NEXA | EAM Case Study (USA)

Global Pharmaceutical Facility

Reliability Services:
Maintenance Optimization

About Client

Our client is a global pharmaceutical company with a vaccine production facility located in Durham, NC.

Business Challenge

The client hired NEXA Reliability Engineers to provide additional resources to support a Maintenance Optimization through a corrective work order review on GMP equipment. The fast-track project was implemented to ensure compliance, and improve equipment reliability and uptime. The task involved locating all trending corrective work orders, which was defined as “three alike failures on any piece of equipment or functional location with a GMP non-critical or GMP critical status in the CMMS”.

Project Challenges

Given the large breadth of data and the lack of some critical details concerning work completed, the client needed a single source solution with the expertise to pull data from their CMMS to identify and correct the equipment from potential failure trends.

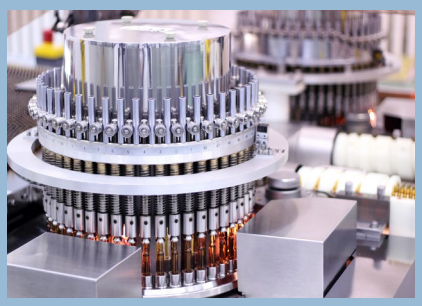
Scope of Work

The NEXA team provided Reliability, Maintenance & Spares, CMMS, and Quality & Compliance services; and partnered with the Client’s Maintenance, Operations, Asset Owner, Quality, and Automation departments to ensure consistency across the various stakeholder departments.

The work involved the review of the PMs for the concerned equipment to assess the Maintenance Items, Task Lists, and Bill of Materials (BOMs) built to the equipment, and the SOPs to check for accuracy and completeness as they related to operations. Recommendations were made to the client to implement necessary corrections on the augmentation of those PMs and SOPs, as well as identifying all pieces of equipment that did not have a BOMs built into the CMMS.

Key Results

- Reviewed 750 total functional locations and 2,302 total work orders – resulted in identifying 52 trending correctives.
- Produced corrective work orders to fix trending failures.
- Improved corrective work order information quality concerning operations and vendors.
- Revised material items to reflect appropriate tasks within task lists, and to reflect necessary material numbers.
- Revised SOPs to bridge gaps in operations training procedures.



NEXA | EAM Case Study (USA)

Global Pharmaceutical Facility

Reliability Engineering Support

About Client

Our customer is a global biopharmaceutical company with a site located in the Midwest, US, focused on animal health.

Business Challenge

The client's current reliability engineering support was being temporarily reassigned abroad, in addition to undergoing a large expansion that would require additional reliability engineering support.

Scope of Work

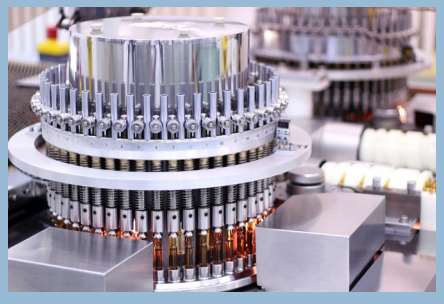
Having established a successful working relationship with our customer based on ongoing projects the NEXA team successfully completed, we were hired to provide reliability engineering support to ensure the safe and reliable performance of their equipment.

Work included:

- Installation of Predictive technologies
- Preventative Maintenance Strategies
- Optimized Work Instructions
- Development of High Energy Control Procedures
- Management of Safety Critical Devices

Key Results

- Improved equipment reliability through the implementation of PdM technologies, leading to improve equipment uptime and availability.
- Creation of High Energy Control Procedures (LOTO) to ensure the safety of all employees involved in operations and maintenance of assets.
- Key partner in the capital project team ensuring equipment reliability through the application of Design for Reliability principles.
- Management and coordination of the testing/inspections of all of the EHS critical equipment, ensuring the safety of all personnel and equipment.



NEXA | EAM Case Study (USA)

Biopharma Facility

Spare Parts Review –
Path to Lowering Mean Time To Repair

About Client

Our client, one of the largest pharmaceutical companies in the world, hired NEXA to perform a Spare Parts Review in high-risk departments.

Business Challenge

The client was targeting a reduction in Mean Time To Repair (MTTR) as part of a greater Overall Equipment Effectiveness (OEE) initiative. Parts were entered into the onsite stock room during Validation activities. However, if parts were not used in 24-months, they were eliminated from stock causing unavailability during repair. In addition, the client had limited internal resources to research parts, form vendor relationships, and proactively stock according to their needs. The client identified the lack of Spare Parts availability as a high-risk to Planned Production Time. Lastly, a loss of confidence in storeroom practices resulted in parts being held in desk drawers, toolboxes and electrical enclosures. This limited the availability of parts to only those who were aware of this ad-hoc retention process, and reduced visibility on actual stock levels.

Project Challenges

The Project involved equipment that had been identified as a potential bottleneck to production, therefore, the NEXA team needed to move quickly to resolve the issues. Much of the identified equipment was considered “legacy” (over 20 years old and up to 30 years of continued use), which meant documentation was also a challenge.

Upgrades that had been carried out by vendors, engineering, and maintenance had varying levels of documentation which needed to be resolved. Competing incentives between Engineering and Procurement (stores) for equipment uptime and cost reductions required careful attention and navigation. There was also a perception of minimal efficiency gains being achieved by the project when compared with the time investment required which limited initial participation by equipment SMEs.

Key Project Details

Project Type
Spare Parts Review – Targeted Production Areas of Concern

Location
Pennsylvania, USA

Project Costs
Confidential

Project Duration
4 Months (total)

Staff Assigned
Project Manager
Maintenance Engineers

Scope of Work

- Identification and development of updated equipment BOMs.
- Parts-To-Stock lists created from successful BOMs, after a review of past 10 years of Work Order Part Replacement Data coupled with Lead Time and Cost Data (Reliability Driven - Risk Based). Line by Line decisions on parts during Client Meetings used to create Parts-To-Stock lists.
- Parts-To-Stock provided in the correct Client format and conforming with Internal Storeroom Ordering Process expectations.
- Clearly identify the path to source both Parts-To-Stock and Bill of Materials with pricing, lead time and recommended vendor. Where custom parts require fabrication, an engineering vendor is tasked with providing a drawing to have quoted.
- All Lists and Documentation available during project for Engineering.

Results

Efficiency Benefits

- MTTR – Sourcing paths for parts were identified and often stocked. Parts on "not stocked" list were identified and a path to source confirmed and provided for future reference.
- Identification of previously unknown rebuild kits and/or rebuild vendors for many long lead parts, increasing choices for maintenance, and further reducing costs.
- Formed partnerships with Vendors to provide easier methods of contact and escalation for engineers seeking parts from out-of-scope equipment.
- "Squirrel Stock" in desk drawers and electrical enclosure bottoms is no longer necessary as confidence in Stock Room is restored.
- Having conducted previous projects across the client's network, the NEXA team had the knowledge and connections to ensure standardization in all work performed. We were able to provide a process, follow the process, and deliver results exceeding expectations.
- Example of Success: A legacy piece of glassware washroom equipment had >150 parts identified as Parts-To-Stock. 77 were already in Storeroom, but 40 of which were no longer able to be sourced by stockroom. Through the project these were sourced or in-kind was identified and sourced by project end, saving weeks of possible downtime for long lead parts.

Quality Improvements

- Single-sourcing provides clear BOMs, Parts-To-Stock Lists, and Data File Storage, by using the engineering department's own best practice filing locations and formats.
- Clear identification of correct parts in an easy to maintain format makes in-kind part use most likely.
- Standardization of Bill of Material formats from various vendor formats provides clear path to source of non-stocked parts in easy to recognize format.
- Cost of parts clearly communicated and available for review.
- Audits are less complicated and can provide evidence of just-in-time manufacture, by providing a clear and documented parts list with path to each part