Case Study

Oil and Gas | Retail

Asset Performance Management LOPC Mitigation

Client Background

Shell is well known as one of the five major national suppliers of petroleum products in South Africa. Shell supplies their fuel and convenience products through vast retail and commercial sites across South Africa, with many assets in constant daily operation.

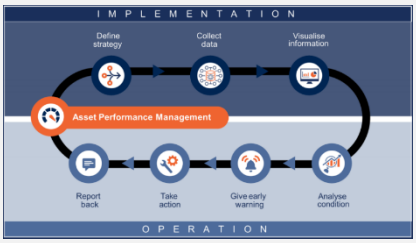
Shell contracted Pragma to conduct all maintenance activities at more than 400 retail sites nationally through the Facilities Management Centre (FMC). The partnership spans over 15 years.

One of the vital Shell business objectives is protecting the environment. Shell takes strong measures to prevent environmental damage and, where it occurs, invest in appropriate remediation measures.

Key Challenges

- Shell retail sites in South Africa dispenses over 2 billion litres of hydrocarbon products annually. As part of servicing its customers, it does occur that loss of containment of hydrocarbon products occurs, resulting in the release of product into the environment.
- In terms of Shell's Retail policy, any loss of primary containment above 100 litres is classified as a significant incident that warrants investigation and remedial actions.
- Primary sources of LOPC have been identified as:
  - A leak of underground storage tanks, fuel lines and dispensers on the forecourt.
  - Leak during refuelling by Shell supply and distribution teams.
- Root cause analysis of these components have been conducted, and appropriate measures proposed to mitigate the loss of primary containment.

"LOPC is an unplanned or uncontrolled release of product from primary containment."



Value Add

- Drive Shell business objective of Compliance and Protect the Environment
- Proactively use technology to monitor asset performance and identify the potential of LOPC before it occurs
- Pragma is partnering with an OEM, Franklin Fueling System, to provide IoT devices for data polling from different critical assets and making the data available on their SSA-2 Platform for analysis
- In 2017, during the peak of LOPC occurrences in the Shell Retail network, over 24000 litres of hazardous product was released into the environment. The introduction of Asset Performance Management is intended to minimise the occurrence of these incidents significantly.

Pragma Intervention

- Asset Performance Management (APM) encompasses the capabilities of IIoT, data capture, integration, visualisation, and analytics tied together for the explicit purpose of improving the reliability, availability, performance, cost and risk related to physical assets.
- It includes the concepts of online/in time condition and asset health monitoring, predictive forecasting, the effective implementation of the optimum maintenance mix of activities and taking timeous corrective action.
- For companies that do not have the necessary resources on-site, Pragma offers remote asset performance management services.
- A dedicated team of specialised engineers' support the Client around the clock to help optimise asset performance by implementing necessary predictive asset management business processes and technologies on behalf of the Client.

Tools and Technology

- Data collection devices are installed to collect the required data
- Business intelligence (BI) tool is implemented to facilitate effective data analysis
- Reliability Engineering
- Mobile and electronic notification will be given to the Client
- On Key Enterprise Asset Management System