

GPIC Increases Productivity and Energy Efficiency with Advanced Process Control



“The advanced process control project not only delivered increased productivity, but also realized some significant intangible benefits such as improved energy efficiency, plant stability and lesser dependence on human factors.”

Abdulrahman Jawahery, General Manager, GPIC

Benefits

Gulf Petrochemical Industries Company (GPIC) is a leading fertilizer company in the Middle East, producing ammonia, methanol and urea.

In its quest to stay competitive and to find innovative ways to improve performance, GPIC approached Honeywell and its advanced process control (APC) team to study and identify means to further improve controllability of the ammonia plant and thereby achieve higher productivity.

GPIC and Honeywell engineers conducted a benefit estimation to ascertain the feasibility of the project. Once convinced about the viability, GPIC and Honeywell implemented Honeywell's Profit® Controller technology, a multivariable control and optimization application for complex and highly interactive industrial processes.

A post-implementation audit showed significant benefits including:

- Increased productivity
- Improved plant stability especially during cyclic changes, minimizing the need for operator intervention
- Improvement in energy efficiency

Background

Gulf Petrochemical Industries Company (GPIC) was established in 1979 as a joint venture between Gulf Cooperation Council members for the manufacture of fertilizers and petrochemicals. The joint venture is equally owned by the government of the Kingdom of Bahrain, Saudi Basic Industries Corporation and Petrochemical Industries Company, Kuwait.

GPIC uses natural gas which is readily available in Bahrain as a feedstock for the production of 1,200 tons daily of ammonia (400,000 tons per annum), 1,700 tons daily of urea (600,000 tons per annum) and 1,200 tons of methanol (400,000 tons per annum). In addition to the production plants the GPIC complex, which was built in Sitra on a reclaimed area of 60 hectares, comprises utilities plants, maintenance workshops, offices, stores and laboratories. The company employs more than 470 people.

Challenge

At GPIC's ammonia plant, the company wanted to find a way to increase production and to reduce energy consumption.

“In today's times of recession, it is critical to find some sort of competitive advantage that also falls in line with your business goals,” said Abdulrahman Jawahery, General Manager, GPIC. “We wanted to find ways of gaining competitive advantage by using innovative technologies that have a holistic effect on our people, plant and processes.”

