

An "Eye" on Bin Levels

Bin level monitors enable PLC to keep customization center flowing



Two Monitor Flexar™ guided wave radar continuous level indicators at Syngenta's Lone Tree, IA customization center.

Shortly after Syngenta added the Garst and Golden Harvest brands to its existing NK brand in 2004, the company initiated a plan to reorganize and renovate its supply chain to maximize efficiency and expand capacity at its production facilities.

As part of its plan to most efficiently manage inventory for three seed corn brands, Syngenta planned customization centers at key locations to repackage and overtreat seed to supply its customers. The customization centers also handle returns and help channel discarded seed from multiple locations.

In January, 2007, the customization center at Syngenta's Lone Tree, IA facility was completed and began operation.

"We had seed in the warehouse waiting to be repackaged and overtreated as soon as construction was complete," recalls Customization Center Supervisor Chris Morton. "There was urgency for us to process seed as soon as possible."

Endless Combinations

Six 300 bushel and three 600 bushel

storage bins for treated seed plus four 80 bushel surge bins supply the seed treater and packaging lines. Altogether, there is a seemingly infinite number of ways for seed to flow in and out of bins.

"Keeping track of everything without overflowing any of the bins would be almost impossible without a computerized control system," Morton says. "Another complication is that seed does not all flow the same. Overtreated seed flows differently than treated seed. Without continuous level monitors, we would make several trips to the third floor to check the fill level. Bin sensors allow us to work with the SCADA computer system."

SCADA is an acronym for Supervisory Control and Data Acquisition. It broadly refers to a system that collects data from various sensors at a plant and sends this data to a central computer which then processes the data.

In designing Syngenta's customization center, bin level indicators from **Monitor Technologies LLC** were specified by the ESCO Group's automation engineers and The Bratney Companies

design engineers, contractors for the customization center.

Monitor Flexar™ guided wave radar continuous level devices are installed in the nine storage bins. Monitor TrueCap® RF capacitance point level probes are in the surge bins. All connect to the SCADA computer. Both monitors allow the operator to specify bin fill percentage and thus prevent overflowing bins.

Morton is extremely pleased with how the system operates. In its first two months of operation, Morton and his staff reworked about 80,000 units of seed corn without any bin overflow. Seed was retreated with Cruiser Extreme™ and repackaged from single unit bags into bulk units or into single unit bags after being initially put in bulk units.

System start-up had only minor glitches. "Due to miscommunication, some of Monitor's level indicators were not calibrated. All it took was five minutes on the phone and the system was running fine," Morton says.

On another occasion during start-up, Monitor sent Engineering Manager Craig Russell and Regional Sales Manager Scott Bonine to resolve a problem.

"I know they spent far more time getting here than it took for them to get everything running correctly," Morton says. "They would not leave until I was satisfied and they stayed late in the evening until everything was completed. The support we receive from Monitor is outstanding."

For more information:

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