Success Story

Honeywell

ENAP Aconcagua Refinery Meets Regulations and Saves Money with OneWireless Solution

"With Honeywell's OneWireless solution we were able to gain quick access to our plant data, meet stringent environmental requirements and save money by avoiding hard-wired costs. We are very impressed with the dedication of both our plant maintenance team and the Honeywell services team."

Ricardo Trujillo, ENAP Aconcagua Refinery

Benefits

ENAP is the largest supplier of crude oil products in Chile and main supplier to the Santiago region. Since the installation of Honeywell's wireless transmitters in 2009, the ENAP Aconcagua Concon Oil Refinery has been monitoring several variables at the Fenoles plant. The Chilean government requires the plant to monitor and collect environmental data for the water being discharged into the ocean. In order to monitor the parameters, field operators took on the manual task of walking to each recorder and writing the values down on a weekly basis. However, new requirements meant the plant had to monitor and collect these parameters in real time.

Wired transmitters at the remote location were considered but discovered to be cost-prohibitive so wireless technology seemed like a plausible solution. ENAP considered setting up a Remote Terminal Unit (RTU) connected wirelessly to the control system, but realized that there would be multiple points of failure and additional components would be required to keep things running effectively.

ENAP selected Honeywell's OneWireless™ solution to gain real-time data accessibility, avoid expensive hard-wired alternatives, and safely and securely meet all environmental regulations. Benefits include:

- Ability to gain fast access to critical data that was previously unavailable due to rough site terrain
- Wireless transfer of data from the tanks enabled ENAP to meet environmental regulations at a fraction of the cost and effort of running a wired solution
- Saved more than $100,000 by avoiding the costs associated with a hard-wired implementation
- Avoided corrosion maintenance costs that would have been needed with a wired solution due to the close proximity of the Pacific Ocean
- Implemented ISA100 standards enabling failsafe path in case of network signal breakdown
- Project was completed on time and on budget with a significant return on investment

ENAP implemented Honewyell's OneWireless solution to improve data access, meet environmental requirements and save money.

Background

An energy company 100-percent owned by the state of Chile, Empresa Nacional del Petróleo (ENAP) is a leader in hydrocarbons and supplies products and services throughout Chile. ENAP's commercial purpose is to explore, produce and commercialize hydrocarbons and their derivates. It carries out activities throughout the value chain in the oil industry, from hydrocarbons exploration to fuels

commercialization, the latter under the Primax brand, which operates in Perú and Ecuador.

ENAP is organized in two lines of business: Exploration and Production (E&P) and Refining. It has two subsidiaries: Enap Sipetrol S.A. and Enap Refinerías S.A.

At its Aconcagua refinery, ENAP is increasing the production of diesel by 16 percent, liquid petroleum by 15 percent and petrol by 6 percent. It will produce low-sulphur diesel with very low particle density, helping to reduce traffic-related emissions. With the refinery's location near Santiago and the seaport of Valparaiso, heavy crude oil and refinery residue can also be imported cost effectively from neighboring countries such as Brazil, Colombia and Ecuador.

Challenge

With the protection of the environment in the Chilean constitution for more than 30 years, all domestic and international investment projects are required to pass an environmental impact test. Only projects which satisfy the standards receive approval and can be carried out. An environmental impact study was one of the components of project development for the plant in the ENAP Aconcagua Refinery.

In addition, new environmental regulations require the plant to monitor and collect environmental data for the water being discharged into the ocean. The site has to monitor the pH, oxygen concentration, temperature, flow and opacity of the water.

"We were able to monitor parameters on a periodic and manual basis but in order to meet the real-time data collection parameters we had to find a new solution that enabled us to do this in a safe, continuous, secure and less costly manner," said Ricardo Trujillo, ENAP Aconcagua Refinery.

Solution

After looking at various solutions including both hard-wired solutions and RTU connected wirelessly to a control system, ENAP discovered an effective solution in Honeywell's OneWireless network.

A OneWireless network was installed with six High Level Analog Input (HLAI) transmitters which enabled control room employees to quickly and easily monitor water discharge levels to ensure environmental compliance.

"Honeywell's solution offered us an easy and fast way to implement and maintain the system safely and securely in a real-time environment," said Trujillo. "The local support provided by the Honeywell Chilean team was a huge differentiator in making this project a success."

A key advantage of Honeywell's OneWireless solution was the fast data update. By taking full advantage of the ISA100 wireless standards which are designed with a back door path in case of network breakdown, Honeywell's OneWireless solution was conceived with efficient use of mesh network to ensure signals and data get through reliably and quickly. The Honeywell OneWireless multinodes can automatically discover neighboring multinodes and establish a connection with them. When multinodes have been optimized the system can also self-correct to ensure that if a node fails, the network automatically adjusts and routes data via the best alternative path – ensuring no data loss.

Due to the powered infrastructure of the Honeywell OneWireless multinode network, transmitters are able to send data and there is no need to dual task, offering ENAP a much longer battery life (up to 10 years) and one-second data updates – something ENAP could not find in competing offerings.

"Honeywell's OneWireless solution provides us with the maximum wireless data range, a faster data travel rate and much longer battery life, making this implementation a huge success," said Trujillo.

More Information

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

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