

# LM200 Laser Level Transmitter Coal Silos Application

## Measurement made easy

Coal fired thermal power plants typically use large silos that are kept full by top loading conveyor belts with tipper cars. They are emptied from the bottom to feed the power station through a narrow funnel. It is important to monitor the level of the coal to insure proper operation of the power plant.



This application presents a combination of challenges to silo level measurement:

- The falling stream of coal can give false readings with Ultrasonic and Radar level transmitters
- The silos were constantly being filled / emptied at the same time; this leads to "rat-holing" which will cause incorrect readings from Ultrasonic or Radar level transmitters
- There is a wide variety of "Particle" sizes from fist-size rocks to powder and the materials with small particle size create dust. This makes Ultrasonic and Laser measurements quite challenging.
- Extreme Peaking and Slumping of the material causes Ultrasonic and Radar level transmitters to fail
- The narrow bottom of the Silos prevents accurate near empty readings with Ultrasonic and Radar level sensors



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Many customers have standardized on Radar type level transmitters for this application. However a large power plant operator has starting a trial with ABB LM200 laser level transmitters after his radar transmitter gave him a false reading indicating that there was enough coal left when the bunker was actually empty which caused the power plant to shut down. This situation occurred because to optimize coal inventory more and more operators are trying to run their plants with low coal inventories. This is a great opportunity to sell laser level transmitters.

Dust, Particle size, and Color are not an issue in practice for the LM200 using the heavy dust program to monitor coal levels.

Should you have any question about please do not hesitate to contact us at: [laserscanner.support@ca.abb.com](mailto:laserscanner.support@ca.abb.com).

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