



IMPERIAL SUGAR RECOGNIZES CHILWORTH'S HELP AS A SAFER PORT WENTWORTH PLANT RISES FROM THE ASHES

Following an industrial accident in February 2008, Port Wentworth began rebuilding the refinery using state-of-the-art technology. As sugar is conveyed into the silos for curing and storage starting in mid-January, Port Wentworth sends an important message to its customers: We're back. Established in 1986 to provide a comprehensive source for process safety advice, Chilworth Global is recognised today as a worldwide provider of expert knowledge and quality test data to the process industry. Chilworth has international consulting bases in the UK, Ireland, France, the Netherlands, Italy, Spain, USA and India, with material testing laboratories in Southampton, UK and Plainsboro, USA.

With the dawn of a new year, the final piece of the extensive rebuild project at Imperial Sugar's Port Wentworth refinery has been completed successfully. Three new 156-foot-tall sugar silos have become fully operational.

"The silos are the last big piece to go online," explains [Brian Harrison](#), vice president of sugar technology. "They allow us to ramp the facility up to full production again."

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Each of the three silos has a storage capacity of 6.5 million pounds of sugar, or 19.5 million

pounds total — 3 million more pounds than the former silos held. All sugar begins its curing journey in the primary conditioning silo, where dehumidified air is percolated through the silo for 24 hours and where a dust-collection system removes dust. Then the sugar moves to one of the other two silos where it sits in storage before moving to packaging or to the bulk station for distribution.



Imperial's Brian Wilson

Safety features will play a starring role as the silos make

their debut. "What's different about these silos is that we've added major safety measures that we didn't have previously," says Project Engineer Scott Hall.

Before construction began in late 2008, Imperial Sugar Company consulted Chilworth Global to learn about best safety practices. Chilworth made recommendations to make the Port Wentworth silos more advanced and sophisticated than any others in the industry.

For example, each of the silos has 56 pressure-relief vents. If there ever were an explosion, the vents would open, allowing pressure to release through the silo's concrete-and-steel roof.

Another feature you won't find on any other sugar-refinery silos, according to Hall, is a dense-phase system for conveying sugar through the silos. The advanced system uses high-

pressure air to pump sugar within pipes at a rate of 225 tons per hour, as opposed to using belt conveyors, screw conveyors or bucket elevators.

“It’s safer because you don’t have any internal mechanical moving parts. There’s no equipment that could create a spark,” explains Hall.

For Hall, who’s worked at the refinery for 20 years, there’s a sense of excitement. “We’ll be pumping sugar through those pipes 175 feet up from ground level. That’s totally new to us. And it will be exciting to see it work for the first time.”



Chilworth Global is delighted to have worked with Port Wentworth so closely on such a high-profile project which has made this site one of the safest in the UK.

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