

Mycron Steel cold rolling mill

Complete automation and drives upgrade to help maximize plant efficiency at minimal cost



The quality of cold rolled flat products is a decisive factor for the metals industry. The ABB solution offers advanced solutions for quality supervision, identify opportunity to upgrade and analysis to meet cold rolled steels needs in terms of thickness tolerances, flatness and surface characteristics

ABB has been appointed as contractor for the delivery of complete automation and drive system upgrade of Mycron Steel. The objective is to upgrade the obsolete automation and drive system that has been operating for more than 25 years. ABB also replaced Mycron Steel's force motor valve for cold rolling mill roll gap control with the latest servo valve system. Continuing production with an obsolete automation and drive system is done with great risk of component failure.

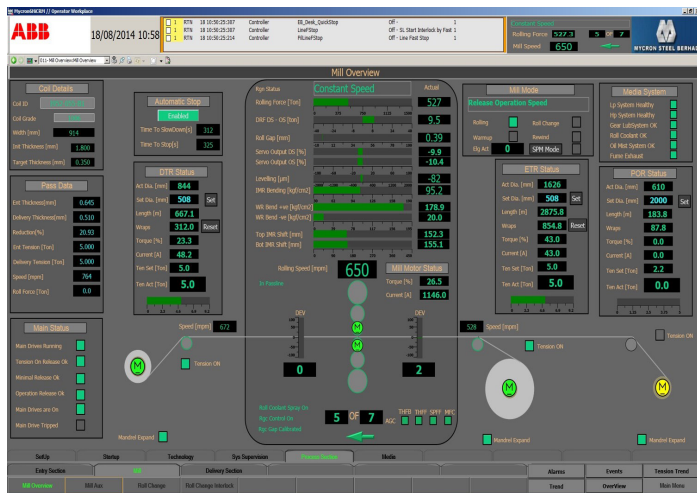
In this project, ABB made a complete review of the system in order to identify upgrade opportunities with greatest ROI and suggested an evolution path that will increase plant productivity and efficiency. To achieve continuous improvement while retaining productive assets, ABB reused as many existing components from the mill as as

possible and only replaced the obsolete components. The result was reduced project cost and downtime. Such cost-efficient and low-risk evolution is ideal for manufacturers with a mix of systems at each production site.

ABB solution

ABB supplies a full range of products from reliable instrumentation and control systems, advanced drive technology and power management through to forward-looking technological control solutions for specific functions and turnkey projects, including tailor-made solutions for greenfield projects and revamps, full scope of electrical and automation equipment 'made by ABB' from drives through to production management via process automation, centers of excellence with experienced engineers in many countries, and worldwide service structure for products and field services.

With Mycron Steel, ABB's scope of supply included comprehensive upgrade of automation and drive system, as well as related engineering, commissioning and other services. ABB has delivered AC800PEC controller and S800 remote I/O to upgrade existing automation system.



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All automation panels and all control cables were reused reducing shutdown time and cost for the customer. ABB also offered a DCS800 rebuild kit solution to upgrade existing drives and reused all electrical components, including drives power and control cables. A special adapter plate was also prepared to replace the force motor valve with moog servo valve. This arrangement enabled the replacement of valves with minimal changes in the hydraulic system.

ABB concluded the upgrade of complete automation and drive systems within the customer target of fifteen days at which point Mycron Steel's cold rolling mill was able to resume production of commercial coils.

Result

ABB received a significant system and services order from the mill. Importantly, this order improved ABB's ability to position the company as the key contractor in metals industry.

- Ability to significantly upgraded the Mycron Steel cold rolling mill in only fifteen days shutdown
- Confidence that the customer will achieve better performance
- Capacity to offer services that provide added value and differentiate ABB

Customers benefits

- Gauge tolerance has been significantly improved with the latest control system and advance cold rolling technology from ABB
- The mill maximum operation speed has been increased from 600 mpm to 800 mpm
- The additional speed increase has helped Mycron to increase their production
- The advanced technology and state-of-the-art diagnostic system has helped the customer to analyze and effectivize mill performance.