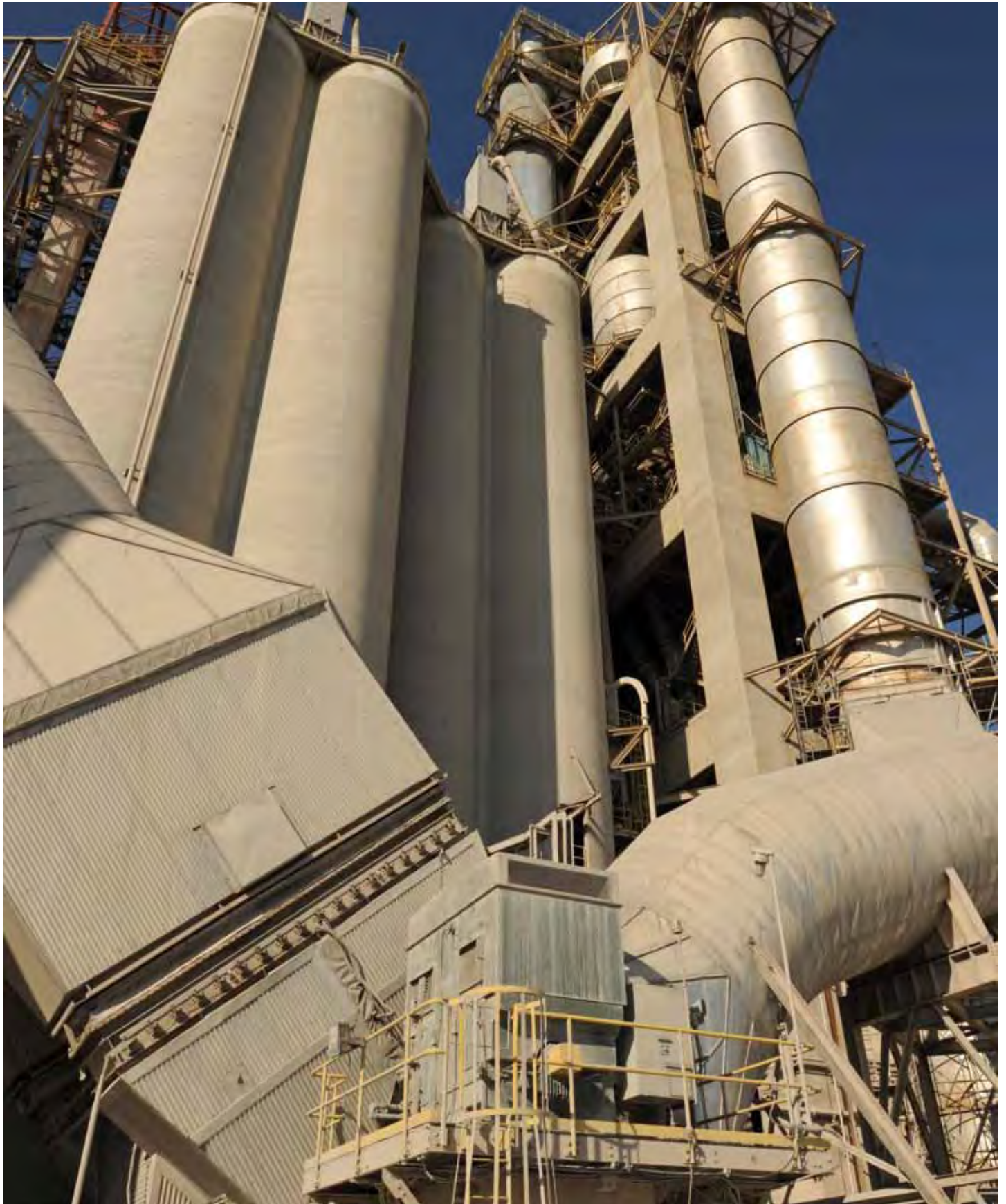


Baldor•Reliance®
Large AC Motors
Installed Ten Years Ago
at Holcim's Holly Hill Plant
Continue to Provide
Reliable Performance





This 2,700 HP WPII Baldor•Reliance motor operates the main bag house dust collector. The captured particulates are recycled back into the cement-making process.



An 800 HP Baldor•Reliance TEFC (blower assist cooled) motor is used on the coal mill drive that grinds the coal used to fire the kiln.

Holcim (US) Inc. is a subsidiary of Holcim Ltd and one of the nation's leading manufacturers and suppliers of cement. The company operates 12 manufacturing plants in the United States, including the facility in Holly Hill, South Carolina.

Cement has been produced at this location since 1966, but a little over 10 years ago, work began to construct a new energy-efficient plant on the Holly Hill site.

In addition to increasing the plant's overall efficiency, the company built the new plant with reliability in mind in order to reduce maintenance costs. The new mill is twice the size of the old facility with a capacity of 2.2 million metric tons per year.

Because large AC motors are used in the most critical applications, company officials chose to install Baldor•Reliance large AC motors. After more than nine years in operation, the team that's responsible for keeping the plant up and running says the company made the right choice.

Both Allen Davis and David Berry, electrical instrumentation technicians, worked at the old plant and helped commission the new facility. Davis says maintenance costs were high at the old plant because of constantly failing motors. But over the past 10 years, that hasn't been the case because the Baldor•Reliance motors have been reliable.

"We routinely test our large AC motors, and I've been impressed with the results," says Davis. "When we meg these motors, we see very high resistance, which is good because we know we don't have to worry about the motors shorting out. I'm very pleased with these motors because they just run and run, and we sleep better knowing these motors test well."



The dilution air fan is powered by a 700 HP WPPI Baldor•Reliance motor. This fan pulls heat from the clinker cooler to help dry raw materials in the raw mill using the hot gas generator.

Another aspect of their motor preventive-maintenance program is vibration analysis. Berry says monitoring and trending vibration helps identify potential problems, particularly with the rotor or stator, so corrective actions can be taken before failure. Considered a key indicator of health, the tests show the large AC motors throughout the plant are running well.

“Because vibration can tell you so much, we have brought in an outside third party to conduct on-line testing,” says Berry. “We have not seen any issues that would lead us to believe any of these motors need anything other than routine attention. I can’t think of anything that we have uncovered by doing this testing – and that’s a good thing.”



Baldor•Dodge® Sleeveoil® RTL hydrodynamic bearings can be found on fan applications throughout the Holly Hill plant. This bearing is an ideal choice because the liner design offers excellent radial and thrust load capacities and exceptional bearing life with minimal maintenance. This standard water-cooled unit is premachined for thermocouples, a vibration sensor, circulating oil and auxiliary seals to allow for monitoring and extra protection. Plant reliability engineer Enrique Reyes says that there have never been any issues with these bearings and that they only require maintenance once per year to drain and replace a small amount of oil. He says he doesn’t really worry about these bearings because they have never caused him any problems.

“These motors are so dependable the repair people no longer get any work from us, and that’s a very good thing.”

Allen Davis,
electrical instrumentation technician,
Holcim Holly Hill plant



The kiln-induced draft (ID) fan is powered by a 5,000 HP WPII Baldor•Reliance large AC motor. The ID fan is a central element in the clinker production process as raw meal is fed into the kiln and sintered.

Throughout the facility you’ll find Baldor•Reliance large AC motors, ranging from 400 HP all the way to 5,000 HP, running critical applications. Because the plant is not designed for backup, losing any one of these motors would be catastrophic. But after more than nine years of trouble-free performance, Berry believes these motors are built to last.

“It may be hard to believe, but we haven’t had any problems with our large AC motors,” says Berry. “I know a lot of thought went into the selection of motors for our new plant, and today we can say they chose a good product. These big motors are very reliable, and by maintaining them the way we do, they will last for a very long time.”

For Davis, it's also clear the right motor selection was made and credits its performance to quality windings and superior insulation systems. Davis says he and Berry remember the old days when they chased motors to keep the

plant running, but he's happy to report that those days are long gone.

"There was a time when motor repair people lived at our plant," says Davis. "A motor shop guy still stops by each

week asking if we have any motors to be repaired, and it's a blessing for me to tell him no. These motors are so dependable the repair people no longer get any work from us, and that's a very good thing."



A Baldor•Reliance 1,200 HP WPII (blower assist cooled) motor rotates the kiln about one to three revolutions per minute. Raw meal in the kiln is heated to about 2,700 F to produce clinker, which is then cooled and ground into the gray powder known as Portland Cement.