Gas Plant Cuts Maintenance Costs On Natural Gas Liquid Tanks with Guided Wave Radar Level

RESULTS

- Eliminated time consuming trips to the remote parts of the plant
- Annual maintenance savings of $17,188 per tank
- Provided accurate level reading

The 3300s were installed in February 2003 and have been working very well. No maintenance on the equipment has been required, nor do they expect any.

APPLICATION

Natural Gas Liquid Storage Tanks

APPLICATION CHARACTERISTICS

Clean fluid, low dielectric (1.7)

CUSTOMER

BP Amoco, Painter Complex, WY

CHALLENGE

The BP Painter Complex gas plant removes liquids from natural gas. To accomplish this, they chill the gas coming into the plant allowing the liquids to condense and drop out of the gas. The Natural Gas Liquid (NGL) accumulates in large bullet tanks and is shipped to another facility for further refining. A continuous level measurement is needed because the operators need to know the overall amount of NGL at the plant for production reporting and product shrinkage.

Historically, level was measured using a dry leg installation with DP transmitters. The difficulty with this installation method was that with any significant temperature change or plant upsets, water would condense out of the gas and fill the dry leg. The instrumentation group would then have to send someone to the tanks to drain the leg and verify that the measurement was correct. With up to three trips per tank per week all winter, the cost for the maintenance on the dry legs on each bullet tank averaged $17,188 per year.

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SOLUTION

To solve this issue, the Rosemount 3300 Guided Waver Radar transmitter was proposed to make the level measurement and eliminate the dry leg. To use the 3300, BP had to modify the bridles on the tanks so they could mount the unit in the top. The 3300 was then able to be installed directly into the NGL-filled bridles. The 3300s were installed in February 2003 and have been working very well. No maintenance on the equipment has been required, nor do they expect any.

If adjustments are needed, the techs are happy with the supplied Radar Configuration Tools (RCT) software. They can communicate with the instrument from anywhere on the 4-20mA loop so they don't have to go out into the cold to find out what is wrong. Because it is so easy to use, they can make adjustments and run advanced diagnostics without having to wait for a service person or specialist to come on site to help them.

The tanks are now running in an automatic mode and operators do not have to physically check the tanks any more. Payback for each tank was about six weeks. Operators are now relying on the level measurement and the tanks are used to their design capacity. Confidence in the measurement is at an all-time high. Process variability is down and efficiency is up.

Payback for each tank was about six weeks. The plant will have annual maintenance savings of $17,188 per tank.

RESOURCES

Rosemount 3300 Series Guided Wave Radar Level and Interface Transmitters

http://www2.emersonprocess.com/en-US/brands/rosemount/Level/Guided-Wave-Radar/3300-Series/Pages/index.aspx

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