RADAR LEVEL MEASUREMENT OPTIMIZES INVENTORY MANAGEMENT AND PERSONNEL SAFETY IN CEMENT PLANT

Customer

Holcim Group (Poland)

Application

Sand tanks in cement plant

Challenge

At Holcim, they are global leaders in innovative and sustainable building solutions. Their construction products and raw materials are carefully chosen to minimize carbon impact, and once sourced, they are stored in tanks or silos at their own facilities. To produce cement, they use sand that is furnaced and heated to 176–194 °F (80–90 °C) in storage tanks under harsh conditions, including very dusty atmospheres. These conditions caused issues with the measurement instrumentation they were using before installing Rosemount™ Level Measurement Technology. The challenges the plant faced included:

- **Unreliable Measurements and Lack of Real-time Data:** The previous measurement instrumentation delivered inconsistent measurements due to the nature of the product, and the dusty atmosphere. This hindered the acquisition of complete inventory insights and prevented effective planning to avoid out-of-stock situations. Additionally, the use of unreliable measurement technology increased the plant's maintenance operations, making their operations more expensive and decreasing the productivity of their assets and personnel.

- **Manual Operations and Poor Personnel Safety:** The lack of reliable measurements made it difficult for the manufacturer to know the exact levels of product inside the tanks. This required operators to perform manual checks, posing a danger to personnel due to the extreme conditions of the product.

Results

- Reduced operational costs thanks to real-time data on product levels and the implementation of effective inventory management.

- Enhanced personnel safety due to the elimination of manual rounds.

- Increased savings thanks to the reduction of maintenance costs and logistics.

Image 1. *Rosemount 5408 Non-Contacting Radar Level Transmitter installed on top of the sand tank*

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RADAR LEVEL MEASUREMENT OPTIMIZES INVENTORY MANAGEMENT AND PERSONNEL SAFETY IN CEMENT PLANT

Solution

The plant installed the Rosemount 5408 Non-Contacting Radar Level Transmitter on a vessel with a capacity of 60 m³, to measure the level of hot sand used in cement production. Non-contacting radar technology provides great measurement accuracy and reliability in solids applications without coming into contact with the media inside the tank, making the measurements unaffected by temperature changes or the presence of dust in the air. This enabled the facility to virtually eliminate maintenance tasks from their schedules, save money, and relieve operators from the burden of performing daily manual rounds, thereby enhancing personnel safety.

Thanks to Smart Echo Supervision™ signal processing, the Rosemount 5408 Level Transmitter identifies all elements inside the tank and automatically distinguishes the product surface that needs to be tracked, disregarding other elements such as walls or internal pipes. This allowed the customer to obtain accurate and reliable level measurements without requiring deflector plates or nozzle relocation. With the insights and real-time data provided by the Rosemount 5408, the customer can have a complete overview of their stock and take necessary actions without the need for manual rounds. Additionally, the Rosemount 5408 features dual port technology that increases signal strength, directly translating into improved reliability.

> *Thanks to non-contacting radar with fast reading we reduced maintenance time. This bring us a real savings. It perfectly meets our new project called "Plant of the Tomorrow" we want to go in worldwide.*

Tadeusz Ziencikiewicz
Automation Department Manager

Image 2. *With Smart Echo Supervision technology, the Rosemount 5408 Level Transmitter identifies all elements inside the tank and automatically distinguishes the product surface that needs to be tracked*

Resources

Rosemount 5408 Non-Contacting Radar Level Transmitter
Emerson.com/Rosemount5408

For more information,visit
Emerson.com/Rosemount5408

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