Market: Bulk Gypsum Storage and Refining

CUSTOMER

Georgia Pacific gypsum refining facility in Quanah, Texas.

PROBLEM

The gypsum plant would occasionally overload its silos during the fill cycle or run out of product during production. Overfills and empty silos were expensive, according to Paul Converse, maintenance superintendent. "We figure that it costs this plant $850 an hour during downtime," Converse says, "If we overfill and twist a conveyor, we're looking at 20 man-hours of contract labor time to fix it. Plus the amount it costs to clean up the mess." To eliminate the bulk inventory tracking problem, the facility tried various types of in-tank monitors — without much success. "It was difficult for us," Converse says, "We tried to use a pressure-type monitor with a diaphragm. But gypsum is a real fine, powdered product. Sometimes we get a caking action when it gets damp by drawing moisture from the air, then it would cake on the diaphragm and it wouldn't activate. The same thing happened with paddle-wheel devices."

APPLICATION

Georgia Pacific decided to try Kistler-Morse Bolt-On Microcell Sensors, attaching the strain gage devices to the legs of its two 300-ton silos and three 150-ton silos. "They were easy to put in," Converse says, "We just removed the paint from the silo legs, bolted the devices on. That took about an hour and a half. Then we zeroed the tanks and calibrated."

BENEFIT

The plant has eliminated overloads and empty bins during production. "They (bolt-ons) are a whole lot more accurate than what we had tried," Converse says, "They stay right on the money, they don't ever need to be recalibrated. Recalibrating can be a nuisance, and we hardly ever have to do it."

CONCLUSION

Although the facility is using the strain-gage devices for monitoring purposes only, Converse anticipates other uses in the future. "We're not using them to control emptying the silos, but they're reliable enough to control with if we wanted to. They're more or less trouble-free once you put them in."