



Case Study



Failure Modes, Effects and Criticality Analysis

The Client

Leading food manufacture Kraft Foods operates a factory in the southern suburbs of Chicago. Amongst the extensive range of Kraft products manufactured at the facility is a favoured soft drink mixing powder known as "Kool Aid(tm).

Although benign to the consumer, the manufacturing processes involved are particularly hostile to the equipment. The extremely small particles of product are abrasive, corrosive and adhere to any surface. Contamination of lubricants is a major issue. Preliminary studies indicated that the packaging areas of the factory was proving themselves as a hindrance in the overall effectiveness of the Chicago operations.

The Methodology

MCP Engineers visited Chicago to assess the situation and develop the strategies necessary to streamline the operation. It was obvious that the aging plant was in trouble and urgent strategies were needed. After exhaustive consultations with plant leaders an improvement strategy was developed to fast-track improvements. The plan included key elements such as:

- Key Equipment Identification
- Plantwide Criticality
- Operational Area Criticality
- Risk Assessments
- Operational Procedure Audits
- Failure Modes, Effects and Criticality Analysis
- Standard Operational Procedure (SOP) Reviews
- Maintenance Plan Reviews

Criticality sessions were carried out, involving personnel drawn from Maintenance and Operations. Once the "bottleneck" areas and individual Items of equipment were identified and intense FMECA workshops were held to determine cause, effects and solutions for line downtime. Due to the nature of the operation, Line Operators played a vital role in the workshops.

The Outcomes

The inherent problems of high-speed packaging lines was compounded by the nature of the industry. After many ineffective attempts with other methods the FMECA process, facilitated by MCP, gave real results. Working in conjunction with Kraft personnel, MCP Engineers were able to improve line availability by 12 percent. These values were directly attributable to Maintenance and Operational Procedure enhancements.

The benefits included:

- Streamlined Maintenance Strategies
- Operator Asset Care Programs
- Enhanced "Standard Operational Procedures"
- Critical Spare Parts Listing

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