

## Plant-wide life extension at industry-leading steel plant OEM refurbishment program improves productivity throughout facility

### Results

#### Improved profitability

- Avoided \$2.5 million estimated cost of buying new drives for mill

#### Increased uptime and productivity

Reduced cost of downtime from power supply failures

- \$200K annual estimated savings

#### Extended life-cycle of Siltron drives

- 70+ drives refurbished to OEM specifications
- GE parts-and-repair support

*"With the refurbishment program, our up-front costs have been more than justified by the reduced downtime and overall cost savings."*

— Master Integrated Technician, U.S. based steel plant

### Extending Life of Siltron Drives Saves Millions Original need to reduce power failures on aging units restores OEM performance to over 70 drives

A global leader in friction management and power transmission with headquarters in the U.S. Northeast, this company invests nearly \$77.5 million annually to develop new products and improve the quality and efficiency of their manufacturing processes.

Their tradition of innovation has continued for over a hundred years—and today their steel and component manufacturing operations draw upon worldwide research facilities in the United States, Europe, and India. This plant produces specialty carbon and alloy steels from liquid metal that is melted and refined at the site.



It was at this steel plant that the company began experiencing repeated power supply failures with some of their Siltron drives. The 72 GE Siltron drives installed at the plant are located from the first point where the steel enters the mill to the very last point where it is shipped to a finishing location. The drives' average age is over 20 years, and mill uptime is dependent upon their reliability.

### Plant-Wide Plan of Action

With an average downtime cost of \$12,000 per hour per drive, and a failure rate at 2-3 parts failures per month, plant management had to make a decision. Could they rely on the *existing* GE drives as the backbone of their mill for the long term? Or did they need to budget \$2.5 million to install *new* drives throughout the mill?

With these questions in mind, the plant's Master Integrated Technician consulted with GE Industrial Services Drives & Controls team, based in Louisville, Kentucky. Of key concern was the level of parts and service support that GE could offer for the aging drives.

Working with the plant's team, GE's specialists conducted a parts plan review which determined that while the aged power system components of the drives were the direct cause of the drive failures—*instead of budgeting for new drives, the plant could have all 72 existing drives refurbished.*



# case study



## Customized Schedule and Solution

GE's Louisville Parts & Repair team developed a plan to proactively refurbish all 72 power supplies without interrupting the mill's operation.

The GE team provided the plant with six seed Siltron power supplies they could use for the duration of the project. In turn, each month, the steel plant's team shipped six of their Siltron power supplies to the GE's Louisville repair center for refurbishment, resulting in:

- **Extended life cycle.** GE cleaned, tested and repaired six power supplies each month and replaced the capacitors/diodes.
- **Entire line refurbished.** By using a phased approach to implement the repairs, GE restored all 72 Siltron drives to OEM quality in just 12 months.
- **Dramatic cost savings.** The steel plant avoided costs of approximately \$2.5 million that otherwise would have been spent on new power systems for the plant.

## Continued Reliability and Support

The OEM reliability that was restored to the Siltron drives by GE's Life Cycle Extension program has encouraged the plant's management to continue updating plant equipment.

Since completion of this first successful project, the company and GE have begun another program to refurbish the field exciter cards associated with the Siltron drives—and GE also has started to refurbish an additional group of power supply cards.

*"In the past, we had sent normal GRE repairs to a third party, but after many failed attempts and many hours of expensive downtime, we began to look at sending our repairs directly to GE..."*

*The working relationship has been excellent. It has made our job easier and we can rest assured that the parts we install can be trusted not to fail."*

— Master Integrated Technician, large U.S. steel plant



For more information about GE Industrial Services and our Drives and Controls offerings, contact your GE representative.