POINTS OF INTEREST



# Reestablishing a High-functioning Equipment Maintenance Program at a Naval Shipyard

## The Situation

This Naval Shipyard includes large shops, graving docks, warehouses and heavy equipment required to perform major repairs and modernization of naval ships. The Shipyard's heavy equipment includes power generators, welding machines, sandblast machinery, computer-driven machines, lathes and pipe benders. Some equipment is stationary within shops and some is portable. The Shipyard functions as a large job shop and seldom has reason to set up production lines for repeat manufacturing or repairs.

## The Challenges

During an organizational downsizing, the equipment maintenance shop was reduced by 70% without re-engineering the processes and management practices to ensure that the shop would continue to function adequately. After almost a decade of insufficient support and weak management practices, the remaining employees were frustrated and demoralized. The Shipyard equipment maintenance program had deteriorated to a non-functioning level. Equipment inventory was unknown, no PMs were being performed by the maintenance shop, there was no process control or oversight, and equipment was being run to failure. There was no accurate accounting for equipment operational status or potential impact on future productivity.

## The Approach

Life Cycle Engineering (LCE) partnered with the Shipyard to accomplish the following over an 18 month period:

- Process and structural re-engineering, guideline development and training
- Inventory update for large shop and portable ship support machinery
- Establishment of a technical library for heavy machinery manuals and drawings. The Shipyard continues to populate the library as they research and build maintenance plans for individual machines.
- Improved planning and scheduling processes and utilization management practices
- Implementation of kitting and other procurement and inventory processes
- Establishment of training and initiation of Reliability Engineering

In order to help the Shipyard build a functional maintenance program from scratch, LCE was integrally involved in facilitating the development of new processes, and leading and training shipyard employees.

## The Results

Maintenance Shop productivity improved significantly, as demonstrated by the following two examples:

- When planning and scheduling processes were first restarted, schedulers were only able to schedule 23% of the mechanics' time. As old PM strategies (now updated) and new Equipment Maintenance Plans were implemented, this number increased to 76%.
- Utilization (wrench time) for the Maintenance Shop improved from less than 15% to more than 30% in a two-year period.

At the end of the implementation project, utilization was increasing, maintenance plans were being implemented, an operator care program was being planned, and mid-managers were starting to respond to performance measures. Operating shops were starting to trust and contact the Maintenance Shop for maintenance needs as they reported seeing increased responsiveness and successful repairs. LCE's breadth of service and integrated systems approach was critical in helping this Shipyard reestablish a high-functioning equipment maintenance program.

**About LCE**

As a leading maintenance and reliability solution provider for over 30 years, Life Cycle Engineering (LCE) (www.LCE.com) helps public and private enterprise gain increased profitability through greater capacity, lower operational costs, and decreased downtime. By combining a range of industry experts, unique processes with proven success, and a comprehensive array of educational courses, LCE has gained reputable status as the premier provider of innovative and successfully executed reliability and maintenance solutions worldwide.