



**Client**  
Global Pharmaceutical  
Manufacturer

**Industry**  
Pharmaceuticals

## A Global Pharmaceutical Manufacturer Applies Risk-Based Asset Management to Improve a Filling Line's Reliability

A diversified, global healthcare leader produces vaccines and other injectables in one of its U.S. locations. A focus on equipment availability and uptime was a priority due to market demands and patient needs. The manufacturing facility reached out to LCE for help with improving utilization of maintenance time and resources in their aseptic filling area.

LCE's experts worked with the facility team to develop sustainable work processes for a specific filling line, using Risk-based Asset Management (RBAM®) best practices based on a phased approach that delivers step-change improvements in reliability.

LCE performed these process steps to improve the aseptic filling line's performance:

- Ensured assets were properly identified and classified in a functional hierarchy based on ISO 14224 standards.
- Performed a Failure Mode and Effects Analysis (FMEA) by defining assets and analyzing them to determine their failure modes and the impact or effect the failures have on the equipment, process, and/or business.
- Based on the specific failure modes of the equipment, determined what equipment specific maintenance plans needed to be developed/implemented to eliminate or mitigate the failure(s)  
This information was translated into an Equipment Maintenance Plan (EMP) that includes:
  - Specific work tasks
  - Frequency and duration of the tasks
  - Operational state of the equipment to complete the task (operating vs. shutdown)
  - Number of crafts or operators required to complete the task.
- From the EMP, developed work instructions detailing the maintenance tasks that enable the craftspeople to execute their job with materials, tools, and information in hand.



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- Loaded this information into the plant maintenance management system to ensure 1) tracking and trending of the asset performance and 2) the work orders/instructions can be properly scheduled, performed, and results recorded.
- The equipment-specific maintenance tasks also indicate the spare parts needed, information that can be incorporated into the client's existing bill of materials (BOM).

#### **About LCE**

[Life Cycle Engineering \(LCE\)](#) provides consulting, engineering, information technology and education solutions that deliver lasting results for private industry, the Department of Defense and other government organizations. The quality, expertise and dedication of our employees enable Life Cycle Engineering to serve as a trusted resource that helps people and organizations to achieve their full potential. Founded in 1976, LCE is a privately held, employee-owned company headquartered in Charleston, South Carolina with offices across North America and experience around the globe. Follow us on [LinkedIn](#), [Twitter](#) and [YouTube](#) for company updates.



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