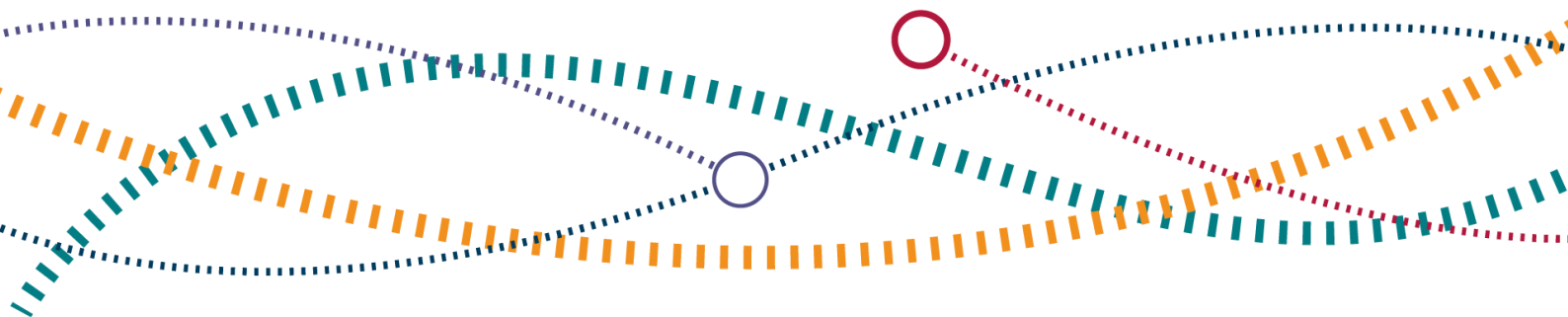




Scotland's Railway - Readiness for ISO 55001 Alignment

Follow-up of Targeted Assurance Review

29 July 2021



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Acronyms and Abbreviations

CP6 - Control Period 6

ORR – Office of Rail and Road

DEAM – Director of Engineering and Asset Management

IAM – Institute of Asset Management

AMS – Asset Management System

TAR – Targeted Assurance Review

Definitions

Descriptor	Detail
ISO 55001	ISO 55000 is a series of International Standards for Asset Management. ISO55001 defines the requirements for management system for asset management. Therefore, in in this report the international standard is referred to generally as ISO 55001.
Control Period	Control Periods are the 5-year timespans into which Network Rail works for financial and other planning purposes.
Putting Passengers First	<i>Putting Passengers First (PPF)</i> was a Network Rail internal business restructuring programme which ran from September 2018 – December 2020. It saw the creation of five devolved regional business units within Network Rail to increase route capabilities locally as well as to improve relationships with customers and stakeholders.
Asset Management System	The management system for assets is termed as Asset Management System. It provides a framework to establish asset management policies, objectives, processes and governance, and facilitates an organisation’s achievement of its strategic goals.
Asset Management Capability	The extent to which an organisation has developed its people, processes, technology, leadership and culture in Asset Management to enable the effective and efficient development and delivery of asset management plans and objectives, and their continual improvement.

1. Executive Summary

In our CP6 determination we stated that as a minimum, each Network Rail route is required to demonstrate to our satisfaction that it is operating in accordance with the requirements of ISO 55000 (Asset Management Standard) by the end of March 2021.

Following Network Rail's *Putting People First* (PPF) reorganisation with devolution and regional responsibility at the front of its new operating model, the ownership of alignment to ISO 55001 now lies with five devolved regions.

We wanted to seek assurance on Network Rail's devolved regions' commitment regarding asset management improvement and its readiness to demonstrate alignment to ISO 55001. We therefore carried out Targeted Assurance Reviews (TARs) on this subject in each region and this report summarises the status of the Scotland's Railway.

Scotland's Railway had originally set a target to achieve the ISO 55001 objective by end of Year 1 (March 2020) of control period 6. We therefore carried out a TAR at the end of Year 1 which found that the region was not in a state of readiness.

Prompted by the TAR, Scotland's Railway developed an improvement plan and progressed its plan with a revised target date of March 2021, in line with other regions and the target stated in the final determination. At the end of Year 2 CP6, we followed up with a review to assure that the revised target date is being met.

This follow-up review finds that the Scotland's Railway has made significant implementation of asset management elements and demonstrated through an independent assessment that its asset management approach is well aligned to ISO 55001. However, further maturity improvement is required in a few areas to attain full compliance to the standard; the region plans to address the opportunities for improvement identified.

Hence, Scotland's Railway satisfies our criteria to consider that the region has attained the final determination requirement, but it should deliver the improvement actions it intends to.

Scotland's Railways recently commissioned gap analysis shows that the maturity scores on the majority of ISO 55001 elements were on or closer to the maturity level for compliance. Few areas require further improvement. These include information requirements, internal audit, document control and resources.

To this end, we recommend Scotland's Railway continue its commitment to improve the maturity further to attain full compliance to the standard.

2. Introduction

2.1 Purpose

This review was to determine if Network Rail's regions had met the PR18 determination requirement to demonstrate that it is operating in accordance with the requirements of ISO 55000 (Asset Management) by the end of March 2021¹

This report provides the findings of the review carried out in Scotland's Railway.

2.2 Background

Maintaining and renewing the network in the short-, medium- and long-term to meet reasonably foreseeable future demand for railway services is one of Network Rail's key obligations, as set out in its network licence, in accordance with best practice and in a timely, efficient, and economical manner.

At the beginning of CP6, the local ownership of alignment to ISO 55001 and commitments rested within each of Network Rail's eight route strategic plans, reflecting the organisational structure as it was prior to PPF.

In the first phase of Network Rail's devolution journey, five new regional organisations were established in June 2019, which took on more accountabilities including the ISO 55001 alignment.

The final determination required the routes to demonstrate the attainment of requirements by March 2021.

Scotland's Railway is one of the Network Rail's five regional operating units and it covers the geographical area of what was previously the Scotland route.

The Scotland route, in its route strategic plan for Control Period 6 dated March 2019, stated to achieve asset management capabilities that demonstrate alignment to ISO 55001 by the end of Year 1 of CP6 (March 2020).

However, the targeted assurance review (TAR) we undertook in early 2020 found that Scotland's Railway was not in a state of readiness to demonstrate the attainment of its objective. Prompted by the TAR, it undertook an internal review and decided to revise the

¹ Clause 2.90 <https://www.orr.gov.uk/sites/default/files/om/pr18-final-determination-review-of-network-rails-proposed-costs.pdf>

target date to March 2021, which it believed to be realistic and consistent with other regions' target dates.

A follow-up review to the previous TAR was carried out at the end of year 2 (March 2021) to establish the region's current state against the ISO 55001 requirements. This report is produced on the basis of the follow-up review.

2.3 Scope

The objective of this follow-up review was to understand the organisation's progress on asset management capability improvement and its current level of alignment with the ISO 55001 requirement, the gaps between the current state and its desired level, planned improvement initiatives and the timescale for its implementation.

To complement the need to improve asset management capabilities, an effective Asset Management System (AMS) needs to be embedded to provide a framework for asset management in an aligned and integrated way. This review focused on the fundamentals for effective implementation of AMS by seeking understanding of the following:

- Leadership Commitment
- Current State/Gap Assessment
- Improvement action plan
- Steering & Governance

This review does not formally assess the asset management maturity or validate the alignment to ISO 55001². Rather, it sought to gain insights on the key elements of the AMS that will underpin the region's asset management approach.

2.4 Review Approach

ISO 55001 defines the requirements for a 'management system for asset management', therefore implementing ISO 55001 means applying a management system approach for managing the assets.

The building blocks of the AMS and the sequence in which it can be established or improved is shown in the figure below. This review sought to verify whether the region has established the building blocks of the AMS and has defined and implemented the required elements of ISO 55001.

² Network Rail is required to demonstrate that they are working in accordance with ISO55001. This can be undertaken by either a rigorous self-assessment or by use of an accredited organisation.

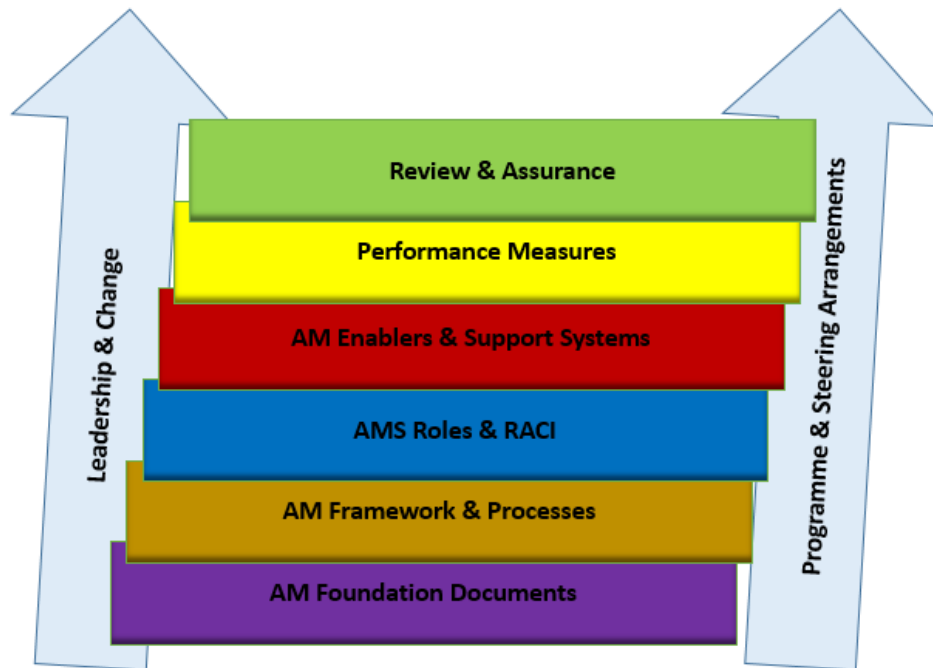


Figure 2.1 Typical building blocks of Asset Management System

The review requested the region to provide a recent gap assessment against ISO 55001, which it used to understand the level of maturity in each element of the ISO55001 asset management system.

In setting out to demonstrate the determination requirement, the region has chosen to demonstrate that its asset management is in alignment with ISO 55001. While the term ‘alignment’ can be multi-interpretative, for the context of this assurance review, we used the following guiding criteria³ to consider the region has attained the final determination requirement: as a minimum, a majority of the elements should be at asset management maturity level 3 (level of compliance with ISO 55001) and no scores below 2.5 (in planning stage). For elements with scores between 2.5 and 3 (in implementation stage), there should be a credible timebound improvement plan.

The team responsible for the asset management improvement programme was engaged throughout this review. We sought understanding of the current position and the plans for improvement in each of the fundamental elements. Based on the information provided, the key findings of the review are provided in the following section.

³ Our criteria is aligned to IAM endorsed assessors schedule of requirements for certification decision.

3. Findings

3.1 Review findings

Leadership Commitment:

The Director of Engineering & Asset Management (DEAM) is the accountable person for the ISO 55001 alignment objective and the executive owner of the asset management system.

Following the PPF re-organisation, in its regional strategic plan that replaced the original route strategic plan, Scotland's Railway has re-affirmed its ISO 55001 alignment objective with a revised target date of March 2021.

DEAM has ensured that the region's emphasis for the asset management improvement programme has continued throughout and post-restructuring following the *Putting Passengers First* reorganisation.

All these indicate strong leadership commitment to improve the region's asset management capability and achieve alignment to ISO 55001.

Gap Assessment:

A recent asset management gap assessment was undertaken in February 2021 by an independent assessor. The Institute of Asset Management (IAM)'s SAM+ tool was used for the assessment, and it involved a series of structured interviews with subject matter leads within the region.

The independent assessor scored Scotland with an overall average asset management maturity score of 2.9, where a score of 3 in each element denotes the minimum maturity level for compliance with ISO 55001.

The maturity scores of Scotland's Railway on 27 sub-clauses of the ISO 55001 are shown on the radar plot below.

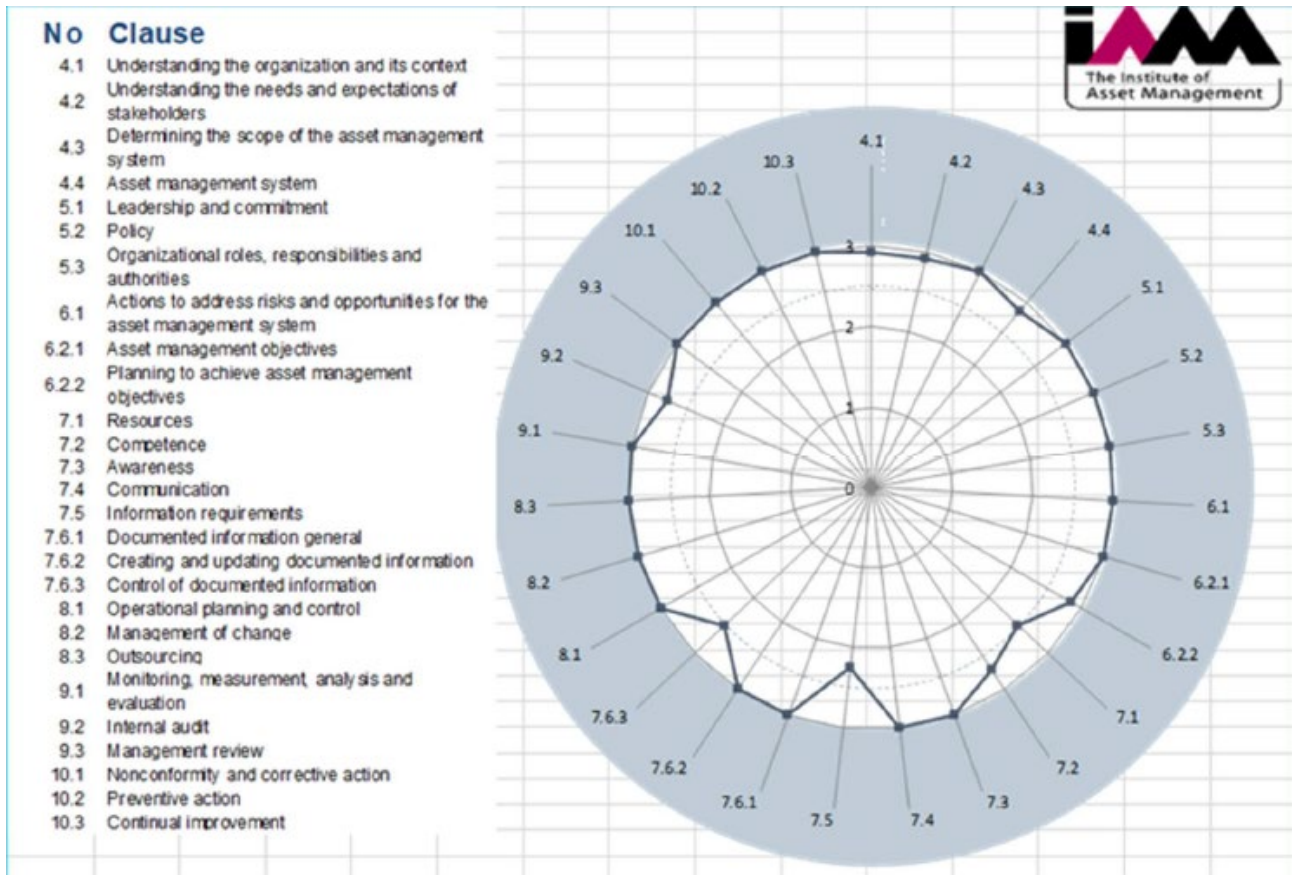


Figure 3.1 Radar chart showing gap assessment results

From the above diagram, it can be observed that the majority of the maturity scores are on or close to level 3, indicating significant implementation of asset management elements.

The gap assessment report concludes that Scotland's asset management approach is well aligned to ISO 55001 and has a strong likelihood of certification.

Improvement Actions:

The gap assessment has identified areas requiring further improvement to achieve full alignment with ISO 55001. The improvements identified are mainly limited to the maturity of existing processes.

The nine recommended actions for improvement are shown in the table below.

ISO55001 Clause	Recommended Actions	Priority	Sequence of Implementation
8.1: Operational Planning & Control	Review the impact of possible reduced funding scenarios	High	1
4.2: Understanding the needs and expectations of stakeholders	Determine if increase in claims and recent high profile failures are as a result of asset management arrangements and take appropriate corrective action	High	2
4.1: Understanding the Organisation & Its Context	For next CP establish clear alignment of objectives between central NR and Scottish Government	High	3
7.5: Information Requirements	Examine the end-to-end process from collection, storage and the manipulation of data with a view to making the process more efficient to better inform the decision-making process (collect once, use many times principle)	High	4
7.6.3: Control of Documented Information	Develop process to aggregate data and develop Management Dashboards to better inform decision making process	Medium	5
7.1: Resources	Examine Resource Planning arrangements to determine that higher-risk works are not being deferred due to resource constraints	Medium	6
7.2: Competence	Communicate Asset Management Competencies to target audiences	Medium	7
6.2.2: Planning to Achieve Asset Management Objectives	Review current RAMP format and explore ways of producing a more succinct document, in particular, consider use of real-time and graphical information	Low	8
9.2: Internal Audit	Develop asset management specific audit plan with clear objectives for areas that require improvement	Low	9

The projects to address the improvements have been allocated to the appropriate head of asset management disciplines to establish ownership and are being managed by the change team to ensure progress. Most of these activities are expected to conclude by the end of March 2022 but some are reliant on national programmes that may extend to the latter part of CP6.

Steering and Governance:

Following governance arrangements provided the necessary oversight and steer to the asset management programme:

- 4-week progress meeting to check status of delivery of the plan
- 4-week status updates provided to DEAM for the MBR meeting
- 4-week update provided to the Period Business Action meeting

In our previous TAR, we wanted the region to continue the steering governance throughout and post-restructuring for the *Putting Passengers First* (PPF) reorganisation as it was considered a key risk to the programme.

The region has adhered to this recommendation and its emphasis for the asset management improvement programme has continued throughout and post-PPF restructuring.

The improvement actions identified from the recent gap assessment have been assigned workstream leads with responsibility for the delivery of the new capabilities.

The role of Head of Asset Management and Assurance has been established. This will be part of a new structure of ten roles covering assurance responsibilities across the region.

Key elements of the Asset Management System:

Our review also sought to understand the building blocks of an asset management system upon which the improvements can be driven.

Foundation Documents: The core documents/elements in an Asset Management system are the Asset Management Policy, Strategic Asset Management Plan (SAMP) and Asset Management Plans. The existence of these is a specific and definitive requirement of ISO 55001.

Asset Management Policy: *The principles by which the organisation intends to manage its assets are set out in the Asset Management Policy.*

Currently the region adopts the National Asset Management policy which was produced in 2018 in view of the CP6 planning.

Scotland has no regional ownership of the adopted asset management policy. Also, there is currently no intention to create a supplementary regional asset management policy.

Strategic Asset Management Plans (SAMP): *SAMP, also known as an Asset Management Strategy, is documented information that typically specifies what the organisation aspires to achieve, how and when. The requirements expected from a SAMP may be split amongst different documents.*

The majority of the “what” elements – what the region intends to achieve from asset management activities and by when, are included in the region strategic plan. It includes the organisational context, regional objectives and targets, strategic initiatives and timescales for implementation. It also covers a few “how” elements such as stakeholder analysis, delivery strategy and reference to prevalent supporting strategies.

Scotland has produced a manual describing its Asset Management Framework (AMF). It specifies the scope, structure and operation of the whole management system.

Plans: *Asset Management plans are documented information that specifies the asset lifecycle needs, financial strategies (capex, opex), resources (information, supply chain etc), timescales along a planning horizon and risks.*

Scotland's Railway has a collection of route asset management plans (RAMPs) that specifies the bottom-up activities, resources required and timescales for implementing the strategic plans in terms of enhancements, renewals and maintenance.

The RAMPs are in Power BI as 'live' documents. These plans have an 8-year horizon, to feed into the regional strategic plan. Annual delivery plans for the route are then formed from these plans.

Framework and Processes – *Asset management system is a documented, process-centric approach to how an organisation will manage its assets to achieve its strategic objectives. ISO 55001 requires organisations to plan, define, implement and control the processes needed for the asset management system.*

Scotland's Railway has established an Asset Management System framework in alignment to the national AMF. The AMF handbook describes Scotland's Railway's asset management system components in accordance with ISO 55001 requirements.

Scotland Integrated Management System (SIMS) is a central and single source for up-to-date information relating to Scotland's Railway Asset Management System.

The region has not mapped the process architecture for its asset management system, so there is no visibility on the overall functional and enabling processes required for the asset management system, the existing processes and the gaps.

We were informed by the region that there is a national level effort to map level 1 to 3 (high level) processes which will reflect the regional approach, and the region may produce detailed level 4 and 5 where necessary. The region intends to keep this requirement under review to ensure that processes are mapped to an appropriate level.

Roles & RACI:

Information about asset management roles are available via the Oracle HR self-service platform or Org Plus, and the accountabilities are set out in the job description tool that outlines specific duties and responsibilities. The organisational structure is also available in the Org Plus system.

Information: *A vital element of effective asset management is decision-making that is evidence-based and data-driven. Hence, sufficient, fit for purpose information is required to be maintained.*

The gap assessment has identified weaknesses in the region's information management capability in the area of exchange of information and has a recommended action to make the data process more efficient to better inform the decision-making process (collect once, use many times principle). However, we were told by the region that it recognises this as a nation issue and is being addressed as such. Also, the Intelligent Infrastructure (II) programme seems to be addressing some information issues and certain aspects of data quality that contribute to the effectiveness of asset decision support tools, so there is effort in this area in addition to the plans that the region is already progressing.

Whilst asset information specification is available for asset data, Scotland's Railway currently has no information strategy. The region intends to develop a strategy over the coming months based on adoption of the Knowledge, Information, Data (KID) strategy with the region.

Competence & Awareness:

An asset management competence framework is in place. However, Scotland's Railway intends to adopt the national Asset Management Competence Framework (AMCF), and it is working with the Technical Authority (for Asset Management) in reviewing the framework.

Competence is managed through Oracle with annual performance capability discussions in place along with personal development plans and team management plans.

***Measurement and Improvement:** This section seeks to ensure appropriate processes, tools and indicators are in place to enable the monitoring and measurement of the asset condition/performance, delivery of the plans, achievement of objectives and effectiveness/improvement of the asset management system.*

Monitoring:

We were informed that the region has developed a balanced scorecard with a good mix of leading and lagging indicators and are reviewed each period. The scorecard is revised annually to ensure KPIs remain relevant.

Audit & Assurance:

The region follows the national assurance framework of a three lines of defence model.

Functional audits are designed to independently test those requirements set out in policy, standards, guidance or other documents are being implemented effectively. The audits verify compliance through functional 'special topic' audits set out in an annual Functional

Audit Programme (FAP). The protocols and procedures for this are set out in the Audit handbook.

The region is aware of a need to improve its audit planning process and intends to cover the asset management system within its annual audit and assurance plan.

Management Review:

Monitoring and assurance of the asset management system, including corrective and preventive actions, takes place through the following meetings:

- DEAM Periodic Business Action – this meeting is aimed to address the understanding of asset performance across the region, and systemic & strategic risks, issues and opportunities. The issues identified from this meeting are escalated to Scotland Periodic Business Action group. This meeting has a general outlook horizon of 1-5 years.
- DEAM Periodic Assurance review – this meeting covers both strategic and tactical engineering and asset management assurance outcomes, performance, risks and opportunities. This meeting has a general outlook horizon of 6-12 months. There is governance in place to escalate issues between different review forums, as shown in figure 3.2 below:

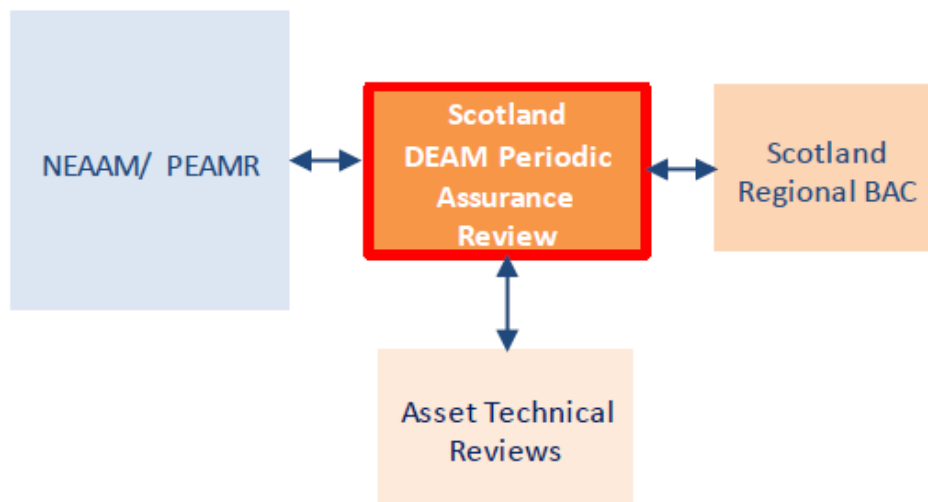


Figure 3.2 Management Review Meeting Linkages

4. Conclusion and Recommendations

4.1 Conclusion

This assurance review finds that Scotland's Railway can demonstrate significant asset management capability implementation to date for alignment with ISO 55001.

The gap analysis undertaken by an independent assessor has observed that Scotland's Railway asset management approach is well aligned to ISO 55001. However, it needs further improvement of maturity in a few areas to attain full compliance to the Standard.

Our assessment of the asset management system, based on the information shared by the region revealed that the core elements of the asset management system are in place. We observed good documentation of its asset management system.

The two key aspects that bind the asset management system together are leadership & change management. Our review found that leadership and governance is in place to address the elements of direction, oversight, and control to guide the development and operation of the Asset Management System.

On the basis of this review, we conclude that the Scotland's Railway has met the determination requirement. However, it needs to improve its maturity in a few areas to attain full compliance to the standard.

We therefore recommend Scotland's Railway continue its commitment to improve the maturity further to attain full compliance to the standard.



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