CASE STUDY

Enhancing Compressor Spare Parts Management

PROJECT OVERVIEW

Perpilion assisted a Southeast Asian client in re-evaluating critical spare parts for compressors that experienced frequent Dry Gas Seal leaks due to process instability. These failures led to frequent compressor overhauls, resulting in a shortage of spare parts. PPL conducted an analysis of the spare part management for these compressors.

ACTIVITIES

To address the issue, the following activities were carried out:

- Restructured the asset hierarchy for compressor equipment.
- Re-evaluated the criticality assessment of affected compressors.
- Performed Failure Mode and Effects Analysis (FMEA) to enhance mitigation actions.
- Reviewed and developed the Bill of Materials (BOM).
- Analyzed and managed spare parts.
- Uploaded new maintenance strategies into the Computerized Maintenance Management System (CMMS).
- Adjusted min-max inventory levels in CMMS.

PROJECT DELIVERY

The project was completed within 12 weeks, covering 15 compressors. This involved data gathering, template preparation, asset attribute development, BOM creation, FMEA assessment, spare part analysis, workshops, and data uploading into SAP. Approximately 1,500 tag numbers were involved across all compressors.

Achievements

- Improved asset structure for enhanced failure analysis, strategic decision-making, and risk management.
- Reduced expenditure on expedited product purchases.
- Decreased equipment downtime by eliminating spare parts delivery lead times.
- Updated equipment criticality assessments to reflect their impact on production losses and repair costs.
- Successfully improved the maintenance program.

PERPILION