

Refinery Unreliability Example

The Challenge:

Refinery unreliability was at a level where the unscheduled downtime of critical equipment was estimated to be 18.46 days in the first nine months of the year. This loss of availability in a sold out market is detrimental to the refineries bottom line and Reliability Center, Inc (RCI) was asked to investigate the high unreliability.

The Solution:

Opportunity Analyses (OA) was performed in the areas that experienced the most unscheduled downtime. The most significant problems exposed by the OA's were investigated using PROACT® Root Cause Analysis.

- All management was exposed to Reliability Concepts
- Ten site employees were trained as Root Cause Analysis (RCA) Lead Investigators
- RCI investigators facilitated the RCA's derived from the OA along with the site Lead Analyst

The Results:

- An additional line of high voltage supply was added
- Added electrical testing capable of detecting faults from the motor control center through the motor
- Added a steam trap leak elimination program
- Reduced steam pressure in the boiler
- Upgraded water softening equipment
- Added availability measurements in conjunction with Mean Time Between Failure (MTBF) and Mean Time To Restore (MTTR) measurements
- Hourly maintenance workers were trained in reading fractured material surfaces

The unscheduled downtime was reduced to an estimated 30% or 12.93 days along with overtime.