Kistler-Morse®

Bolt-On Products

case history

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Market: Bulk Storage of Fly Ash for Public Utilities

CUSTOMER

Iowa-Illinois Gas & Electric, Davenport, Iowa, services approximately 500,000 customers in eastern Iowa and west-central Illinois.

PROBLEM

The utility's engineers were dissatisfied with ultrasonic technology used to monitor levels of fly ash in a 3,500 ton silo. "There were two reasons the ultrasonic device didn't work," says Bill Rasmussen, engineering technician. "Number one was the extreme heat of the fly ash (500 degrees F), and the other (reason) was that the fly ash would get stirred up by the blowers filling it into the silo." Engineers had to wait 15-20 minutes for the fly ash to settle before taking a reading, and even then the readings weren't accurate. And it was *critical* for the utility to know how much fly ash was in the silo. "We'd have to shut down if the silo became too full," Rasmussen says, "because by law we must remove it from the coal." Fly ash is a by-product of burning coal. With no place to store the fly ash, there was no way for the facility to keep burning coal and provide power. (The utility ultimately sells the fly ash; it is used to make cement.)

APPLICATION

Iowa-Illinois looked at two companies' strain gage devices, but decided to try Kistler-Morse Bolt-On Microcell Sensors. "The competition was very expensive, and Kistler-Morse was easier to put in," Rasmussen says. "Kistler-Morse provided us with a handy video on easy installation. One of our electricians installed it by himself. All he had to do was scrape the paint off the girders, drill a few holes, and mount the gages. The other company would have required machine-type work, and we felt that was too much of an inconvenience."

BENEFIT

The Bolt-On Microcell Sensors are accurate within 5% on the 3,500 tons of fly ash kept in the 80-foot tall silo. "I feel that's very satisfactory, considering the sensors we've got are about nine years old," Rasmussen says.

CONCLUSION

The sensors are so reliable that they're almost forgotten, Rasmussen says. "You know, I had to think for a second, because I almost forgot we had 'em. We've only had two breakdowns with them; one was caused by us, and with the other one we had a unit with a bad seal, and the water leaked-in, so we put on a new seal."