

Pump Coupling Failures

DE Leader: T. Christian
DE Team Members: H. Zahlee, K. Nate, S. James, H. Roy

Problem Statement:

There have been 20 Pump Coupling failures in the last 6 months, causing 113 hours of downtime for the Milling area of the Flaxton plant, resulting in a loss of plant availability and productive capacity, and an increase in maintenance costs.

Objective Statement:

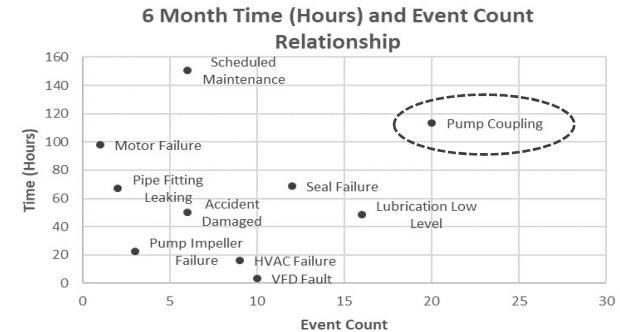
The DE Team will eliminate Pump Coupling failures for the Milling area of the Flaxton plant within the next 3 months.

Business Case:

The direct value lost in the last 6 months from Pump Coupling failures is \$180,000 in maintenance costs and \$22.6 million in productivity, which can be prevented from happening again by the elimination of this defect.

Defect History:

Pump Coupling failure has the highest event count and is the second highest contributor to downtime for the last 6 months.



Defect Causes and Solutions:

A Root Cause Analysis (RCA) was conducted and the following identified as the root causes:

1. Mechanic is not trained to use laser alignment tool
2. Mechanic believes straightedge is close enough
3. Alignment principles not understood
4. Laser alignment tool is broken
5. No consideration given for alignment during design

The solutions identified to eliminate the root causes of the defect are:

1. Develop a training and competency module that incorporates shaft alignment principles and uses laser alignment tools.
2. Repair laser alignment tooling and develop a program for calibration and upgrades based on the manufacturer's recommendations.
3. Review all projects currently in the design phase to ensure shaft alignment is considered to allow for movement of the component(s).

Improvement Verified:

Since implementing the solutions in mid-August, there have been no coupling failures in pumps in the Milling area of the Flaxton plant. The team will look for opportunities to share and replicate the improvement in other rotating equipment with couplings throughout the business.

