Case Study

ENAP’s Bio Bio Refinery Improves Plant Profitability with Profit Suite Software

“Honeywell’s APC applications achieved our objectives.”

- ENAP Bio Bio Refinery, Chile.

Background
ENAP Bio Bio is the largest oil refinery in Chile. Together with the Aconcagua unit, the ENAP refinery supplies 80 percent of Chile’s fuel needs. Bio Bio, located in the port of Talcahuano, can process 116,000 barrels of oil per day.

Challenge
The ENAP Bio Bio refinery needed to update its Advanced Process Control (APC) platform to the latest software release to further optimize the process as well as to start up existing Honeywell Profit® Suite applications.

For the Continuous Catalyst Regeneration (CCR) Unit, ENAP needed to:

- Keep Advanced Regulatory Control (ARC) functionality between the existing and new APC platform
- Maintain operability with existing graphical interface

Benefits
The ENAP Bio Bio refinery had enjoyed the benefits of Honeywell’s Advanced Process Control software and was ready to upgrade to the latest version, Profit Suite R400.

Profit Suite is a comprehensive collection of advanced process control and optimization products and services. It address increasing business complexity and profitability pressures by managing all aspects of process control and optimization — from improving regulatory loop control to globally optimizing the entire process plant.

Profit Suite products and services capture and manage information to improve operations and profitability by incorporating Honeywell’s patented technologies, global business resources and world-class support services. This software is delivered through the unified architecture of Honeywell’s Experion® Process Knowledge System (PKS) or via third-party distributed control systems to:

- Enhance profitability through increased production and reduced operating costs
- Increase employee productivity through improved operator effectiveness and lower engineering requirements
- Achieve the highest return on investment and continue to deliver sustainable results throughout the entire application lifecycle

Solution
ENAP Bio Bio applied the following solutions:

- Profit Suite R400 with Profit Controller APC applications installed in the CCR Unit.
- Profit Controller applications connected directly to DCS points.
- Interface points used to interact with graphical ARC and APC interfaces.
Results
ENAP Bio Bio refinery achieved the following results from the new installation of Profit Suite:

- **Reformatted Quality Control (RON)**
  After commissioning the Profit Controller application, the standard deviation of the variable RON decreased from 0.41 to 0.02, keeping this variable on control.

- **Increased Product Recovery**
  The average increase in effluent product in the reaction section was greater than 0.5%, which impacts the same order of magnitude in the reformed naphtha production specification quality (RON) required.

- **Reduced Energy Consumption (Gas or Fuel Furnace Consumption)**
  Use of the Profit Controller APC solution has enabled temperature control of the reheating furnaces, maintaining the objective quality reformed naphtha. The temperature reduction resulted in an average decrease in gas consumption of approximately 6.9%.

- **Reduced Ratio of H2/HC**
  The new Profit Suite software allowed the reduction of this ratio value, resulting in lower power compressors and increasing processing capacity of the reactors.

- **Greater Stability in Operations**
  The refinery was able to reduced product variability, reduce temperature or load reduction and achieve greater stability in Middle-Environment

About Honeywell Profit Suite
Honeywell’s Profit Suite software delivers process optimization to the process industries. Profit Suite software products address all aspects of advanced process control and optimization from improving regulatory loop control to globally optimizing the entire process. Delivered through the unified Experion® Process Knowledge System (PKS) architecture or through third party control systems, these products improve profitability by increasing throughput, reducing costs, increasing yields and improving product quality.

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