

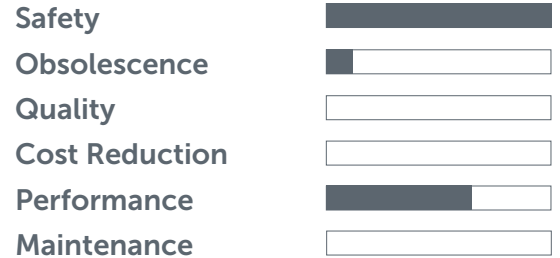
Safety Upgrade

TIP 2016-0006

Control System

Benefits:

- This improvement upgrades the existing control system to include a safety PLC and safety I/O to ensure that the equipment is placed in a safe operational mode to ensure operator safety in all operating conditions.



Revised Design

Original Design

Safety Upgrade

Machine Model for Improvement: All Zerand Cutters

Description of Improvement:

This improvement upgrades the existing control system of any line of equipment to ensure operator safety in all operating conditions. This upgrade will be designed to specifically integrate into each line separately to ensure that all motion is controlled to eliminate hazards due to unexpected motion. This upgrade may include enhancements to the drive system if safety control options can be added to the drives. In general, a safety PLC will control access to the hazards blocked by the safety guarding by adding locking safety guard switches, feedback to the operator on the safety status of the line, auditing of the safety system to ensure that all of the components can be verified, interfacing to existing drives and contactor controlled motors to inhibit motion and modification to the starting sequence of the line, if required, to sound an audible alarm and provide a grace period

Included in this TIP:

- All required parts
- Necessary engineering
- Updated documentation pages for relevant sections

Estimated downtime, no production:

- 10 days

Estimated startup, limited production:

- 3 day

Estimated monitoring in production:

- 2 day

Required manpower:

- 1 BW Papersystems Mechanical Field Service Engineer
- 1 Bw Papersystems Electrical Engineer
- Additional Assistance from Customers' Maintenance

(Additional local resources to be determined, if needed)

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