
WARRINGTON, UK, NOVEMBER 21, 2008

Lafarge Cement achieves perfect reliability with ABB drives

The UK's biggest cement manufacturer has achieved 100% reliability of its cement kiln pre-heater fans, following the installation of two 1.8 MW ABB drives.

Lafarge Cement's plant at Hope in Derbyshire produces 1.2 million tonnes of cement a year. The plant was suffering reliability problems on the pre-heaters due to the obsolete slip-ring motors and control system used to drive the fans. Unscheduled stoppages were affecting the company's ability to meet its production targets. Many of these problems were caused by dust ingress due to the location of the drive equipment. Additionally, the fans needed 1.8 MW to reach the required output but the slip-ring motors could only supply 1.6 MW, resulting in the process failing to reach its designed airflow.

Mark Bramley, electrical engineer for the Hope plant, says: "The original drive suppliers were now unable to give Lafarge reliable support for the equipment due to its age and lack of trained engineers, this left the Works' engineering team with sole responsibility for problem solving on the drive."

Lafarge decided to find a replacement for the two slip-ring motors, one for each of the company's pre-heaters, and asked ABB to tender. ABB, a preferred supplier, won the contract. "We had knowledge of ABB's drives from our plant in Le Havre and so had built up a good relationship with the company. A new position was established for the drive equipment to reduce the dust problems and Lafarge worked closely with ABB to minimise installation time and potential problems," says Bramley.

Two 1.8 MW ACS1000 medium voltage drives from ABB were proposed to meet Lafarge's needs. Jon Clews of ABB says: "We proposed medium voltage drives because of the distance from the drives to the motors, some 200 metres, for a number of reasons. Volt drop is less of a problem at medium voltage levels and with the output waveform of the ACS1000 being sinusoidal, voltage reflections do not occur. At low voltage, the cable would have a larger diameter, adding expense and weight and also making the cables more difficult to route. With medium voltage drives, these problems are significantly reduced."

ABB also supplied ABB HXR high voltage motors, which include seals on the bearings designed to prevent the ingress of dust.

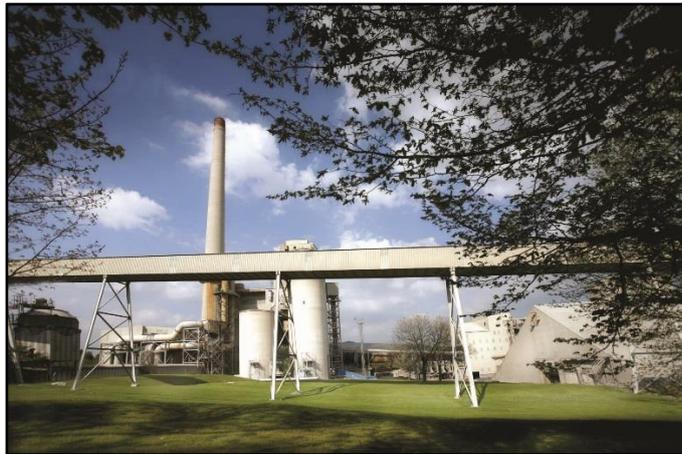
Another measure designed to counter the dusty atmosphere was the provision by ABB of containers to house the equipment. Based on a similar design to shipping containers, they incorporate a ventilation system, heating and lighting, with the drives pre-mounted and pre-wired to save time on site.

One enclosure houses the drives, another the transformer. Because the transformer is an oil-filled type, this container incorporates a bund well which is capable of containing leaks and preventing oil from contaminating the environment of the Peak District National Park.

As well as reliability, the ABB drives also give Lafarge better control of the speed of the pre-heater fans: "With the old system, we were always limited by the turndown range. The drives could only run down to around 475 rpm. The ABB drives can run at 100 rpm, which is useful as we can start the fans before we need them without affecting our kiln warm up procedures. This allows the engineers to check the operation of the running fan and reduces the operators work load during the critical initial kiln feeding procedure when the fan speed is increased to 600 rpm."

The ABB drives have achieved 100% reliability, with the first one operating without fail since November 2006. Bramley sees the installation of the ABB drives as a considerable step forward in reducing downtime and helping Hope Works to meet its production targets. “One of the good things about choosing ABB to supply the drives is that we are now with a company that can support us and continue to provide maintenance as part of the contract,” concludes Bramley.

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 147,000 employees. www.abb.com



Caption: The UK’s biggest cement manufacturer has achieved 100% reliability of its cement kiln pre-heater fans, following the installation of two 1.8 MW ABB drives.

—
For more information please contact:

Layla Hewitt
Marketing Communications
Phone: 01925 741517
Email: layla.hewitt@gb.abb.com

ABB Ltd.
Daresbury Park
Daresbury
Warrington WA4 4BT

Emma Jenkinson
Armitage Communications
Phone 020 8667 2218
Email: emma.jenkinson@armitage-comms.co.uk