

RasGas Achieves Significant Benefits from Honeywell's Training Simulators



“RasGas used Honeywell’s simulation technology for our operator training programs and as a result, we were able to derive significant benefits. The high-fidelity, dynamic simulation models allowed us to deliver real-world training, which has led to faster startup times, training and certification best practices, and early identification of any issues that may affect our facility before they occur.”

Jim Dawson, Process Simulator Training Instructor, RasGas Company Limited

Benefits

RasGas Company Limited operates a major liquefied natural gas (LNG) production facility in Qatar. RasGas’ use of Honeywell’s simulation technology (now called UniSim®) enabled its LNG operations to benefit from faster plant startup, and as a result of using the high-fidelity simulators, the company identified both control design issues and minor process problems that could be corrected before the plant was built. RasGas found that the benefits from using Honeywell simulators for training included:

- Effective pre-startup training of operations staff
- Certification of panel operators, including refresher training
- Improved ability to consistently produce a high-quality product
- Faster plant startup due to early identification of control design and implementation issues
- Enthusiastic operations support for the use of simulation for new plants because of training and other benefits
- Efficient training of operators - more than 300 operations staff were trained using the Honeywell training simulators



RasGas LNG facility in Qatar

Background

RasGas was established in 1993 to produce LNG and related products from Qatar’s North Field. Discovered in the early 1970s with estimated reserves of over 900 trillion standard cubic feet of recoverable gas, North Field is the largest offshore non-associated natural gas field in the world. It covers a total of 6,000 square kilometers and extends from slightly onshore all the way north to the three contract areas, RasGas (RG), QatarGas (QG Operations) and North Field Alpha (NFA).

Since 1993 RasGas has met every milestone, overcome every obstacle and has set the pace for the global LNG industry.

Challenge

At its LNG production facility in Qatar, RasGas operations include the treatment of natural gas received from the North Field, liquefaction to produce lean or rich LNG, and transportation of gas to the market. Four LNG trains are now operating at its site with several other trains under construction or in the engineering phase. Since its inception, RasGas realized the benefit that simulation technology could provide. Training operators and engineers how to respond during potential issues and teaching them how to react more quickly and diffuse process situations before incidents occur was a requirement during startup.

"When RasGas first started operations it had a new staff from throughout the world with 37 different nationalities employed. To smooth the startup as much as possible we knew we had to use an operator training simulator," said Jim Dawson, Process Simulator Training Instructor, RasGas Company Limited. "Well-trained personnel react more quickly and diffuse process situations before incidents occur. Experience has also proven that simulators train new hires more quickly and efficiently than other more traditional methods."

Solution

RasGas chose Honeywell's simulation technology and selected Honeywell to design and build high-fidelity process models with proprietary dynamic simulation algorithms.

UniSim® is a U.S. registered trademark of Honeywell International Inc.

More Information

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

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All newly hired panel staff and senior operators were put through a one-week training session using models of the units they were going to operate. Other operators were run through a shorter session to familiarize them with the DCS screens to find the information related to their units.

Since the startup of the first LNG train, RasGas has been expanding rapidly, reaching a peak in 2005 for the number of new units. To meet the process training requirements there has been consistently high usage of the simulator and the instructor's time. RasGas has provided simulation-based operations training for all necessary personnel before scheduled plant startups.

"This experience has taught us how valid the argument is for the use of first principle models that can be used throughout the life of a processing facility," said John Womack, Ras Gas simulation consultant. "Early on, these models helped drive the choice of equipment to implement the design but after that we have continuously improved them to help answer 'what-if' questions throughout the lifecycle of the plant."

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