

## Cogeneration plant uses Siemens level transmitter to monitor fuel supply to boilers

### Process Instrumentation



SITRANS LR560  
Radar Level Transmitter

#### Challenge

Six years ago, a lumber company in the Northwest United States added a power cogeneration plant to produce power for the mill, with excess power to the local power grid. Using “hog fuel” (wood chips from the manufacturing process) to fire the boiler system, the plant manager needs to know how much hog fuel is on hand to avoid any interruptions to the boiler operation. The customer requires an accurate and reliable monitoring system to indicate how many truck loads of the wood chips are in the fuel silo.

Although point level indicators were already in place on the fuel silo, there were still times when personnel needed to climb up onto the silo to view the actual level of wood chips. This can create a potential safety issue. With a reliable continuous level measurement, the customer would know when the trucks should be dispatched to make sure there is an adequate supply of wood chips when required. The result would be improved safety for personnel and consistent operation of the boilers for the power cogeneration operations.

The wood chip silo height is 30 feet, the diameter is 30 feet and the atmosphere in the silo is extremely dusty, especially during filling.

The lumber industry is very competitive, and after personnel safety, production efficiency and profitability are a priority for their success.

#### Solution

After an application review, the local Siemens representative suggested the customer install a SITRANS LR560 radar level transmitter on the wood chip bin/silo. The customer had tried other non-contacting measuring devices, but found them to be unreliable. Because the customer has a limited number of personnel, they require an inventory monitoring device that is very reliable so they don't need to constantly send their personnel out to check on the silo levels. They were also looking for a device that was simple to set up and install.

The demonstration unit allowed the customer to see how simply and quickly the LR560 transmitter can be configured and operating in minutes. Using the Quick Start Wizard, just a few parameters are required to configure the transmitter and get it up and running. The analog output can be used to remotely view the silo level in user defined terms.

The customer is using remote displays to view the number of truck loads that are in the silo. The LR560 radar level transmitter continues to provide reliable level measurement in the customer's wood chip silo.

#### Benefits

- **Improved process reliability:** Repeatable level monitoring over time means less risk of running out of inventory or having too much for storage availability.
- **Time savings:** The wood chip levels are continuously monitored with real-time visibility. Better fuel supply control means less risk of having to shut down the boilers.
- **Improved personnel safety:** No need for personnel to climb the tank to make sure the level monitor is functioning properly, or to clean off the instrument.
- **Easy to use:** Quick Start wizard helps to make setup quick and easy.
- **Local customer service:** Local Siemens representative was there for support if needed.

#### About the SITRANS LR560 Radar Level Transmitter

The SITRANS LR560 2-wire, 78 GHz FMCW radar level transmitter is designed for continuous monitoring of solids in silos up to a range of 100 m (328 ft).

The transmitter's plug and play performance is ideal for most solids applications, including those with extreme dust and high temperatures to +200 °C (+392 °F). Its unique design allows safe and simple configuration using the Intrinsically Safe handheld programmer without having to open the instrument lid.

The SITRANS LR560 transmitter includes an optional graphical local display interface (LDI) that improves setup and operation using an intuitive Quick Start Wizard, and echo profile display for diagnostic support. Startup is easy using the Quick Start wizard with a few parameters required for basic operation.

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