

Hussey Copper: F31 Annealing and Pickling Line Retrofit

Legacy control system modernization in 17 days — zero downtime since commissioning

Metals and Heavy Manufacturing

THE CHALLENGE

Hussey Copper's F31 line was controlled by a 1990-era Automax PLC system with five aging operator stations. Frequent communication failures across I/O drops, obsolete hardware with no available spare parts, and unpredictable shutdowns - sometimes requiring up to eight hours to recover - had made the system a compounding production liability.

- Frequent I/O communication failures disrupt production
- Obsolete hardware with no viable spare parts pipeline
- Unpredictable shutdowns cause up to 8 hours of downtime per incident
- Limited flexibility to modify or improve control logic

THE SOLUTION

PLC Upgrade

Replaced dual Automax PLCs with a Siemens S7 1500, with long-term vendor support and open architecture

HMI Modernization

Upgraded five operator stations including two Siemens Unified HMIs with real-time defect visibility

Distributed I/O

Six new remote I/O panels installed for distributed control and improved system reliability

Encoder Upgrade

Replaced legacy resolvers with Profinet absolute encoders for improved position accuracy

BY THE NUMBERS

17

Days from demolition to commissioning — start to finish

Zero

Unplanned control-related downtime since January 2025

8 hrs

Maximum downtime per incident eliminated

RESULTS

- Zero control failures since commissioning in January 2025
- Real-time defect visibility including remote monitoring capability
- Simplified maintenance via standardized Siemens architecture
- Production continuity maintained throughout the full retrofit

TECHNOLOGY STACK

Siemens S7 - 1500

Siemens Unified HMI

Siemens DC Drive

Profinet Encoders

Remote I/O