

IRPC Improves Overall Plant Efficiency and Throughput with Profit Controller



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Aung Myaing, Technology Manager, IRPC

Benefits

IRPC has long been committed to maintaining the highest production standards and product quality by adopting internationally accepted standards and acquiring state-of-the-art technologies. The company was expanding to meet growing needs in a variety of markets, including automotive and electrical appliances. Along with the growth came the need for proper technologies to ensure product consistency, optimal throughput and maximized plant efficiency.

IRPC selected Honeywell’s Profit® Controller to tackle challenges related to throughput, production efficiencies and utilities consumption. Profit Controller is a multivariable control and optimization application for complex and highly interactive industrial processes. Profit Controller improves product throughput and yields, ensures higher quality products, less product giveaway, high application availability and low maintenance requirements.

Since implementing Honeywell’s Profit Controller, IRPC has seen the following benefits:

- Increased throughput by 7.14%, providing almost immediate payback while increasing efficiency of the plant
- Achieved controller uptime of 100%
- Improved flexibility in operation while maintaining robust and safe operational control
- Minimized transition losses during crude slate switches
- Achieved more stable quality and maximum yield
- Optimized utilities consumption
- Increased feed throughput
- Utilized the charge heater safely



IRPC improves throughput and efficiency with Honeywell’s Profit Controller at its plant in Rayong, Thailand.

Background

IRPC (Thai Petrochemical Industry) Public Company Ltd. is a Bangkok-based manufacturer of petrochemical and petroleum products, lubricants and polymers. IRPC ranks among the leading integrated petrochemical companies in Thailand, producing naphtha, liquefied petroleum gas and lubricant oils. The company’s operations include petroleum, mostly refined products (gasoline, diesel and fuel oils), as well as lubricating oils and asphalt. IRPC’s other major business is the manufacture of olefins (ethylene and propylene) and aromatics (benzene, toluene and xylene) that are used to make almost every kind of plastic.

The IRPC production complex is located in an industrial estate managed by the company in Rayong. The estate provides necessary infrastructures that are used to support production including a deep sea port, oil storage tanks and a power plant. Its complex consists of an upstream unit, an oil refinery unit and a downstream petrochemical production unit. The company’s oil refinery unit has the total capacity of 215,000 barrels per day, accounting for 21% of the country’s total refining capacity.

The company's operation and production qualities have been proven by numerous international standards ranging from the ISO 9001 for quality, administration and management system, to the ISO 14001 for environment, as well as Occupational Health and Safety Management Systems, OHSAS 18001, and Thai Standards Institute TIS 18001.

With the utmost concern for the best methods and procedures to serve each customer's unique needs, IRPC is committed to providing customers with services and assistance, ranging from the selection of suitable raw materials, machinery adjustment for high-efficiency production and troubleshooting.

Challenge

IRPC was facing several challenges that drove the need for new control technology. The company was looking to maximize throughput and optimize utilities consumption. IRPC was facing transition losses during frequent crude slate switches and wanted to achieve more stable quality and maximum yield of its products. The company also wanted to fully utilize the charge heater safely within the company constraints.

"To maintain our leadership position in the petrochemical industry, IRPC consistently looks at new technology offerings that could improve the efficiency of our business and ultimately help us to run our operations more profitably," said Aung Myaing, Technology Manager, IRPC.

Solution

IRPC chose to implement Honeywell's Profit Controller in its crude distillation unit. IRPC chose Honeywell because in its experience, Honeywell provides reliable and technically sound products, a strong service team and excellent customer relations. Profit Controller met IRPC's functional requirements and Honeywell offered a very competitive price.

More Information

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

Automation & Control Solutions

Process Solutions

Honeywell

1860 W. Rose Garden Lane

Phoenix, AZ 85027

Tel: 800-822-7673

www.honeywell.com/ps

"We have turned to Honeywell for many opportunities in the past and we have always been very satisfied with the quality of the solutions, integrity of the people and return on investment," said Myaing.

The strong process interactions within IRPC were a perfect fit for Profit Controller. The state-of-the-art multivariable control and optimization offering was specifically developed for the most complex and interactive industrial processes.

IRPC installed two Profit Controllers – one for the atmospheric distillation column and one for the light naphtha stabilizer. "The implementation went very smoothly. Thanks to the Honeywell team members for their dedication and commitment to oneness with the IRPC team," said Myaing.

Since implementing Profit Controller, IRPC has improved throughput by an amazing 7.14%. This has provided an almost immediate payback while also improving plant efficiency.

"We are very pleased with the improvements we've gained from Profit Controller," said Myaing. "We have far surpassed the Honeywell guarantees for both throughput and controller uptime. Honeywell guarantees a 1% increase in throughput and controller uptime of 90%. We have achieved far superior throughput results than we could have even hoped for, with the added benefit of 100% uptime."

The IRPC operators are comfortable with the technology and are confident that it is working properly to optimize process performance. The fact that the system is reliable gives operators the confidence in the system to keep it running all the time, thereby further enhancing the effectiveness of Profit Controller. Now, operators can pay attention to other aspects of their job to ensure safe and reliable plant operations.

Because of the impressive results IRPC has gained from Honeywell Profit Controller, the company has decided to increase its investment in advanced control technology from Honeywell with new projects at its atmospheric distillation unit and diesel/kerosene hydrogenation plant, in addition to the deep catalytic cracking plant.

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