“We really did our homework on the front end of this project and researched multiple technologies and several vendors for our tank gauging solution. Honeywell Enraf outperformed the other instruments in accuracy and reliability.”

Harold H. Victoria Madrid, Chief of Metrology, Terpel

Benefits
Colombia’s largest fuel distributor, Terpel, was expanding rapidly and wanted a reliable tank gauging solution that would provide accurate measurements without requiring any mechanical upgrade of the tanks. Terpel needed an in-tank telemetry system and a custody transfer system to provide highly accurate data for level, temperature and density for eight fuel storage plants throughout Colombia.

After a successful pilot test at its Dorado plant in Bogota, Terpel chose Honeywell Enraf as its tank gauging solution supplier to provide reliable and accurate instrumentation for 78 tanks in eight distribution terminals. Honeywell Enraf 85 4ATG gauges with average temperature and density options were selected as the best instruments to fit Terpel’s needs.

Through a team effort between Terpel, INSURCOL Ltda – the local Honeywell distributor, and Honeywell Enraf, the installation at the eight plants was completed in under four months. The instruments were installed without taking the tanks out of operation, making the implementation much smoother for Terpel. With the Enraf solutions, Terpel has reduced product loss and optimized product movement. Other benefits include:

- Accurate tank level measurements of +/- 1mm
- Density profiles and average product density with accuracies never seen prior to automation
- Ability to get Modbus communication
- Temperature readings within +/-0.5 degrees Fahrenheit
- Water level accuracy within +/-3mm

Background
Based in Bogota, Colombia, Terpel distributes and sells fuel products and lubricants in Colombia and internationally. Terpel was founded in 1968 as a solution to the shortage of gasoline in Santander, Colombia. The Terpel Bucaramanga Company was founded with 20 service stations. Years later, this initiative expanded to a national scale with six more “Terpels” in different Colombian regions.

The network began to grow and Terpel became best known as the fuel distributor for customer proximity, with an important regional presence. In 2001, the major shareholders of the “Terpels” integrated the seven existing regional businesses into Organizacion Terpel, which was consolidated in 2004. The company now operates 1,430 service stations in Colombia, Ecuador, Chile and Panama. With sales of $2.9 billion, Terpel controls 37% of the Colombian fuel market.
Challenge
Terpel needed an accurate tank gauging solution, and in 2008, the company ran a test project with a tank measuring solution that did not work out as planned. The solution required Terpel to put in still wells in each tank where radars were installed, which created chaos in tank availability. The company decided to review and test other technologies that would not require additional costs for mechanical upgrade of the tanks.

“We needed an in-tank telemetry system and custody transfer system that would provide reliable measurements of levels and temperatures to our exact specifications,” said Harold H. Victoria Madrid, chief of metrology at Terpel. “We ran several pilot tests with multiple tank gauging systems to ensure we chose the right solution to implement at our eight plants.”

Solution
After an evaluation of different technologies, Terpel selected Honeywell Enraf for their tank telemetry and custody transfer systems in Columbia. Terpel chose Honeywell for the accuracy and reliability of the Servo gauges.

Honeywell Enraf provides a comprehensive range of products and systems for accurate tank gauging, inventory management and tank terminal operations, offering open connectivity, modular design and solid migration paths. These solutions enable the best possible use of tank storage capacity to optimize operations and increase revenues. Honeywell Enraf products and systems are approved for custody transfer, and are compliant with all major international standards.

More Information
For more information on Honeywell Enraf Solutions or any of Honeywell’s Products, Services, or Solutions, visit our website www.honeywell.com/ps, or contact your Honeywell account manager.

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Terpel implemented a Servo 854 Advanced Tank Gauge (ATG) telemetry system at each of the 72 tanks to gain reliable, accurate and automatic level, water interface, density and temperature measurements using VITO with Modbus communication. The 854 ATG Series allowed the connection of temperature measuring elements for spot and average product temperature, as well as product temperature profiles.

Honeywell worked closely with Terpel to roll the solution out to 72 tanks at eight distribution terminals. The implementation was fast and efficient, thanks to teamwork within the companies and the simplicity of the installation. The 854 ATG is an easy-to-install microprocessor-controlled Servo gauge that is compact – requiring only a 2-inch mounting flange.

Terpel also implemented the Enraf Versatile In Tank Observator (VITO) solution for temperature measurement. A VITO probe was installed in each of the 72 tanks, which provides average temperature and temperature profiles of the fuel in Terpel’s tanks, and also measures the temperature of the vapor phase above the liquid fuel level. Additionally, Terpel implemented the VITO Interface, which is a solid state electronic unit that derives data from the VITO probes. The VITO solution ensures that Terpel fully complies with all major industrial standards, including API.

Honeywell Enraf delivered the solution “turnkey” for each plant, ensuring functional integrity of the measurement system for custody transfer. Accuracy tolerance levels are:

- Level: +/- 1 mm
- Temperature: +/- 0.5 degrees Fahrenheit
- Density: +/- 0.001 SGU
- Water Level: +/- 3mm

“We really did our homework on the front end of this project. We researched multiple technologies and several vendors for our tank gauging solution. Honeywell Enraf outperformed the other instruments in accuracy and reliability during our test phase,” commented Madrid. “After the selection was made, we were thrilled with how quickly Honeywell Enraf could install the solutions throughout our eight plants so we could start reaping the benefits quickly.”