Client Reference

Oil and Gas | Petrochemical Plant Equipment Maintenance Strategies (EMS)



Client Background

Development

Our client is a large petrochemical integrated manufacturing facility producing base and performance chemicals. It also produces electricity and other utilities and provides site support services to enable the manufacturing processes on-site.

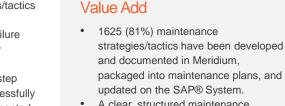
The project's scope was to develop equipment maintenance strategies in Meridium software for prioritised equipment, package maintenance plans, and ensure they are loaded onto the SAP® System for scheduled execution.

The maintenance strategies were developed for three business sub-hubs/sites comprising approximately 37,000 pieces of equipment. The target was to complete about 2000 strategies that could be copied to similar equipment for the remaining 37,000.

Strategy development followed a streamlined reliability-centred maintenance (sRCM) process, with each step outlined in an integrated definitions (IDEF) methodology. Each sub-hub was divided into areas of responsibility per the reliability engineer (RE), who championed the IDEF methodology among the different internal stakeholders.

Key Challenges

- No documented maintenance strategies/tactics for 37,704 pieces of equipment in Meridium. The challenge is the unknown risk and impact of equipment failure on operations.
- No documented failure prevention and impact mitigation interventions.
- Limited reliability engineer skills in developing maintenance strategies/tactics and facilitating development. This negatively impacts the quality of failure prevention strategies and reliability engineering decision-making.
- No documented, detailed step-by-step guideline document for RE to successfully achieve the outcome of well-documented and implementable strategies/maintenance tactics. This results in inconsistent equipment maintenance strategies (EMS) quality.
- No maintenance strategies/tactics library for an efficient development process.
 Without this, the development process is lengthy.



- A clear, structured maintenance strategy and tactics development guideline, defined as IDEF0 EMS Development Steps now exists for future use.
- Reliability engineers have been upskilled in key reliability engineering subjects viz. sRCM, Defect Elimination, Reliability Engineering in Practice, Structured Problem Solving and Financial Decision-making.
- A detailed tactics reference library has been developed and used.

Pragma facilitated the successful development of equipment maintenance strategies and tactics, helped convert them into maintenance plans and uploaded them into the SAP® system. Our team received the necessary tools and guidelines for future strategy and tactics development and the knowledge to manage our reliability engineering programme.

Pragma Intervention

- Pragma reliability engineers facilitated the EMS development process and coached the client's reliability engineers.
- Developed and applied a well-defined, clear, and practical guideline for EMS development, implementing an invaluable multi-discipline-centred, risk-based IDEF methodology for equipment maintenance strategies (EMS) development.
- A petrochemical operational expert presented practical training (including projects) and provided several tools to upskill the client's reliability engineers and other stakeholders involved with EMS development and implementation.
- Managed and coordinated the overall project.
- Facilitated change management by providing knowledge and benefits of having well-defined and documented strategies during sessions and ad hoc interactions with the client's representatives.

Tools and Technology

- Pragma's Maintenance Plan Development (MPD) procedure
- Discreet steps of the MPD translated into IDEF0 methodology guideline document
- Pragma Academy's training material: Asset Management Landscape, Reliability Engineering in Practice, Focused Improvement, Financial Decision-making
- Meridium system
- · Microsoft Teams platform
- SAP® system
- SRCM Excel spreadsheet

