

Case Study: Machine Risk Assessment for Paper Plant



Quad Plus®



Risk assessment and safety recommendations for paper coating and converting customer reveals several hazards.

Objective

- Perform a Machine Risk Assessment.

Solutions

- Machine risk assessment performed and safety recommendation report delivered.
- Hazard analysis identified dangers associated with running the paper slitting equipment and in-floor conveyor equipment.
- Blue warning lights were installed and programmed to blink for 5 seconds before operation of the conveyor and to remain illuminated while the conveyor is in motion.

Results/Benefits

- Customer is very satisfied with this alternate solution as audible alarms would be ineffective in this environment due to several alarms and noise in the area.
- Management reported a considerable reduction in near-miss incidents.
- Crew reported an increase in comfort level when working in the conveyor area.
- The conveyor can now be run more frequently, allowing continual use of the slitting equipment with less downtime.
- This solution was then implemented in three other areas that utilize an in-floor conveyor.

Background

The Quad Plus team was called out to perform a machine risk assessment for this customer in the paper coating and converting industry. The evaluation identified several machine hazards associated with the paper-slitting equipment that were not properly addressed by the plant's machine safety plan.

Hazard identification by our machine safety consultants also revealed problems with the in-floor conveyor equipment used for material handling. The in-floor conveyor was identified as the primary concern as it posed a threat to both bystanders and operators. It occupied a large area and required a high number of activations during an average work shift.

Typical risk reduction measures would include audible alarms to warn operators interacting with the machine and bystanders. However, this area already had several audible alarms for other equipment, along with constant audible alarms from AGV robots. Therefore, an alternate solution was required.

Quad Plus Solution

The second-floor machine frame was used as a mounting point for blue warning lights, similar to those used for backup warnings on fork trucks. This provided a directional visual warning instead of an audible alarm that may get confused with other alarms and sounds. The lights were programmed to blink for five seconds before activation, and to remain illuminated above all active areas of the in-floor conveyor. This way, a clear indicator is given to operators and bystanders that the equipment is preparing to activate or already in motion.

The plant's management staff reported a considerable reduction in near-miss incidents centered around the in-floor conveyor. Support staff also reported an increase in comfort when crossing the in-floor conveyor area. Plus, the conveyor is now able to be run more frequently, requiring less time to manage rolls in the saddle area and allowing continual use of the slitting equipment with less downtime. This risk reduction solution was then implemented in three other areas that utilize an in-floor conveyor.