BAR MILL MASTER REFERENCE SYSTEM UPGRADE

Process: Sixteen stand continuous bar mill with two shears

Scope: Design, supply and commission rolling mill speed control system including: Mill set-up server, dual HMI control and monitoring system, PLC based speed reference generation and control, cut to length, loop control and tension control systems.

Approach: Develop low cost solution to mill speed control. Apply switch-over control scheme. Connect new system inputs in parallel to existing (shadow existing operations). Control outputs by either system through an instant switch-over.

Benefits: Minimum interruption to production, improved mill set-up and operator interface, ease of maintenance, low cost implementation.
## Technical details

**PLC:** Schneider Quantum  
**Qty:** 1  
**Discrete I/O's:** 350  
**Analog I/O's:** 40  
**H.S. counters:** 20  
**Networks:** Remote I/O, Modbus Plus, Ethernet  
**Features:** Cascade/Individual speed control, Speed droop compensation, Tension control, Loop control, Head and Tail tracking, Shears cut to length control

**HMI:** Iconics with OPC server  
**Qty:** 3  
**Hardware:** PC based stations, one with two 15" flat screens and one with 21" monitor  
**Network:** Modbus Plus, Ethernet  
**Features:** Mill Configuration, Mill Set-up, Process Monitoring, Process Control, Alarms, Trending, Delay logging

**SET-UP SERVER:** Microsoft Access data base  
**Qty:** 1  
**Hardware:** PC based station, 21" monitor  
**Network:** Ethernet  
**Features:** Set up schedules for 700 products. Each schedule includes: stand configurations, reductions, groove factors, loop heights, tensions, roll gaps, shears lead speed, head crop, tail crop, divide length