

Automatic Tank Gauging Relieves Anxiety



To paraphrase an old public-service announcement: “It’s 10 p.m. Do you know what the product levels are in the aboveground storage tanks at your bulk-storage facility?” For many bulk plant operators, the answer to this question would be a tentative (or wishful), “I think so.”

There’s nothing inherently wrong with the traditional systems that are used to monitor and record AST product levels. In fact, advancements in gauging devices that use radar, bubbler systems and mechanical floats to determine product levels have helped increase the peace of mind of bulk plant operators. But when you’re talking about storage vessels that can be upwards of 50 feet tall and contain up to 500,000 gallons of product, they are just not as accurate at recording product levels, the potential presence of water and product temperatures as the operators wish they could be.

“What you’re generally doing is taking a giant tape measure and measuring the height of the product,” explained Ed Ventura, Operations Vice President for Hi-Sharp Products Inc., Toronto, Canada, a petroleum-equipment distributor that has been servicing Eastern Canada for 20 years. “With 250,000-gallon tanks, if you’re off by an inch when you measure that can be hundreds of gallons off in recorded inventory. That makes a big difference in what you actually have and what you think you have.”

Therefore, accurate monitoring of product levels is a crucial concern at bulk-storage facilities since these plants are commonly used as collection points in the petroleum-

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Published on Chem.Info (<http://www.chem.info>)

products supply chain. That means that various fuel products — from gasoline (regular and premium) to diesel to even biofuels — are constantly arriving and departing, oftentimes by a variety of means, including pipeline, barge, railcar and truck. Also, as the prices of these products continue to trend higher, the need for their accurate monitoring and containment grows. There is also the potential for theft, as well as tank leaks that may go undetected for hours or days if the proper monitoring equipment isn't being used.

Recently, a pair of customers who operate bulk-storage facilities in Canada contacted Ventura. They had the common lament: the systems they were using to monitor their AST product levels just weren't accurate enough. This time, as a long-time distributor of tank-monitoring products and systems from OPW Fuel Management Systems, Ventura had a new solution to offer them: the SiteSentinel® iSite? automatic tank-gauging system. The iSite is a revolutionary new system that is easy to use and install while it offers complete inventory, delivery, reconciliation, exception alarm and environmental-compliance information for as many as 256 ASTs at one time. In other words, it's just what the Hi-Sharp customers were looking for.

"Until the creation of the iSite, there was not a monitoring system out there that adequately did 25- to 50-foot tanks," said Ventura. "There were some tank-gauging systems out there that worked on ultrasound, but they weren't reliable."

According to Ventura, the key to the iSite's standard-setting operation is the AST Flex Probe. This probe incorporates the same magnetostrictive technology that is used to monitor underground storage tanks and is made of flexible, petrochemical-friendly Kynar (PVDF) that can easily be installed in vertical ASTs up to 50 feet high. It can also utilize an optional water float for enhanced water detection.

While the Flex Probes ensure completely accurate tank-level measurement, the heart of the iSite — which is built on Windows® technology — is the "best in class" iSite console. Featuring a 15-inch color LCD touchscreen display, all of the critical information found on the iSite console is presented in a cockpit-style view, allowing the user ready access to inventory, delivery, compliance and general site status — all in real-time and without the need for time-consuming menu navigation. The console can be installed anywhere the user wants or needs it — back office, front of building, wall-mounted, desktop, at home or miles away from the installation.

The information that appears on the iSite Console is transmitted from the probes in the ASTs via the VSmart module. The VSmart can be wired to the iSite console, or communicate wirelessly, allowing the site operator the chance to configure the monitoring application in the way that best serves his facility. The easy wiring (or wireless operation) of the VSmart module also makes life easier for the plant operator during installation.

"When you get into large bulk farms you run into a lot of wiring issues," said Ventura. "When you're talking about a 40-foot tank, to get the wire to the tank and then run to the buildings, if you have 10 or 12 tanks, that's a lot of wiring and broken concrete. With the iSite, you can run the VSmart module with wires running

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to it and then one wire to the building. You can also go wireless with an antenna from the VSmart to the controller. This saves time and money.”

The ability to access and communicate with the iSite system via the Internet also means that when the bulk storage facility is out of sight, it’s not necessarily out of mind — or touch. This Internet capability allows site operators to set up alarms that can be sent via e-mail when exception events occur. For example, if a tank began leaking at midnight, the leak might not be discovered for six or seven hours, leading to a huge loss of product, and potential environmental and personnel safety issues. However, with the iSite the operator can set conditions that monitor product level and will set off an alarm when the certain parameters are met.

“We have programmed some of the tanks so that if there is any activity in product level in off hours, the system will send an e-mail to the operator to let him know if there is possible theft or a leak,” said Ventura. “They can set different parameters at different times of the day. Some operators have set up the system so that if there is something like a 250-gallon change in volume they want to know about it and an e-mail is sent.”

The bottom line is that the iSite system is completely programmable by the individual site operator to meet the needs of his site or multiple sites. After having seen the iSite system in operation, Ventura would have no hesitation in suggesting its use to future customers.

“The big thing is reconciling your products, making sure what goes out in your trucks is being recorded, and the iSite’s accuracy is much better for that than reading off a stick,” he said. “I highly recommend the iSite if you have a bulk plant.”

For more information, please visit www.opwglobal.com [1].

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