

Case Study

Generators replaced at end of life



Client Background

Shell is well known as one of the five major national suppliers of petroleum products. Shell has a proud record of presenting a global brand and an extremely high level of compliance with safety and environmental standards. Shell supplies their fuel and convenience products through a vast network of retail and commercial sites across South Africa, with many assets in constant daily operation. Shell has over 400 retail sites nationally that are maintained by Pragma through the Facilities Management Centre (FMC).

Key challenges

Generators are used at Shell Ultra Cities to support energy supply when outages occur at these outlying sites. Pragma maintains 36 generators.

These generators are expensive to replace at the end of life. The current average cost of a generator is R 414 717.25 with a life expectancy of between 15 to 20 years.

There are a number of details to consider when replacing a generator such as:

- Generator size/specification
- Imported generators
- Fuel used for motor
- Scope of work of generator
- Required maintenance
- Cabling
- Synchronisation with network
- Generator environment (outside).



Value Add

- Capex savings were achieved for Shell.
- Rebate encourages capital decision.
- New units are more reliable and have a warranty period and lower maintenance cost.
- The FMC plans to establish rebate agreements for other decommissioned assets on site.
- Rebate will be specified on invoice to track methodology and saving.
- More care taken by supplier to scrap metal and components instead of dumping generators.
- Unintended usage of generators monitored through the Critical Equipment Inspection.
- New methodology to determine generator specification: measure energy used during normal intended operation.

“Assets or components removed from revamped sites are often still fully functional.”

“We are pleased to have received rebates from the replacement of generators.”

“We encourage Pragma to create rebate, reuse or recycle programmes for decommissioned assets on site.”

Shell Engineering

Pragma Intervention

- There were four generators on the plan to be replaced in 2017.
- The FMC identified the high cost associated with this and created a cost saving improvement project.
- A root cause analysis was performed and a number of initiatives were investigated to decrease the total cost of ownership.
- Viable initiatives include: standardising the size of generators governed by the size of the forecourt infrastructure, relocating or reselling old units, and eliminating unintended work for generators.
- A 5.5% rebate was received from the supplier of the four new generators.

Tools and Technology

- On Key Enterprise Asset Management System
- On Key Analytics
- Root cause analysis
- Focused Improvement
- Work Planning and Control
- Asset Care Plan Development
- Change Management.

