

New Wales Replaces IPA Tower

Through joint efforts of the Mosaic/Central Maintenance and Welding Inc. (CMW) turnaround team, CMW succeeded in replacing the existing IPA acid tower at the New Wales Phosphate Complex with a new MECS Inc. designed tower.

"We were experiencing maintenance issues with our 30-year-old brick tower; grout and bricks were failing," John Alexander, Mosaic Projects Manager, New Wales Phosphate Complex, said. "We chose ZeCor® for the new tower. This relatively new alloy has proven to have low corrosion rates and the new alloy tower can be built more quickly than the old mild steel/brick lined tower design."

New Wales process engineer Jim Dougherty added, "This full ZeCor tower is the final phase of Mosaic's ZeCor test development program that began with the installation of a distribution header, troughs and an inlet pipe in a drying tower in 2001. The second phase installed in the more severe service of an IPA tower included distribution troughs, header and outlet pipe in New Wales' first IPA tower replacement in 2003.

"Operational experience with these test locations provided Mosaic operations, maintenance and engineering management personnel with the confidence to go to a complete ZeCor tower with this second IPA tower replacement in 2007," he added

"The ZeCor tower can be replaced during a normal shutdown," John Horne of MECS Inc., said "and repairs, if needed, are easier to make on a metal tower."

During the planning and scheduling phase it was decided to prefabricate portions of the new tower into assemblies at Central's fabrication facility located within a few miles of the New Wales plant, and then assemble the tower into two larger assemblies during the pre-turnaround stag-

es of the project in order to expedite the execution phase.

Coordination of the project included staff personnel from the engineering, maintenance, operations, and CMW planning departments.

The tower replacement was actually a small portion of the turnaround, one of the largest in New Wales history. The duration of the tower replacement was intentionally extended to allow proper workflow of critical path work (new converter replacement) and other smaller activities that were being performed in the same area.

Original "sulfur to sulfur" schedule of turnaround was Jan. 6 to Feb. 2, 2007. The actual "sulfur on" date turned out to be Jan. 31, marking the turnaround as an overall success.

"Although MECS was the designer and supplier of proprietary products, Central Maintenance was the installer and they did their usual great job," Horne said.

"The plant is making design production rate following the turnaround and the tower is performing very well," Alexander added. □



Standing in front of Mosaic's New Wales facility new IPA tower is John Alexander, left, projects manager and Jim Dougherty, process engineer.



Portions of tower section removal



Portions of tower section removal



Lower portion of tower removal.



Lower portion of tower removal.



Lower tower section being set in place.



Rigging upper section for placement



Lower tower section being set in place.



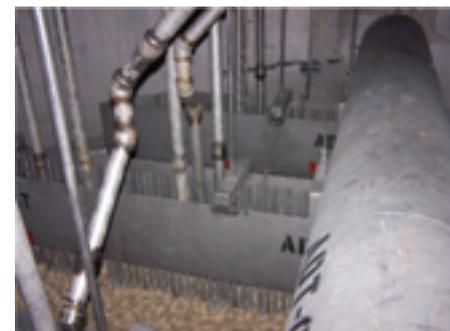
Setting upper section of tower.



Internal candle drains at the distribution level.



Candles installed in candlesheet



Portion of new distribution assembly



Internal packing support beam installation