

# MODERNIZING MACHINE SAFETY WITH FUNCTIONAL SAFETY SYSTEMS

## Reducing Downtime with Enhanced Safety Systems

A manufacturer minimized downtime by implementing a safety system that isolates hazardous energy without halting operations, addressing complex safety needs.

### Hazard Identification and Risk Management

The manufacturer's facility presented multiple hazards, including exposure to ionizing radiation, high ozone levels, and complex mechanical systems.

To protect workers while maintaining operational flow, the team conducted a thorough risk assessment, evaluating the severity and frequency of potential dangers. This assessment helped create a robust safety strategy that could isolate hazardous energy and prevent dangerous motion without requiring complete machine shutdowns, ensuring that worker safety and productivity were both prioritized.

### Integrated Safety Solutions for Complex Hazards

The team incorporated programmable logic solvers to control selective machine shutdowns based on real-time risk levels. Multiple safety devices, such as E-Stops, safety mats, light curtains, and door monitoring hardware, were installed to prevent unauthorized entry and ensure workers remained clear of danger zones. A trapped key system further ensured that areas were secure before reactivating machinery.

This comprehensive setup addressed the specific hazards of radiation, high ozone, and moving machinery, enabling safe, efficient maintenance and minimizing operational downtime.

### Safer and More Efficient Operations

By integrating a functional safety system that accommodated complex hazards, the facility achieved a 25% reduction in deployment and validation time.

This approach not only improved safety but also optimized the efficiency of maintenance tasks, setting a new standard for safety management in high-risk manufacturing environments.

### KEY OUTCOMES

- Reduced downtime by 25% through streamlined safety protocols
- Enhanced worker protection against radiation, ozone exposure, and moving machinery
- Improved installation efficiency with comprehensive, integrated safety controls
- Minimized the number of terminations and reduced cabling needs

