Uptime Awards

Best Maintenance Reliability Programs 2014

PolyOne Corporation



In 2011 PolyOne embarked on a journey to transform our operations through a program we termed the PolyOne Reliability Program (PRP). The goal of the program was to improve operational supply reliability to our customers through improved on time delivery and increased facility longevity while maintaining world class safety standards. In addition significant effort was placed on best practice sharing, increased operational equipment efficiency (OEE) and the reduction of maintenance related expenditures.

A strong business case was developed with executive leadership engagement that facilitated buy in throughout our organization, which at the time consisted of 46 sites. Through extensive benchmarking and utilization of Lean Six Sigma skills and resources we identified performance gaps and developed an implementation strategy to address them. The roll out plan, known at the "playbook", was in the form of waves, where a group of sites were brought together for one-week of training and then returned back to begin the transformation at their respective locations. Sites took ownership and responsibility for their implementation plan and were supported by corporate to ensure consistency and speed of execution.

In 2013 PolyOne added over 30 additional sites through a series of acquisitions. With the PRP wave implementation strategy and related action plan we have been able to quickly incorporate these new locations. We now have 55 sites implemented with 3 more waves planned within the next year that will result in the complete integration of our organization.

Results to date have been impressive and include:

- Best practice work processes for predictive, preventive and corrective work were consistently implemented across all sites with ongoing onsite PRP teams maintaining and improving maintenance practices after implementation
- Formation of a global steering committee that sets standards, manages progress, translates best practices and enhances processes
- Single CMMS implemented across all sites utilizing local languages (seven languages have been incorporated to date)
- Consistent application of PdM technologies – only two providers for all sites
- "Wave" implementation and training process aligned with Lean Six Sigma principles that has enabled the quick integration of recent acquisitions
- Individual site accountability for achieving specific and realistic improvement targets
- Business results that have exceeded expectations:
  - Annual maintenance spend reductions 20% over the original targets
  - Working capital reduction of over $1.5M (spare parts)
  - OEE improvement of 4% and increasing
  - Planned versus corrective work orders at 64% versus a starting point of below 45% for most sites
  - On time delivery reaching an all time high of 95.4%
  - Safety incident rate 9 time better than industry benchmark

CMMS used; EMaint X3 in user languages (Thai, Chinese, French, English, Hungarian, German, Spanish and Portuguese):

- 30 defined process flows to maintain standardized process globally for all users
- Standard requests and work management systems.
- Asset configured for BOM sequence, ECR and SAP interface
- PM systems; including PM matrix, automated and manual hours Import and Tasks Library
- Purchasing System with fully integrated into SAP for storeroom control, interfaced to Ariba, and Grainger Catalog system
- Full purchasing capabilities between different currencies and different countries
- Work Order creation from SEMEQ Diagnostic Reports and from local PLC's
- Global and local site reports
- Site and Global dashboard
- Project Module
- Mobile Solutions for Storeroom control and PM Hours collection
- Bar-coded Asset and Part Labeling for uniform identification

PdM Techniques and testing equipment used by SEMEQ and BpdM (China):

- Vibration collection and analysis - SMQ 604 Semeq manufactured 2 channel Vibration data collector and analyzer with balancing capabilities
- Semeq Proprietary Web-Based vibration analysis software with predictive analytics.
- Thermal Imager (Fluke TI 20 and TI 30)
- Ultrasound Air Leak Detector (SDT 170)
- Ultrasonic mechanical and Bearing detection (SDT 17)
- Oil Analysis Tests Performed (depending on lubricant type): TAN @40c, Water by Karl Fischer, Analytical Spectrometry, Particle Analysis, Ferreography, Viscosity
- Electrical Motor Circuit Analysis - (PDMA - MCE MAX)

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Best Emerging Maintenance Reliability Program