Metals

AUTOMATION
case study

Control Techniques Awarded South African steel contract

Control Techniques (Pty) SA have recently been awarded a contract by a South African company, Columbus Stainless (Pty) Ltd in Middelburg, Mpumalanga Province. Columbus Stainless is South Africa's only producer of stainless steel flat products and the Middelburg plant, situated in the 'Heartland of the Ndebele,' is a technologically-advanced, fully-integrated, single-site operation that has the flexibility to adjust quickly to market changes. Some of their products are for domestic consumption, while the remainder are exported throughout the world.

The Challenge

Columbus Stainless's first requirement was for a communications link between the drives and their existing GEM 80 plant PLC. Control Techniques South Africa worked in conjunction with Converteam Ltd of Rugby in the UK, who were able to provide the HPCi interface PLC between the GEM 80 and the Profibus network for the drives. The contract was to supply the controls for the new bridle and transport drives at the entry section of one of their anneal and pickling lines. This contract is the largest of a number of projects where Control Techniques drives are replacing older drives and a total of 19 drives have been supplied for the new entry section.

The Solution

The drive system panel suite was designed, built and commissioned by Control Techniques (Pty) SA at their Drive Center in Kya Sands. The scope of the system is to control 16 wringer roll motors, each 7.4 HP (5.5 kW), 4-pole, 525 volt geared motors, plus two 147 HP (110 kW), 525 volt bridle motors and a 40 HP (30 kW) exhaust fan. Each of the ringer roll motors is controlled by a 10 HP (7.5 kW) panel- mounted Unidrive AC drive and the larger bridle motors have 147.5 HP (110 kW) Unidrive modular drives with regenerative mode for accuracy of tension control and maximum efficiency saving. Each drive is fitted with additional specialist modules for Profibus communications, as well as a powerful second processor module for distributed control.

The Benefits

Columbus Stainless were also pleased with the flexibility of operation of the Unidrive AC drives, with their parameter selectable multi-mode operation, the high level of localized programming using the plug-in second processor Application module and the ease of drive/processor programming using software and the high-speed CT-Net network. Control Techniques provided close engineering support and advice throughout this process, including detailed training of maintenance staff.

KEY BENEFITS

- Flexibility of operation
- High level localized programming
- Regenerative mode
- Profibus communications
- Accurate tension control
- Maximum efficiency savings

CONTROL TECHNIQUES™

Nidec
All for dreams

CS 0115-136 - 02/18