulation results are continually viewable. [The simulations] provide a recent snapshot of how each plant is running as well as simulation targets for optimal financial performance. This project has been very challenging, but it would have been far more difficult without [Schlumberger's] expert guidance and involvement throughout. [Schlumberger] has also greatly assisted DCP in developing dynamic process simulation models of some of our most complex plants."

David King
Senior Director, Solutions Group,
Corporate Engineering Department
DCP Midstream LLC

Created 36 smart gas plants and collaborated to improve gas plant operations

The Symmetry platform helped DCP Midstream achieve optimal plant operations in two ways: It quickly provided robust models and missing critical functionalities that DCP Midstream's former process simulators did not have, and it helped the company realize its vision of building a real-time smart gas plant network. Due to the consultative work of the Symmetry platform's technology team in collaboration with their counterparts in DCP Midstream throughout the initial deployment and integration processes, DCP Midstream ensured only minimal disruption to its operations and was able to build numerous real-time digital models of its gas plants. The result: The company's engineers now use the Symmetry platform as part of a larger digital ecosystem that gives them access to real-time insights to optimize performance, improve operating margins, and make better decisions.



Real-time digital models and financial data enabled DCP Midstream to improve decision making of its gas plants.

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