Asset Life Cycle Strategy
Heavy Commercial Vehicles

Contents

Purpose

To provide a brief outline of life cycle management for Heavy Commercial Vehicles (HCV) throughout the life of the asset to enable it to perform in the designed and intended functional capacity.

Scope

All HCV, regardless of configuration or payload, with a gross vehicle mass (GVM) of over 4,500 kg.

External Compliance Alignment

Regulatory references impacting the design, fit-out, procurement and through life maintenance of HCV.

- Australian Design Rules (ADR)
- Australian Standards (AS)
- National Heavy Vehicle Regulator (NHVR)
- Original Equipment Manufacturer (OEM)
- Roads and Maritime Services NSW (RMS)
- Queensland Department of Transport and Main Roads (TMR)
- Safe Work Australia/NSW (SW)

Strategy

Overview

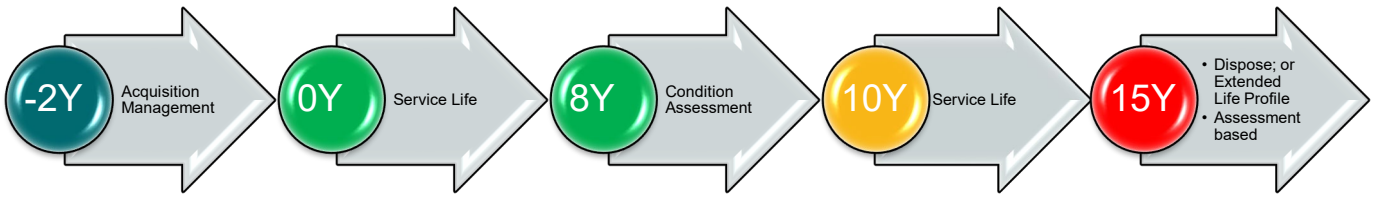


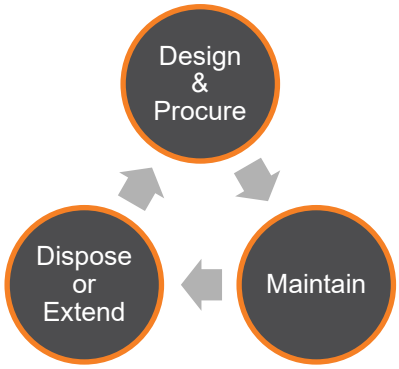
Table 1 - Asset Life Cycle Criteria Overview

Period	Units	System	Action
-2	Years	Oracle Maintenance Cloud	Acquisition Management
8	Years	Oracle Maintenance Cloud	Condition Assessment
15	Years	Oracle Maintenance Cloud	Dispose/Extension Management

Introduction

The Company takes a business centred, risk-based approach when developing asset life cycle strategies. This approach considers cost, risk, and performance standards. The underlying intent of the life cycle strategy is to facilitate the achievement of organisational strategic objectives through sound asset management.

The life cycle strategy is divided into three phases:



1) Design and Procure
    a) Establishes acquisition point
    b) Sets out the requirement to comply with a standard build specification
    c) Continuous improvement of specifications through data-based learnings of in-service assets
2) Maintain
    a) Divides the asset into functional maintenance groups
    b) Details the components that form each functional group
    c) Defines the required maintenance activities
    d) Outlines the required recurring statutory inspections
3) Dispose or Extended Life Profile
    a) Establishes disposal point
    b) Describes process for varying asset life
    c) Review and learnings

Design and Procure

The Company will procure new HCV. Procurement is to be undertaken following internal procurement processes leveraging available opportunities, and must consider cost, risk and performance criteria in asset design and selection in accordance with associated specifications.

HCV design and fit-out specifications exist to facilitate asset selection and are periodically updated to align with business, regulatory compliance and industry changes in combination with historical asset data.

Table 2 - HCV Purchase Points

Asset Class	Purchase Point
HCV	New

Maintain

Asset Preventative Maintenance programs (PM) have been developed in accordance with:

- NHVR regulatory compliance
- Original Equipment Manufacturer (OEM) guidelines
- Assessment of operational environments and use cases.
- A key driver is to maximise asset availability, performance, and operational efficiency through planned maintenance, to mitigate cost prohibitive asset health related unplanned activities.

Periodic review of programs is conducted to ensure effectiveness of preventative maintenance programs in relation to operational requirements, changing environmental conditions and asset health data analysis.

Assets are broken down into functional groups and components. Serviceable components are replaced either on condition (condition based) or at a given usage (usage based). Serviceable components are considered to be:

- Components that are likely to fail before the asset reaches its disposal point; or
- Components where the consequence of their failure is such that pre-emptive replacement is necessary.

In addition to component replacement and preventative maintenance (PM), unplanned maintenance activities are initiated through the Fleet Inspection and Audit System (FIAS) application.

All maintenance activities and records are managed through Essential Energy asset management systems (FIAS, Oracle Maintenance Cloud).

Detail on the specific tasks carried out at each PM or safety inspection are contained within the applicable maintenance documentation.

Disposal

The disposal point for HCV is set in Table 3.

When an asset reaches its standard disposal point it must be either:

a) Be removed from service and disposed of; *or*

b) Have its life varied through an appropriate engineering assessment and recommendation.

Table 3 - HCV Disposal Points

Asset Class	Disposal Point
HCV	15 years

Asset Extended Life Profile

Opportunity exists for an HCV to be utilised beyond its standard disposal point. Assets can have their life extended if:

a) there is continued business requirement for the asset; and

b) it can safely, reliably and cost effectively perform its function

Before an asset can have its life extended, an engineering assessment must be completed to confirm the above criteria are met.

Asset life reduction

Opportunity exists for an HCV to be disposed of before its standard disposal point. Justification for removal of the asset from service and disposal is required via engineering assessment and recommendation accounting for cost, risk, performance metrics.

Asset condition assessment points are set out in Table 4.

Table 4 - HCV Condition Points

Asset Class	Condition Assessment Point
HCV	8 years
HCV	10-15 years (ad hoc – on unplanned maintenance activities)

Asset Class Age Profile

Safe, cost efficient and reliable fleet management is contingent on maintaining the assets at an optimum age and service profile.

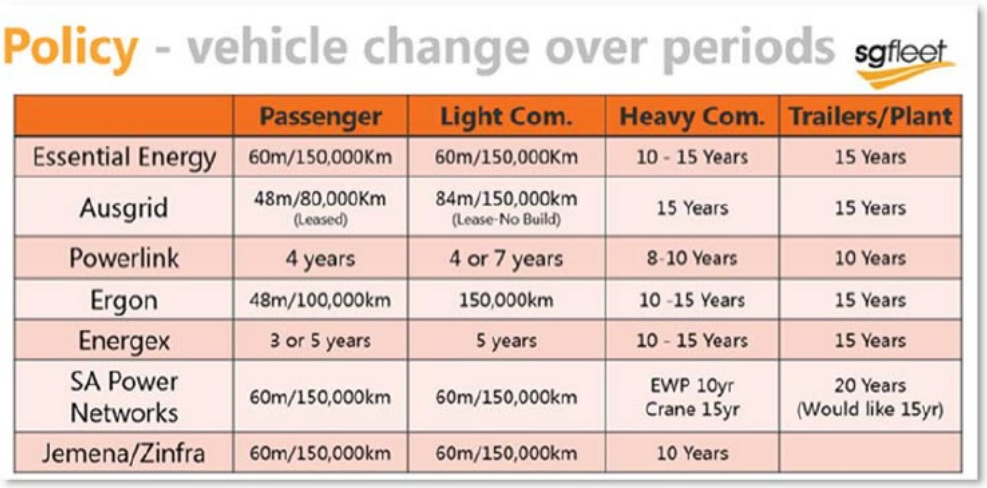
The target average profile represents 50% of the target replacement age / service profile. Assets should be distributed evenly across the age profile to result in the average age profile target, this enables:

- Mitigation of elevated frequency of major vehicle failures as a consequence of aging fleet
- Continued asset design improvement and alignment to industry safety standards
- Continued reduction of emissions through replacement assets adhering to vehicle emissions standards
- Resilience to industry and supply chain constraints
- Expenditure smoothing

Benchmarking

Safe, cost efficient and reliable fleet management is contingent on maintaining the assets at an optimum age and service profile. Essential Energy reviews Fleet life cycle strategies annually utilising historical and current data to ensure alignment with business, customer and industry changes. In combination, Essential Energy regularly collaborates with industry partners on Fleet management performance and metrics (cost, risk, performance) to ensure currency and share learnings.

Industry benchmark data comparing target fleet replacement age / service profiles across peer energy businesses was conducted in 2017 by sgfleet (a previous fleet transaction service provider). Figure 1 (below) is an extract from the 2017 benchmark. It indicates that Essential Energy's targets are comparable with peer businesses.



Policy - vehicle change over periods sgfleet

	Passenger	Light Com.	Heavy Com.	Trailers/Plant
Essential Energy	60m/150,000Km	60m/150,000Km	10 - 15 Years	15 Years
Ausgrid	48m/80,000Km (Leased)	84m/150,000km (Lease-No Build)	15 Years	15 Years
Powerlink	4 years	4 or 7 years	8-10 Years	10 Years
Ergon	48m/100,000km	150,000km	10 -15 Years	15 Years
Energex	3 or 5 years	5 years	10 - 15 Years	15 Years
SA Power Networks	60m/150,000km	60m/150,000km	EWP 10yr Crane 15yr	20 Years (Would like 15yr)
Jemena/Zinfra	60m/150,000km	60m/150,000km	10 Years	

Figure 1 - SGFleet 2017 benchmarking - Peer target replacement age/service profiles