

What and Why

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All assets have a 'life cycle' from design through to disposal. Broken down, there are six phases in this cycle:

- Design;
- Construct;
- Test/commission;
- Operate;
- Maintain; and
- De-commission/dispose.

Asset management is important because it is the approach used by a rail operator to ensure that physical assets remain safe, fit-for-purpose, and commercially viable through each stage of the life of the asset. Good asset management also contributes to use of the asset, and ultimately, a good return on investment.

It is important that less complex operators develop asset management systems that are appropriate to the scope and context of their operations. For example, maintenance processes for a steam locomotive that was used daily after commissioning but is now only operated twice a month will vary significantly. Rail operators should consider the age and frequency of use of their assets when developing an asset management system.

There is a lot of cross over between this module and with Elements 19 and 20. For simplicity, this module will deal with how the operator will apply those standards during each phase of that cycle in general terms. Rail operators with more complex operations may wish to combine modules in their SMS that have significant commonality.

How

As with the other SMS modules, preparing and implementing a procedure that describes how the rail operator manages their rail assets through the life cycle is a demonstration of understanding of the management of those assets. Together, this will form an Asset Management Plan.

The law simply requires that an Asset Management Plan is in place that addresses all aspects of asset life-cycles. Taking into account the scope and context of rail operations, this may be a simple document that describes what is actually done.

As different risks will arise during each phase of the asset's life, and consistent with a risk-based approach, rail operators should carry out risk assessments to determine the best approach to managing rollingstock assets, infrastructure assets and their individual components.

The results of the risk assessments will form the basis of an asset management approach. Taking each stage of the life cycle separately, rail operators should consider the following as part of their risk assessments and address these in their procedures:

Design

- What are the operating parameters of the railway (axle load, minimum curve radius, track geometry tolerances, rolling stock outline, speed, visibility & braking performance)?
- Which standards apply to the item of rolling stock or infrastructure?
- What engineering drawings are available to confirm the specifications for the asset? (Refer to Element 19)
- What was the original life of the asset – how far that life is (age/use) is the asset?

Construct:

- How do you ensure what is built meets your design criteria?
- If not, what are the impacts of any modifications to the design criteria?
- If contractors are engaged, what processes are in place to manage them?
- How do you ensure the quality of the item being built?
- Is there a formal acceptance process that verifies that the item is fit for purpose and safe to use?

Test/Commission:

- What tests do you carry out to confirm the item meets the design criteria and is fit for purpose and safe to use?
- Is there a documented testing /commissioning process?
- Are test plans developed and used as part of the process?
- Is there a validation/verification process?

Operate:

- Under what conditions is the asset operated? This must be consistent with its design;
- Under what condition shouldn't the asset be operated?
- Does the use of the asset need to be modified or limited given its age, history of use and/or condition?
- Are there a set of operating procedures which describe the correct and safe way to operate the item?
- What training and assessment of competence is required to operate and maintain the asset?
- How are defects/faults detected and reported for rectification?
- When must the asset/item be removed from service due to a defect/fault?

Maintain:

- What are the inspection regime and maintenance schedules?
- How have you determined the inspection regime will adequately monitor the condition of the asset (Refer Element 20 - Process Control)?
- What are the maintenance tolerances and condemnable criteria (Refer Element 19)?
- What training and assessment of competence is required to inspect and maintain the asset?
- How are defects/faults reported and prioritised for rectification?
- How are defects/faults tracked until rectified?

- What records are kept demonstrating a history of inspections and maintenance carried out on the asset?

De-commission/Dispose:

- How is an item (or component) prevented from re-entering service?
- What re-qualification process is in place if an item or component is to re-enter services?
- What is policy on re-cycling components from de-commissioned rail assets?
- How will the item be disposed?

Who

The Board / Executive Committee may wish to review any resulting Asset Management Plan and Risk Assessments to demonstrate their governance obligations.

Risk Assessments should be attended by rail safety workers and other persons who have competence /qualifications and/or skills in engineering, maintenance and asset management.

Managers and Supervisors should ensure that asset management plans are developed and complied with as part of SMS compliance.

Only competent Rail Safety Workers should conduct rail safety work. i.e. construct, operate, maintain, or de-commission/dispose rail assets. (refer to Element 24, Appendix A – Definition of Rail Safety Work).

When

Compliance with law implies that an Asset Management plan has been developed and forms part of the SMS, and therefore was included in an application for accreditation.

Asset management planning is an essential component in ensuring safety, and as such, should be part of regular SMS reviews, and when changes occur.

All activities described in the Asset Management Plan should be carried out in the stipulated timeframes.

List of relevant documents (internal)

Element 7 - Procurement and contract management

Element 11 – Corrective Action

Element 16 – Risk Management

Element 19 – General Engineering & Operations System safety requirements

Element 20 – Process Control

Element 24 – RSW Competence

Links (external)

[ONRSR Website – Asset Management](#)

[International Standards Organisation – ISO 55000 Asset Management](#)

Appendices

None