



Siemens radar provides precise control on critical coal silo measurement

Situation

Cogeneration (in power plants) is the simultaneous production of electricity and heat. The heat, that otherwise may be wasted in the production of electricity, can be captured and used to produce steam that can be used for both industrial and domestic purposes. This is one of the most common forms of energy recycling. A coal-fired power plant produces electricity by burning coal to boil water, producing steam to drive a steam turbine, which turns an electrical generator.

A coal-fired cogeneration facility in the US Mid-Atlantic region provides steam to a local chemical plant and excess electricity to the grid. Continuous level measurement in their coal silo is critical for the proper coal feed to the combustion process. Running low or "out" would starve the burners, and an overflow of the silo would cause back-up (and possible damage) to coal processing and conveyor systems.

Challenge

Although this particular customer had been using other Siemens ultrasonic level transmitters in other applications, they were using a competitor's ultrasonic level measurement device on the coal silo. The atmosphere in the silo is extremely dusty, and the competitor's ultrasonic device was giving erroneous readings and becoming a serious maintenance issue.

Solution

The local Siemens sales representative convinced the customer to try the Sitrans LR460 radar level transmitter in their coal silo. The Siemens LR460 instrument is now mounted on top of the 60-foot coal silo for continuous level measurement of coal feeding to the combustion process. The Siemens LR460 was chosen based on its unique features, including Process Intelligence® for advanced signal processing and PDM software. It also demonstrates better

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measurement accuracy and reliability than the competitor's ultrasonic technology, particularly in very dusty environments like the coal silo.

Benefits

- **Cost savings**
By switching to the Siemens radar level transmitter, the customer is saving money on repeated maintenance of the older transmitter and downtime due to its erroneous readings.
- **Peace of mind**
The new Siemens radar level transmitter is reliable regardless of the dusty atmosphere in the silo, and provides a dependable signal of the actual level. No more worries about running out of coal or overfilling the silo.

About the Sitrans LR460 Level Transmitter

The Sitrans LR460 instrument is a 4-wire, 24 GHz FMCW radar level transmitter with extremely high signal-to-noise ratio and advanced signal processing for continuous monitoring of solids up to 100 m (328 ft). It is ideal for solids measurements in extreme dust.

The integral Easy Aimer allows for easy positioning for optimum level measurement, particularly on solids. Process Intelligence means advanced signal processing is harnessed for reliable operation on both simple and difficult solids application.



The Sitrans LR460 unit features a robust enclosure, flange and horn components. It is virtually unaffected by atmospheric or temperature conditions within the vessel. The characteristics of 24 GHz and high signal-to-noise ratio contribute to exceptional signal reflection, regardless of the dielectric value of the medium being measured.

Safe, on-site local programming is quick and easy using the Intrinsically Safe handheld programmer. SIMATIC PDM software can also be employed for easy remote programming using HART or PROFIBUS PA protocols.

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