NIVELCO CASE STUDIES

HIGH PRECISION LEVEL MEASUREMENT IN THE CHEMICAL AND PHARMACEUTICAL INDUSTRY

In the chemical and the pharmaceutical industry the accurate measurement of the materials in the stock-storage silos is regulated by ISO standards, so the applicable measurement instruments have to satisfy increased requirements in this industrial area:

- High accuracy: 1…5 mm independently from the range
- Long-time stability
- Ability of calibration, possibility for every year calibration without transporting the instruments to the factory of the manufacturer for reparation or adjustment

There are two product families of level transmitter solutions developed and produced by NIVELCO Process Control Co. which satisfy these requirements:

- NIVOTRACK M-500/600 magnetostrictive level transmitters
- MicroTREK H-400/500 microwave level transmitters

The chemical plant of Sajóbábony in Northern-Hungary is a good example of a modern instrumentation for tank-parks.

Tanks of the tank-park:

- 4 pieces of standing cylindrical, 6 m tall xylol tanks
- 3 pieces of lying cylindrical tanks with 3 m diameter containing boric acid
- 4 pieces of xylol distillation standing cylindrical tanks, T=130°C, p= 3 bar

Instruments applied:

- 4 pieces of NIVOTRACK MTK-560-8 Ex magnetostrictive level transmitters with flexible probe. Accuracy: 2mm, HART protocol
- 3 pieces of NIVOTRACK MTC-530-8 Ex magnetostrictive level transmitters with rigid rod probe. Accuracy: 1mm, HART protocol
- 4 pieces of MICROTREK HHR-428-8 Ex guided microwave level Accuracy: 3mm, HART protocol
- 11 pieces of MTL 5042 type Ex repeaters capable of carry-over the HART signals of the transmitters
- 3 pieces of NIPOWER PPK-331 type 230V AC / 24 V DC power supply
- 1 piece of MH-02 type HART modem
- 1 piece of process control PC with NIVISION process visualization software

Volume values of the tank-park are displayed in a process flow diagram on the PC and are also archived. The filling / emptying control of the tanks is done by the lower / upper limit values generated from the measured levels.

Kazincbarcika, 04. 11. 2009.

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