Aluminum Hot Mill

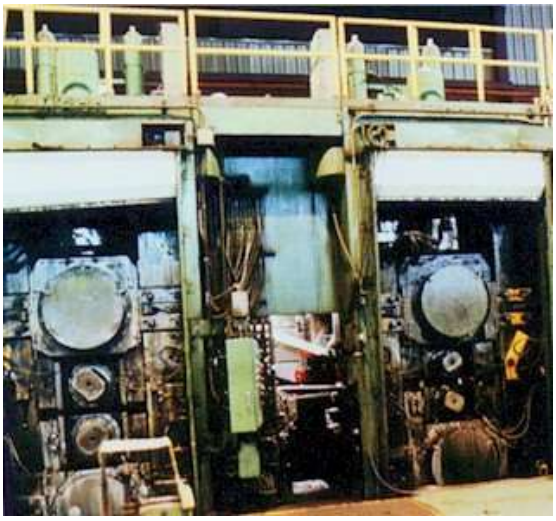
A Metals Case Study

The Application

A large aluminum manufacturer was struggling to maintain the obsolete control equipment on their only hot mill. The mill, which normally produces over a million pounds of aluminum per day, experienced two weeks of down-time during the summer because of breakdowns related to this equipment. A new control system was needed to provide dependable operation and minimal disruption to production during installation.

The PCT Solution

PCT was asked to design, program, assemble, and install a new system for control of the mill drives, winders, and shear, as well as providing a Level 2 gauge control system. The PCT control system utilized new digital control boards connected to the existing mill drive SCRs, thereby leaving the high current components (SCR stacks, bus work, and overcurrent protection) in place. Modifications of the system included the following:



- New ControlLogix control system and I/O
- Standalone regulator (PowerFlex DC SARs) for control of the existing mill drive SCRs
- New drives for the entry and exit pinch rolls
- New drive and motion controller for control of the shear
- Development of new operator interface
- Design and supply of a new computer room and mezzanine
- Design and assembly of a new operator console for the existing pulpit
- Programming of the communications interface to the Level 2 system

The PCT Solution

The control system's design, and the fact that new standard parts are easily reordered instead of having to be custom built, greatly reduced the cost of the new equipment and allowed more efficient maintenance of the equipment.

PCT scheduled on-site project work around the customer's scheduled shutdowns to reduce the impact on production. The entire upgrade was completed during two separate two-week outages.

Within weeks of PCT's completion of the project, the customer sets a record for continuous operation of the mill.