# Invitation to Tender (ITT) and Statement of Requirement

# Safety Management Systems- Guidance for Heritage and Minor Railways

12 January 2023

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Purpose of the document

The purpose of this document is to invite proposals for **the production of guidance on safety management systems for heritage and minor railways** for the Office of Rail and Road (ORR).

This document contains the following sections:

* + - 1. Introduction to the Office of Rail and Road
      2. Statement of Requirement
      3. Tender Proposal & Evaluation Criteria
      4. Procurement Procedures

## Introduction to the Office of Rail and Road

The Office of Rail and Road is the independent safety and economic regulator of Britain’s railways who also hold National Highways to account for its day-to-day efficiency and performance, running the strategic road network, and for delivering the five year road investment strategy set by the Department for Transport (DfT).

ORR currently employs approximately 360 personnel and operates from 6 locations nationwide. The majority of personnel are located at ORR’s headquarters, 25 Cabot Square, London.

### Our strategic objectives

#### 1. A safer railway:

Enforce the law and ensure that the industry delivers continuous improvement in the health and safety of passengers, the workforce and public, by achieving excellence in health and safety culture, management and risk control.

#### 2. Better rail customer service:

Improve the rail passenger experience in the consumer areas for which we have regulatory responsibility and take prompt and effective action to improve the service that passengers receive where it is required.

#### 3. Value for money from the railway:

Support the delivery of an efficient, high-performing rail service that provides value for money for passengers, freight customers, governments, and taxpayers.

#### 4. Better Highways:

National Highways operates the strategic road network, managing motorways and major roads in England. Our role is to monitor and hold it to account for its performance and delivery, so that its customers enjoy predictable journeys on England’s roads.

### Supplying ORR

The ORR procurement unit is responsible for purchasing the goods and services necessary for ORR to achieve its role as the economic and health & safety regulator of the rail industry.

The ORR Procurement unit subscribes to the following values:

* + - * + to provide a modern, efficient, transparent and responsible procurement service;
        + to achieve value for money by balancing quality and cost;
        + to ensure contracts are managed effectively and outputs are delivered;
        + to ensure that processes have regard for equality and diversity; and
        + to ensure that procurement is undertaken with regard to Law and best practice.

For further information on ORR please visit our website: [www.orr.gov.uk](https://www.orr.gov.uk/).

Small and Medium Enterprises

1. ORR considers that this contract may be suitable for economic operators that are small or medium enterprises (SMEs) and voluntary organisations. However, any selection of tenderers will be based on the criteria set out for the procurement, and the contract will be awarded on the basis of the most economically advantageous tender.

Small and Medium Enterprises and Voluntary Organisations:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Enterprise Category | Headcount | Turnover | Or | Balance Sheet Total |
| Micro | <10 | ≤ € 2 million |  | ≤ € 2 million |
| Small | <50 | ≤ € 10 million |  | ≤ € 10 million |
| Medium | <250 | ≤ € 50 million |  | ≤ € 43 million |
| Large | >251 | > € 50 million |  | > € 43 million |

Please ensure that you indicate how your organisation is categorised on the Form of Tender document which should be submitted along with your proposal.

## Statement of Requirement

### 2.1 Background of the project

In its role as the independent regulator for Britain’s Railways, the Office of Rail and Road (ORR) regulates over 200 minor and heritage railways. The heritage sector comprises operators that preserve, recreate or simulate railways of the past; or demonstrate or operate historical or special types of motive power or rolling stock. These privately owned railways range in size and scope of operation and are separate from the mainline railway.

The Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS) provides the regulatory regime for railway safety in Great Britain. Under ROGS, railway operators are required to maintain a safety management system. Mainline and some non- mainline operators, including a small number of heritage railways, are also required to hold a safety certificate or safety authorisation issued by ORR.

The nature of heritage operations differs from the mainline railway. The specific characteristics of its infrastructure, rolling stock and workforce are, in many cases unique to the sector. Operators also rely heavily on the commitment and enthusiasm of volunteer workforces to continue to operate safely.

ORR has a dedicated inspection team for the heritage sector. The team supervises heritage operators by undertaking site-based proactive inspections, office-based liaison actively and responding to complaints. The team also investigate incidents and accidents and carries out necessary, relevant statutory work.

We engage with the sector through representative bodies, such as the Heritage Railway Association (HRA), and have previously developed targeted guidance for the sector on the use of the Risk Management Maturity Model (RM3) in order to enable duty holders to develop the capability of their safety management systems.[[1]](#footnote-1)

We consider that safety management systems form the foundation of good risk management for heritage railways; strong but proportionate management systems ensure that risks are appropriately controlled, and ultimately, allow heritage railways to continue to provide their visitors with an historic experience with 21st Century levels of safety.

The evidence from our inspection and investigation activity indicates that there is a wide range of safety management capability across the sector. In a number of cases, deficient or incomplete safety management systems have resulted in the lack of control of certain risks. Furthermore, many operators’ safety management systems require work to bring them up to an appropriate standard that is capable of demonstrably controlling risks in a systematic way.

We therefore consider that it is appropriate to adapt ORR’s generic internal guidance for inspectors to produce a specific externally facing guidance document for the heritage sector that assists dutyholders in the effective design and implementation of safety management systems that meet the requirements of ROGs.

### 2.2 Project Objectives and Scope

The objective of this piece of work is to produce dedicated guidance that assists heritage railway operators in designing and implementing effective safety management systems that meet the requirements of ROGs.

The guidance will be used to assist individual heritage railways in developing a safety management system that is both appropriate to the nature of their operations and proportionate to the level of risk that is being managed. The finished guidance will be publicly available and form part of ORR’s ongoing regulatory strategy with the heritage sector to increase risk management capability at both individual operator level and across the wider sector.

### 2.3 Project Outputs, Deliverables and Contract Management

The successful bidder is required to produce a guidance document that:

* + - * + Incorporates the key points in ORR’s internal guidance on safety management systems (Annex 1);
        + Is specifically targeted at heritage and minor railways and takes into account both the nature of heritage operations and the need for proportionate risk management in the sector;
        + Is accessible to a wide range of duty holders from large scale operations to small enterprises operated wholly by volunteers.

#### Outputs and Deliverables

* + - * + Electronic copy of a draft guidance document sent to nominated project lead based on the above requirements.
        + Face-to-face meeting with selected ORR colleagues at one of our offices to discuss feedback, and agree necessary amendments following internal review.
        + Electronic copy of final report incorporating comments and feedback from above exercise.

As the guidance will be made available on the ORR’s website, the successful bidder should ensure that the final document is produced in accordance with ORR’s [Guidelines for writing accessible reports for ORR - Guidance for external suppliers | Office of Rail and Road](https://www.orr.gov.uk/media/23638)

The supplier should prepare a project plan and present it with the proposal.

The supplier is also expected to outline how they will undertake informal engagement with key stakeholders on the development of the guidance, as part of their proposal.

#### Contract Management Requirements

Contract management arrangements will be managed through fortnightly face-to-face or virtual meetings with the ORR project team.

ORR will provide contact details for the project leader and key members of ORR staff.

### 2.4 Project Timescales

The provisional project timetable is as follows:

* + - * + Start-up meeting and commencement w/c 13 February 2023.
        + Fortnightly updates on progress and any issues.
        + Draft guidance document to be electronically sent to ORR project lead by no later than 6 March 2023.
        + Face-to-face meeting with selected ORR colleagues at one of our offices at a mutually agreeable date during w/c 13 March 2023 to discuss feedback, and agree necessary amendments for incorporation following internal review.
        + Final document, incorporating feedback and comments from above exercise to be presented to be sent electronically and accepted by ORR project lead by no later than the 31 March 2023.

### 2.5 Budget and Payment Schedule

The maximum budget for this piece of work is £25,000 (inc. of expenses, exc. of VAT).

#### Payment Options

Payment of the total fee will be on the delivery and acceptance by ORR of all required outputs and/or deliverables.

### 2.6 Further project related information for bidders

#### Intellectual Property Rights

ORR will own the Intellectual Property Rights for all project related documentation and artefacts.

#### Transparency requirements

Please note ORR is required to ensure that any new procurement opportunity above £10,000 (excluding VAT) is published on Contracts Finder, unless the ORR is satisfied it is lawful not to. Once a contract has been awarded as a result of a procurement process, ORR is required to publish details of who won the contract, the contract value and indicate whether the winning supplier is a SME or voluntary sector organisation.

#### Confidentiality

All consultants working on the project may be required to sign a confidentiality agreement and abide by the Cabinet Office’s protective marking guidelines, which ORR uses to protectively mark a proportion of its information. In addition, the consultant may be required to sign additional confidentiality agreements as required by external stakeholders.

#### Sub-Contractors

Contractors may use sub-contractors subject to the following:

* + - * + That the Contractor assumes unconditional responsibility for the overall work and its quality;
        + That individual sub-contractors are clearly identified, with fee rates and grades made explicit to the same level of detail as for the members of the lead consulting team.

Internal relationships between the Contractor and its sub-contractors shall be the entire responsibility of the Contractor. Failure to meet deadlines or to deliver work packages by a subcontractor will be attributed by ORR entirely to the Contractor.

#### Conflict of Interest

At the date of submitting the tender and prior to entering into any contract, the tenderer warrants that no conflict of interest exists or is likely to arise in the performance of its obligations under this contract; or

Where any potential, actual or perceived conflicts of interest in respect of this contract exist, tenderers need to outline what mitigation/safeguards would be put in place to mitigate the risk of actual or perceived conflicts arising during the delivery of these services.

The ORR will review the mitigation/safeguards in line with the perceived conflict of interest, to determine what level of risk this poses to them. Therefore, if tenderers cannot or are unwilling to suitably demonstrate that they have suitable safeguards to mitigate any risk then their tender will be deemed non-compliant and may be rejected.

## Tender Response and Evaluation Criteria

### 3.1 The Tender Response

The proposals for this project should include an outline of how bidders will meet the requirement outlined in section (ii) “Statement of Requirement”. The following information should be included**:**

* 1. **Understanding of customer's requirements**

Demonstrate an understanding of the requirement and overall aims of the project.

* 1. **Approach to customer's requirements**

Provide an explanation of the proposed approach and any methodologies bidders will work to;

A project plan to show how outputs and deliverables will be produced within the required timescales, detailing the resources that will be allocated;

What support bidders will require from ORR;

* 1. **Proposed delivery team**

Key personnel including details of how their key skills, experience and qualifications align to the delivery of the project; and

Confirmation that you have carried out the necessary employment checks (e.g. right to work in the UK)

Some relevant examples of previous work that bidders have carried out (eg. case studies)

* 1. **Pricing**

A fixed fee for the project inclusive of all expense. This should include a breakdown of the personnel who will be involved with the project, along with associated charge rates and anticipated time inputs that can be reconciled to the fixed fee.

* 1. **Conflicts of Interest**

Confirm whether you have any potential, actual or perceived conflicts of interest that may by relevant to this requirement and outline what safeguards would be put in place to mitigate the risk of actual or perceived conflicts arising during the delivery of these services.

### 3.2 Evaluation Criteria

Tenders will be assessed for compliance with procurement and contractual requirements which will include:

* + - * + Completeness of the tender information
        + Completed Declaration Form of Tender and Disclaimer
        + Tender submitted in accordance with the conditions and instructions for tendering
        + Tender submitted by the closing date and time
        + Compliance with contractual arrangements.

Tenders that are not compliant may be disqualified from the process. We reserve the right to clarify any issues regarding a Bidder’s compliance. It will be at ORR's sole discretion whether to include the relevant Bidder’s response in the next stage of the process.

The contract will be awarded to the Bidder(s) submitting the **‘most economically advantageous tender’**. Tenders will be evaluated according to weighted criteria as follows:

#### Methodology (30%)

The proposal should set out the methodology by which the project requirement will be initiated, delivered and concluded. In particular, it must:

Explain the methodology and delivery mechanisms to ensure that the requirements of this specification are met in terms of quality;

Explain how your organisation will work in partnership with ORR’s project manager to ensure that the requirement is met

Explain how your organisation will engage with external stakeholders;

#### Delivery (30%)

The proposal should set out how and when the project requirement will be delivered. In particular, it must:

Explain how this work will be delivered to timescale and how milestones will be met, detailing the resources that will be allocated to each stage;

Demonstrate an understanding of the risks, and project dependencies and explain how they would be mitigated to ensure project delivery;

Explain the resources that will be allocated to delivering the required outcomes/output, and what other resources can be called upon if required.

#### Experience (30%)

The proposal should set out any experience relevant to the project requirement. In particular, it must:

Provide CVs of the consultants who will be delivering the project;

Highlight the organisation’s relevant experience for this project, submitting examples of similar projects.

#### Cost / Value for money (10%)

A **fixed fee** for delivery of the project requirement (inclusive of all expenses), including a **full price breakdown for each stage of the project** and details of the **day rates** that will apply for the lifetime of this project.

| Name of consultant | Grade | Role | Day rate | Number of days | Total cost (ex VAT) |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Please note that consultancy grades should align with the following definitions:

| Grade | Requirement |
| --- | --- |
| Junior consultant | Demonstrable experience in a wide range of projects in their specialist field. Evidence of client facing experience and support services to wider consultancy projects. |
| Consultant | Notable experience and in-depth knowledge of their specialist field. Evidence of a wide range of consultancy projects and client facing experience. Support work in process and organisational design and leading workshops and events. |
| Senior Consultant | Substantial experience in their specialist field and in a consultancy/training role. Previous experience in project management and working in a wide range of high quality and relevant projects. Familiarity of the issues/problems facing public sector organisations. |
| Principal Consultant | Substantial experience in their specialist field and in a consultancy/training role. Sound knowledge of the public sector and current policy and political issues affecting it. Previous experience in project management on at least three major projects, preferably in the public sector and using the PRINCE2 or equivalent method. |
| Managing Consultant | Substantial experience in their specialist field and in a consultancy role. In depth knowledge of the public sector and of current policy and political issues affecting it. Previous experience in project management on at least 5 major projects, preferably in the public sector and using PRINCE2 or equivalent methods. |
| Director / Partner | Extensive experience in their specialist field, in which they are nationally or internationally renowned as an expert. Extensive experience of leading or directing major, complex and business critical projects; bringing genuine strategic insight. In depth knowledge of the public sector and of current policy and political issues affecting it. |

#### Marking scheme

For the Methodology, Delivery and Experience shall be scored using the following:

|  |  |  |
| --- | --- | --- |
| **Table of Evaluation Methodology and Marking Scheme for Quality Criteria** | | |
| **Score** | **Category** | **Definition (Explanation)** |
| 0 | Unacceptable | Unanswered or totally inadequate response to the requirement. Complete failure to understand/reflect the core issues. Fails to demonstrate an ability to meet the requirement. |
| 1 | Poor | Minimal or poor response to meeting the requirement, with little or no relevance. Limited understanding misses some aspects.  The response addresses few elements of the requirement and contains insufficient/limited detail or explanation to demonstrate how the requirement will be fulfilled. |
| 2 | Fair | Response is mostly relevant, but elements of the response are poor. The response addresses most elements of the requirement but contains limited detail or explanation to demonstrate how some of the requirement will be fulfilled. |
| 3 | Acceptable | Response is relevant and acceptable. The response addresses a broad understanding of the requirement but lacks details on how the requirement will be fulfilled in certain areas. |
| 4 | Good | Response is relevant and good. The response is sufficiently comprehensive to assure and demonstrate a good understanding, also providing much detail on how the requirements will be fulfilled. |
| 5 | Excellent | Excellent response fully addressing the requirement and providing significant additional evidence of how the criterion has been met and how value would be added  The response is comprehensive, unambiguous and demonstrates a thorough understanding of the requirement and provides details of how the requirement will be met in full. |

For the Price evaluation the following shall apply:

* + - * + Fixed fee
        + The lowest fixed fee will be awarded the maximum price score of 100.
        + All other bidders will get a price score relative to the lowest fee tendered.
        + The calculation we will use to calculate your score is as follows:

Price Score = Lowest Total Fee x 100

Bidder’s Total Fee

Your score will then be multiplied by the weighting we have applied to this aspect of the price evaluation to provide a weighted score for the fee.

## Procurement Procedures

### Tendering Timetable

The timescales for the procurement process are as follows:

| Element | Timescale |
| --- | --- |
| Invitation to tender issued | 12 January 2023 |
| Deadline for the submission of clarification questions | 24 January 2023 17:00hrs |
| Deadline for submission of proposals | 30 January 2023 10:00hrs |
| Shortlisted suppliers notified | 02 February 2023 |
| Interviews and presentations\* | 06 February 2023 if required |
| Award contract | 08 February 2023 |
| Project Inception Meeting | w/c 13 February 2023 |

Please ensure that the Project Manager and other key consultants who will be delivering this work are available to give presentations on the interview date

### Tendering Instructions and Guidance

#### Amendments to ITT document

Any advice of a modification to the Invitation to Tender will be issued as soon as possible before the Tender submission date and shall be issued as an addendum to, and shall be deemed to constitute part of, the Invitation to Tender. If necessary, ORR shall revise the Tender Date in order to comply with this requirement.

#### Clarifications & Queries

Please note that, for audit purposes, any query in connection with the tender should be submitted via the ORR eTendering portal. The response, as well as the nature of the query, will be notified to all suppliers without disclosing the name of the Supplier who initiated the query.

#### Submission Process

Tenders must be uploaded to the ORR eTendering portal no later than the submission date and time shown above. Tenders uploaded after the closing date and time may not be accepted. Bidders have the facility to upload later versions of tenders until the closing date/time.

Please submit the Form of Tender and Disclaimer certificate along with your proposal. If you are already registered on our eTendering portal but have forgotten your login details, please contact the portal administrator.

An evaluation team will evaluate all tenders correctly submitted against the stated evaluation criteria.

By issuing this Invitation to Tender ORR does not undertake to accept the lowest tender, or part or all of any tender. No part of the tender submitted will be returned to the supplier

#### Cost & Pricing Information

Tender costs remain the responsibility of those tendering. This includes any costs or expenses incurred by the supplier in connection with the preparation or delivery or in the evaluation of the tender. All details of the tender, including prices and rates, are to remain valid for acceptance for a period of 90 days from the tender closing date.

Tender prices must be in Sterling.

Once the contract has been awarded, any additional costs incurred which are not reflected in the tender submission will not be accepted for payment.

#### References

References provided as part of the tender may be approached during the tender stage

#### Accessibility Guidelines

As a public body we are legally required to comply with accessibility guidelines. Please ensure any commissioned report is in a format that meets web accessibility regulations: [Guidelines for writing accessible reports for ORR - Guidance for external suppliers | Office of Rail and Road.](https://www.orr.gov.uk/media/23638)

#### Contractual Information

Following the evaluation of submitted tenders, in accordance with the evaluation criteria stated in this document, a contractor may be selected to perform the services and subsequently issued with an order.

Any contract awarded, as a result of this procurement will be placed with a prime contractor who will take full contractual responsibility for the performance of all obligations under the contract. Any sub-contractors you intend to use to fulfil any aspect of the services must be identified in the tender along with details of their relationship, responsibilities and proposed management arrangements.

The proposal should be submitted in the form of an unconditional offer that is capable of being accepted by the ORR without the need for further negotiation. Any contract arising from this procurement will be based upon ORR’s standard Terms & Conditions (see Form of Agreement attached). You should state in your proposal that you are willing to accept these Terms & Conditions.

ORR does not expect to negotiate individual terms and expects to contract on the basis of those terms alone. If you do not agree to the Conditions of Contract then your tender may be deselected on that basis alone and not considered further.

**ORR may be prepared to consider non-fundamental changes to the standard terms and conditions in exceptional circumstances. If there are any areas where you feel you are not able to comply with the standard ORR terms and conditions, then details should be submitted as a separate annex to the proposal using the following format:**

| Clause Number | Existing Wording | Proposed Wording | Rational for amendment |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

Any services arising from this ITT will be carried out pursuant to the contract which comprises of:

* + - * + ORR Terms & Conditions;
        + Service Schedules;
        + this Invite to Tender & Statement of Requirement document; and
        + the chosen supplier’s successful tender.

ORR’s Transparency Obligations and the Freedom of Information Act 2000 (the Act)

The ORR is a central Government department and as such complies with the Government’s transparency agenda. As a result, there is a presumption that contract documentation will be made available to the public via electronic means. The ORR will work with the chosen supplier to establish if any information within the contract should be withheld and the reasons for withholding it from publication.

Typically the following information will be published:

* + - * + contract price and any incentivisation mechanisms
        + performance metrics and management of them
        + plans for management of underperformance and its financial impact
        + governance arrangements including through supply chains where significant contract value rests with subcontractors
        + resource plans
        + service improvement plans

Where appropriate to do so information will be updated as required during the life of the contract so it remains current;

In addition, as a public authority, ORR is subject to the provisions of the Freedom of Information Act 2000. All information submitted to a public authority may need to be disclosed by the public authority in response to a request under the Act. ORR may also decide to include certain information in the publication scheme which it maintains under the Act. If a bidder considers that any of the information included in its proposal is commercially sensitive, it should identify it and explain (in broad terms) what harm may result from disclosure if a request is received and the time period applicable to that sensitivity. Bidders should be aware that even where they have indicated that information is commercially sensitive ORR may be required to disclose it under the Act if a request is received. Bidders should also note that the receipt of any material marked “confidential” or equivalent by the public authority should not be taken to mean that the public authority accepts any duty of confidence by virtue of that marking. If a request is received ORR may also be required to disclose details of unsuccessful bids

Please use the following matrix: to list such information:

| Para. No. | Description | Applicable exemption under FOIA 2000 |
| --- | --- | --- |
|  |  |  |
|  |  |  |

Annex 1 ORR Internal Safety Management System Guidance

Chapter 1 Introduction

This document is intended to provide guidance to organisations on the design and implementation of a Safety Management System (SMS), outlining the framework and structure.

Under health and safety law, an employer has the legal responsibility to protect workers and others from risk to their health and safety.

The guidance has been written to assist in the interpretation of the requirements of the Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS). ROGS provides the regulatory regime for railway safety, which includes the mainline railway, metros (including London Underground), tramways, light rail, and heritage railways.

The regulations require railway operators (known as transport operators) to maintain a safety management system and hold a safety certificate or safety authorisation indicating the SMS has been accepted by the Office of Rail and Road.

Further guidance and information can be found within:

* Health and Safety at Work Act 1974
* Management of Health and Safety at Work Regulations 1999
* ISO45001 Occupational Health and Safety Management Systems
* HSG65 Managing for Health and Safety

What is a Safety Management System?  
  
A Safety Management System (SMS) allows organisations to proactively manage safety risks before they result in an accident or incident. The implementation of an SMS will allow an organisation to manage their activities in a more disciplined and focussed manner, allowing the organisation to prioritise their risks more effectively and managing its resources.

**Does an SMS cost money?**

Simple answer is yes. The exact cost of setting up and maintaining the SMS will depend on the size and complexity of the organisation. It is important to remember that any accident will cost a lot more, and could potentially also harm the reputation of the organisation.

The SMS, like many other management systems is based on a cyclical process of planning, implementation, monitoring the system and learning to take action to improve (PDCA Cycle). This results in continuous improvement of the system and increases the likelihood that the organisation will achieve its objectives.

The SMS should detail the organisations approach to

* Senior Management commitment to the management of health and safety.
* Effective safety reporting.
* Continuous monitoring of the SMS.
* Investigation of safety accidents and occurrences.
* Sharing of lessons learned and best practices
* Integration of safety training for non-operational and operational staff.
* Effective implementation of Standard Operating Procedures (SOP’s).
* Continuous improvement of the overall level of safety across the organisation.

The benefits of an organisation implementing an SMS are but not limited to:

**Strengthened Safety Culture** – when the management make a commitment that safety is a priority, it is then received and understood by its staff, and becomes part of their normal day to day work.

**Processed based approach to safety** – establishing a clear and documented approach to achieving safe operations that is clear and understood by all within the organisation.

**Early identification of Hazards** – improving the organisations ability to identify early emerging hazards and evaluating the risk to prevent accidents and incidents.

**Safety Data decision making** – analysis of the safety data will allow an organisation to strategically determine the information to make informed future decisions.

**Improved safety communications** – providing a common language throughout the organisation to enable the development and implementation of the safety strategy and policy. This will also develop and provide the organisations safety objectives and performance indicators (SPI’s) resulting in improved understanding of the safety performance in the organisation by its people, as well as how they contribute to the safety success of the organisation.

**Financial savings** – having a robust and mature SMS can reduce costs resulting from accidents and incidents. By the organisation having a proactive approach to risk management, the cost resulting from accidents and incidents can be reduced or avoided. These costs can be injury costs/compensation, repair costs to equipment, legal costs, loss of business etc. Some insurance providers also offer reduced premiums based on an organisation’s safety performance.

The approach contained within this document is based upon the concept of Plan-Do-Check-Act (PDCA). Further information on this approach can be understood further within this document in Chapter 2.

**Designing the SMS**

A mainline railway organisation is required under the Railway and Other Guided Systems Regulations 2006 Part 2, to have a Safety Management System for managing a safe working environment. ORR will focus on checking that the safety management system is effective and fit for purpose and is the critical part of us reviewing an organisation for issuing a safety certificate and authorisation. Lower risk sectors such as tramways and transport systems that do not run at speeds above 40kmh do not need safety certificates but must still have a written safety management system in place.

When an organisation is designing and building their SMS, the following steps may assist them in scoping out what and how their own SMS will support their organisation.

* Identify what the SMS will cover - What is the scope of operations? The SMS must be fit for purpose, and ensure that it will support your organisation in the management of health and safety, whilst also satisfying the legal requirements.
* Governance – ensure that there is the commitment to safety and leadership across the organisation, with the appropriate governance and oversight programs. Ensure that there are sufficient resources for the design, development and implementation of the SMS.
* Safety Policy – the content of the safety policy is discussed in more detail later on in this document.
* Procedures and Processes - establish procedures and processes to ensure that your staff are able to report safety occurrences and near misses. Promote a culture that enables staff to freely report.
* Risk management Procedures – the key to any SMS is to ensure that the organisation will be able to ensure a safe working environment. The organisation must have processes in place to identify hazards, and to undertake a comprehensive and systematic assessment of the identified risks. These safety risks must be associated with the organisation’s operations.
* Risk Management - undertake risk assessment activities to identify the risks associated with your organisations operations.
* Assurance - how will you measure the performance of your SMS, ensuring that it is performing as expected.

Chapter 2 SMS Implementation

An organisation may have some elements of an SMS in place already, but not clearly documented or structured. The implementation of an SMS involves the scoping out of all aspects of developing and implementing the system, and over time the SMS will mature through the process of continuous improvement.

Organisations initially should consider a GAP analysis of the existing system in place and to identify areas that need additional work. This will allow the organisation to easily identify which elements are in place, which elements need additional work and what is missing that needs to be designed and implemented. This will ensure that the SMS meets the organisations needs as well as regulatory requirements.

Once the organisation has identified the areas that require additional work, an implementation plan should be prepared and agreed. The missing areas / GAPs that require further work, need to be documented on the organisations implementation plan to develop the SMS by:

* What
* When
* And by Who

The critical part of implementing an SMS is the senior management commitment and endorsement. This will need to be led from the top of the organisation by the most senior person, sometimes known as a CEO or Managing Director. The most senior person should consider how they are demonstrating their commitment to safety, and could be by:

* Recruiting a management team appropriate to the size and complexity of the organisation.
* Ensuring adequate resources are in place to implement and maintain the SMS.
* Developing, endorsing and disseminating a safety policy and objectives.
* Establishing a safety strategy and safety goals.
* Specifying the roles and responsibilities and accountabilities of the management team in relation to safety.

The implementation plan should also identify the priority of area or GAPs identified. It is recommended that the implementation of an SMS is a step-by-step approach as developing and implementing over a short period of time can be a challenge and can result in a less effective SMS that has not been designed to support your organisation in the most effective manner.

Organisations may already have other management systems implemented, such as a Quality Management System (SMS). When developing the implementation plan for an SMS, consider the, if any, relationships the SMS has with others such as a QMS. An SMS can enhance or expand other management systems such as a QMS.

**The Plan, Do, Check, Act Approach to SMS**

When designing a Safety Management System, the organisation can consider the cyclical approach of Plan-Do-Check-Act (PDCA) as outlined in HSG65.

Plan – Determine your policy and plan for implementation of your SMS.

* When outlining your plan, it is important that consideration is given to:
* Thinking about where you are now and where you need to be?
* Say what you want to achieve and who will be responsible for what. Explain how these will be achieved and measured.
* How will you measure the performance of health and safety management?
* How will the organisation deal with emergencies? Who will you need to co-operate with in these events?
* How will the organisation plan for changes and identify any specific legal requirements that apply to your operation.

Do – Profile risks, organise for health and safety and implement your plan.

* Identify your risk profile, assessing risks, identifying what could cause harm within your workplaces and who it could harm. How will you manage these risks?
* Decide how you will prioritise the risks.
* Organise your activities to deliver your plan. Involve workers and communicate across the organisation to ensure that everyone understands what is needed and can discuss if needed. Ensure you have provided adequate resources, to include competent advice on health and safety.
* Implement the plan. Decide on the controls needed and put them in place. Provide the right tools and equipment, to include training to ensure your staff can do the job safely.

Check – Measure the performance of the SMS.

* Measure the performance of your SMS. Make sure your plan has been implemented, not just from a paperwork/documentation perspective, but what is documented is actually being followed in the workplace.
* Assess how well the control measures for the identified risks are effective, and if you are achieving your aims. Audits can be a good tool for this.

Act – Review the performance of the SMS.

* Review your performance. Learn from any accidents and incidents, lost time injury data, near miss reports and information from other similar organisations.
* Revisit your plans, policies, documents and risk assessments to check if they are still current and relevant. Update if needed.
* Take action on any lessons learnt from internal and external inspections and audits.

Within this guidance, we will expand on the key components required for an effective SMS.

The Health and Safety Executive (HSE) have published further information on the PDCA model in their publications HSG65 for further reading.

The Health and Safety Executive (HSE) have published HSG65 on Plan-Do-Check-Act for further reading.

https://www.hse.gov.uk/pubns/books/hsg65.htm

Chapter 3 Framework of a Safety Management System

An organisation’s SMS should be made up of the following key components:

1. **Safety Management System (SMS)**

* Management commitment and responsibility
* Safety Accountabilities
* Appointment of key Safety Personnel
* Co-ordination of Emergency Response Planning (ERP)
* SMS Documentation

**Safety Policy and Objectives**

* Hazard identification
* Risk assessment and mitigation

1. **Safety Risk Management**

* Safety performance monitoring and measurement
* Management of Change
* Continuous improvement

1. **Safety Assurance**

* Training and Education
* Safety communication

1. **Safety Promotion**

The components of the framework of the SMS are shown as separate areas, they are all interrelated and form the basis of an effective SMS.

## Chapter 4 Safety Policy and Objectives

This chapter explores the framework of an SMS around an organisations Safety Policy and setting of its safety objectives. In addition, you will also find the following explained in further detail:

* Management commitment and responsibility
* Safety Accountabilities
* Appointment of key Safety Personnel
* Co-ordination of Emergency Response Planning (ERP)
* SMS Documentation

**Safety Policy**

The law states that every business must have a policy for managing health and safety. The legal requirement to write a policy is included in the Health and Safety at Work Act 1974. The Management of Health and Safety at Work Regulations explain the steps that an organisation must take to manage health and safety.

A health and safety policy sets out the organisations commitment to health and safety and explains how the organisation will manage health and safety. It should clearly state who does what and how. The policy should be endorsed by the most senior person within the organisation.

The Safety Policy should cover these main areas:

1. Statement of Intent

The organisation should set out their general policy on health and safety at work, including their commitment to managing health and safety and the organisations aims and how they will comply with their legal obligations, meeting all applicable standards and consider best practice. The safety policy should be signed by the most senior person in the company. The policy should be implemented and understood at all levels of the organisation.

1. Responsibilities for health and safety

List the names, positions, and roles of the people in your business who have specific responsibility for health and safety.

1. Arrangements for health and safety

Give the details of the practical arrangements that the organisation has in place. The policy needs to show how the organisation will achieve their health and safety objectives. This can include that the organisation will provide appropriate resources, determining that safety is the primary responsibility of all staff.

The policy should also set out the organisation’s commitment to encourage safety reporting, defining what is acceptable and unacceptable performance and provide a fair and just protection to all staff.

1. Safety reporting procedures

Giving details that staff should report near misses and safety occurrences, defining the types of behaviour that are not acceptable, and the conditions where the reporting person is protected from disciplinary actions.

1. Period of review

The safety policy should be current, and up to date. The SMS will detail how often documents to include the safety policy are to be reviewed and updated. The safety policy should contain version control and issue date.

**Management commitment and responsibility**

The most senior person within the organisation has the full responsibility and accountability for the SMS. Safety is overall a shared responsibility across all levels of management.

The most senior person should:

* Ensure the necessary resourcing to include finances and staffing levels.
* Responsibility for the conduct of the organisation’s affairs.
* Full authority over the organisation’s operation.
* Full and final accountability for the safety of the organisation.

Senior management within the organisation should have the following responsibilities documented within the SMS:

* Continuously develop the safety policy which is endorsed and supported by the most senior person
* Actively promote the SMS to all employees and ensure that the staff comply with the processes and procedures.
* Ensure the appropriate resources both human and financial are available to support the SMS objectives.
* Establish safety objectives and performance measures.
* Continuously monitor their area of responsibility, as detailed within the SMS manual.

The active involvement of senior management in the health and safety management system is very important. It is an integral part of the organisation and this level of commitment is vital to the overall effectiveness of the SMS.

Managers should lead by example, and appear to be engaging with staff on a regular basis of health and safety, and visibly demonstrate their commitment by their actions, for example wearing correct Personal Protection Equipment (PPE), following the safety rules etc.

**Safety Accountabilities**

The organisation should clearly define the lines of safety accountabilities throughout the organisation, which should include an individual’s accountability for safety on the part of the most senior person. There is also the need to clearly define the safety responsibilities and behaviours of the organisation’s key personnel.

The most senior person / accountable manager along with the senior management team, set the standard for the organisation’s safety culture. Without senior management commitment and leadership, the SMS will not be effective.

At all levels throughout the organisation, staff should be aware and understand their safety accountabilities and responsibilities, with clear expectations on what is acceptable and unacceptable behaviour towards safety. All defined accountabilities and responsibilities should be clearly defined within the SMS manual and communicated throughout the organisation.

**Access to Competent Safety Advice**

To support the SMS, the organisation should have access to competent safety advice. This is often defined as the role of a Safety Manager and should be the main contact and responsible for the development, maintenance and the promotion of the SMS. They should report directly to the most senior person / accountable manager and have the necessary authority and status when dealing with safety related matters. Depending on the organisation’s size and complexity, the competent safety advice may need to be accessed on a full time basis, however in smaller less complex organisations it may be a part time role, or a role shared with other responsibilities.

The person responsible for safety advice needs to be competent and have detailed knowledge of safety management principles and practices. They should also have an operational knowledge and experience in the functions of the organisation and the supporting systems.

The competent safety advice role’s responsibilities should be, but not limited to:

* Manage the SMS Implementation plan on behalf of the senior person.
* Monitoring the safety performance to include corrective actions and their effectiveness
* Maintain the safety documentation
* Ensure staff are trained and informed on their safety responsibilities
* Provide advice and guidance on safety related issues
* Provide support and where relevant participate in safety investigations
* To liaise with external bodies and regulators.

**Safety Committee Meetings**

Depending on the size and complexity of the organisation, will depend on the size and numbers of safety committees. The purpose of safety committee meetings is that they support the SMS across the organisation. The most senior person should be actively involved within the SMS, and an effective manner for the senior person to understand the performance of the SMS and the feedback, is to attend (usually chair) safety committee meetings.

In a smaller, less complex organisation, a single safety committee meeting may be suitable. A safety committee meeting should be comprised of the senior person and senior management team, and monitors the effectiveness of the SMS, reviews the safety performance identifying significant events, current risk management along with emerging threats and ensures that appropriate resources are available.

Larger and more complex organisations may have a hierarchical safety committee structure, which would involve various safety committee meetings feeding into a senior leadership safety committee meeting. An example of a structure within a complex organisation could be as follows:

* Safety Review Board (SRB)

This is usually chaired by the most senior person / accountable executive and comprised of senior management from across the organisation with the competent safety advisor/safety manager acting in an advisory capacity. The SRB would oversee the SMS performance across the organisation and would be accountable for making strategic safety decisions. The SRB would be supported by the SAG’s that report into it and take direction from the SRB.

* Safety Action Group (SAG)

The SAG is usually more operationally focussed and is made up of managers and front line staff, chaired by a designated manager. The SAG would monitor the operational safety performance ensuring that the appropriate safety risk management activities are conducted. The SAG would also review the safety data , management of change, effectiveness of risk controls. The SAG reports to and takes leadership from the SRB for any identified areas for strategic risk management improvements and review the status of the SMS performance within their area.

It is advisable that all safety committee meetings and subgroups have defined and documented Terms of Reference (TOR’s) to clearly set out the role of the authority of the committee or sub group has over safety and its responsibility.

**Emergency Response Planning**

A critical component of an SMS is the proactive planning for potential matters that could cause disruption because of an accident/incident or a combination of either or both internal / external influences. The purpose of an emergency response plan is to ensure that the organisation knows what to do in the event of an emergency and importantly how to return to normal operations. The ERP should address those emergency situations that are foreseeable which have been identified through the SMS. They should include any mitigating actions, processes, and controls to manage the emergencies and minimise the consequences of the emergency.

An organisation should consider when drafting ERP procedures that they capture:

* An orderly and efficient transition from normal to emergency operations.
* Delegation of emergency authority.
* Roles and responsibilities during the emergency to include contractors, third parties and emergency services.
* Co-ordination between internal and external stakeholders to handle the emergency.
* Safe continuation of operations whilst the emergency is handled and return to normal operations as soon as possible.

An emergency event could include the involvement of both internal and external stakeholders, such as:

* Providers of Emergency Service, for example Police, Fire and or Ambulance.
* Any other Railway organisation to include infrastructure managers.
* Providers of utilities such as water, sewage, gas, electricity.
* Any other public transportation providers (non railway).

Any ERP should also be regularly tested and practiced ensuring that all staff likely to be involved should an emergency arise, be aware of their roles and responsibilities, in addition to ensuring that the ERP is robust and effective. To ensure that an ERP is effective, an organisation should consider:

* Adequate training and competency for staff involved.
* Easily accessible and understood procedures.
* Clear understanding of roles and responsibilities in emergency situations.
* Practice the processes in a desk top environment to be prepared. Review the performance of any exercise and ensure key learnings are captured and communicated.

All ERP processes and procedures should be documented within the SMS. For larger complex organisations, they may choose to have a separate ERP manual. However the organisation chooses to document the ERP procedures, it is important that all those staff that have defined roles and responsibilities know where to locate the information.

**SMS Documentation and Control**

The size, nature and complexity of an organisation will determine the SMS documentation that is needed. It is usually comprised of:

* SMS records, such as risk assessments, hazard logs, safety committee meeting minutes etc
* Records and documentation management
* Safe Systems of Work (SOP’s)
* SMS Manual

The SMS manual of an organisation sets out the approach to Safety for the whole organisation, its people and those that the activities interact with, such as sub-contractors, customers or general public. The manual contains all elements of the SMS including the Safety Policy, the safety objectives, procedures and safety accountabilities of all the roles within the organisation.

The SMS manual is continuously adapting to the changes that occur within the organisation and should be reviewed on a regular basis to ensure that it remains relevant to the organisation. The manual can be presented either as a traditional manual, a series of individual documents/procedures that form part of the overall manual, or a variety of both.

The SMS manual typically would contain the following content, depending on the size and complexity of the organisation:

1. Scope of the SMS;
2. Safety policy and objectives;
3. Safety accountabilities;
4. Key safety personnel;
5. Documentation control procedures;
6. Hazard identification reporting and
7. risk management schemes;
8. Safety performance monitoring;
9. Incident investigation and reporting
10. Emergency response planning;
11. Management of change processes;
12. Safety promotion; Contracted activities;
13. Safety/Just culture policy and supporting processes

Once created and implemented, all documentation contained within the SMS needs to be maintained and controlled. Documentation on health and safety should be functional, concise with the emphasis on its effectiveness rather than its volume.

The maintenance and control of the documentation needs to ensure that updates and revisions are reviewed, validated, and approved following an agreed, documented process. This will ensure the currency and accuracy of the documentation content. Any documents need to be version controlled, with issue dates and numbering. Any distribution of new or updated documentation versions needs to be communicated, and the organisation needs to take reasonable steps to ensure previous versions are take out of circulation.

The management and control of the documentation needs to ensure the accuracy and currency of the content is reviewed at an agreed period of time, ensuring controls in place for that review and subsequent approval. During the changes of any content, the organisations should ensure that feedback is received from respective users and or Subject Matter Experts (SME) to make sure that any changes do not introduce new risks or increase the current risks, in which case a risk assessment may need to be considered.

The control needs to ensure that those who need to have access to the documentation do so, and the access is user controlled. Processes need to be managed to register new or revised documentation within the SMS.

As with any documentation management system, the storage and retention of key documents is essential in ensuring overall control of the SMS. The organisation needs to ensure that all documentation is stored in a safe and secure manner, and be available for internal or external audit/inspection for compliance or investigative purposes. The SMS needs to define the agreed period for retention and disposal of documentation, ensuring it is also compliant to any regulatory requirements. The law requires suitable records to be maintained, for example records of risk assessments under the Management of Health and Safety at Work Regulations 1999.

**Safety Culture**

Organisational culture is the shared values, attitudes and patterns of behaviour that give the organisation its character, or the “way in which things are done”. A good safety culture is one that puts health and safety high on the list and adopts the same positive attitudes to health and safety. This will influence the way in which individuals in the organisation handle new events and decisions.

Some organisations strive to promote a “just culture” which recognises that people make mistakes and the need to manage it by supporting systems and practices that promote a good safety design, learning from the errors to make sure the likelihood of reoccurrence is minimised. Such a culture will encourage its staff to report near miss events and improves staff participation in safety issues. “Just Culture” should not be confused with a “no blame culture”.

The key elements of a positive safety culture are:

Management Commitment – the organisations management commitment is demonstrated by the proportion of resources (money, time, people) and support allocated to health and safety management, and by the priority given to health and safety matters against other business priorities such as operational performance. The active involvement of senior management is very important in the shaping of the organisational culture.

Good Communication – open, effective, 2-way communication is essential within an organisation. Matters surrounding health and safety should be part of every day to day conversations with management actively listening to what is being reported or told to them, and being visible with the actions they are taking.

Training – ensuring there is effective health and safety training with the objective of improving the staff’s understanding of the hazards and controls in addition to the principles of risk management.

**Safety Objectives**

Separate to SPI’s, the organisation should have specific safety objectives. The most effective safety objectives are those that provide a call to action and develop commitment and engagement from all the staff. The safety objectives that any organisation should consider are to establish specific safety goals or targets for the appropriate aspects of your organisations safety vision, management commitment, safety milestones and outcome/results.

The objectives should be specific, clear and reviewed on a regular basis. A good technique an organisation may wish to consider when drawing up safety objectives is to use the “SMART” technique. Following this technique, the objectives will be:

**S** Specific **M** Measurable **A** Achievable  **R** Relevant **T** Timely

The creation of Safety Performance Indicators (SPI’s) and performance targets will help an organisation to monitor the progress and achievement of the objectives, and form part of an organisations Safety Assurance program.

Staff should be informed on the progress of the organisation against the SPI’s and the safety objectives. The process should determine a communication plan for the dissemination of the information across the business. The means of communication should be detailed within the organisation’s SMS.

Chapter 5 Safety Risk Management

This chapter explores the framework of an SMS around an organisations Safety Risk Management program. This chapter explores in more detail:

* Hazard identification
* Safety Risk Assessment

Safety risk management is the identification, analysis and elimination or mitigation to an acceptable or tolerable level of the hazards and their subsequent risks.

Before a SMS can be built or improved, an organisation should identify the safety hazards and ensure that there are controls implemented to manage the risk.

As an employer, you are required by law to protect your employees, and others from harm. Under the Management of Health and Safety at Work Regulations 1999, the minimum you must do is:

* Identify what could cause harm or illness in your organisation (hazard)
* Decide how likely it is that someone could be harmed and how seriously (the risk)
* Take action to eliminate the hazard, if this is not possible, control the risk by reducing it to as low as reasonably practicable.

Assessing risk is just one part of the overall process used to control risks in the organisation.

Risk management is a critical activity, and the SMS supports the management of risk to ensure that risks are identified, assessed, eliminated or controlled.

It is important that the organisation applies a common, consistent standard for risk assessment and control, which should be clearly document within the organisation’s SMS. The organisation should ensure that those undertaking risk assessments are competent by undergoing appropriate training and a clear understanding on how to deliver the consistent approach to risk management.

The SMS risk management procedures that an organisation looks to implement should ensure that:

* Systematic assessment of safety risks arising from the organisation’s operations to include risk identification, analysis and evaluation.
* Monitoring and following up on risk treatment / risk controls from implementation to closure. There should also be ongoing oversight with the monitoring and regular review of the identified risks and control measures to ensure they remain effective.
* Procedures for identifying which risks are to be reporting with appropriate internal stakeholders and external stakeholders, such as governing bodies.
* Arrangements in place for consultation with relevant stakeholders and subject matter experts, ensuring they are involved at all stages of the risk management process.

A simplified Risk Management process can be detailed as per the flow diagram below.

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**Hazard Identification**

The first step is to identify the hazard. The definition of a hazard is any condition that can cause or contribute to an accident or incident. The organisation’s SMS should set out a clear process on hazard identification that enables the collecting, recording and analysis of hazards that affect the activity of the organisation.

There are different sources that of how an organisation can gather hazard identification, the two main sources are:

* **Reactive** – This involves the analysis of past or previous outcomes or events. These can be hazards identified during the course of incident or accident investigations, along with staff or people reporting via the prescribed reporting channels from the SMS using the voluntary or confidential reporting.
* **Proactive** – This involves the collecting of safety data of lower consequence events, process performance and analysing the information or frequency of the occurrence to determine if the hazard could lead to an accident or incident. These can be the hazards identified during activity such as audits and or inspections, staff surveys, output from the change management process and safety risk assessments.

It is good practice in an organisation that an initial safety hazard identification exercise is carried out, and that overtime additional hazards can be added to the risk register. This ensures that hazard identification becomes an ongoing activity. Hazards can also be identified from external sources, such as industry forums, industry working groups and outputs from other organisation’s safety incident reports, whereby similar hazards have been identified within the organisation.

**Risk**

Risk is the severity and likelihood of the consequences of a hazard occurring. The organisation should consider having a process to define how they are assessing the severity. This can either be done by worst case scenario or by the most foreseeable outcome. Any risk assessment that is performed should detail the methodology and decisions made, with appropriate justifications.

Once a hazard has been identified, a risk assessment is conducted to determine the potential for harm or damage.

An organisation should consider their SMS covers:

* Process to conduct a comprehensive and systematic assessment of safety risks resulting from their operations, to include risk identification, analysis and evaluation.
* Monitoring and oversight of risk treatment activities from implementation to closure.
* Ongoing monitoring and review of the identified risks and the effectiveness of the control measures.
* Communication and consultation arrangements to ensure appropriate internal and external stakeholders are involved in all the stages of the risk management process.
* Procedure to ensure consistent application in the evaluation of risk, to include likelihood and severity risk levels. This will support the prioritisation of risk evaluation, and treatment activities.

The organisation should define the criteria around which risks are deemed acceptable and which risks need additional work to reduce the risk to an acceptable level. To avoid accidents and incidents, organisations should consider implementing multiple layers of controls or defences to help reduce the likelihood of the risk.

Organisations could also consider setting up discussion groups with staff and management, to collectively identify hazards and risk. This is a good way to encourage staff and management to become more actively involved in establishing or continuously improving the organisation’s SMS.

**Risk Assessment**

The organisation should have a documented risk assessment procedure that determines the acceptability of risk.

The organisation needs to ensure that they have documented within their SMS a Risk Assessment process. A step by step guide for completing risk assessments could be:

Step 1 – Identify the hazard

Review how the operations could be harmed. This could be achieved by walking around your workplace, observing what is happening and looking for things that could reasonably be expected to cause harm. Consider involving staff as they could have noticed things that have not been obvious to the person doing the walk around. Safety data can also be reviewed as this can highlight hazards that caused an incident or accident to occur. This could be near miss data, safety occurrence reports, or safety incidents from similar organisations.

Step 2 – Identify the risk

What might be harmed and how the harm might be caused?

Step 3 – Evaluating the risk

Once the hazards and the potential risks have been identified, what to do about them needs to be decided. The organisation must do what it can to reduce the risk as low as reasonably practicable. Can the risk be eliminated altogether? Usually this cannot be achieved, so the organisation should consider what controls can be implemented to control the risk so that harm is unlikely to reduced further. The organisation could also consider if there is another option that prevents the hazard or reduces the exposure to the hazard.

When evaluating the risk, need to consider how bad the outcome would be (severity) of any consequences arising from the identified hazard, and how likely the hazard might result in the identified potential safety incident (likelihood).

The procedure implemented within your SMS should contain a risk tolerability matrix that is used across the whole organisation, accompanied by descriptors for levels of severity or consequence.

Different industries use different Risk Tolerability Matrixes, and example of one is below.

Table

Description automatically generated

|  |  |
| --- | --- |
| Safety risk description | Recommended action |
| Unacceptable | Take immediate action to mitigate the risk or stop the activity. |
| Review | Can be tolerated based on the safety risk mitigation. This could require a management decision to accept the risk. |
| Acceptable | Acceptable as is. No further risk mitigation required. |

The risk tolerability matrix allows the organisation to identify easily which risks are acceptable, those that require further controls to reduce the likelihood as low as reasonably practicable, and those risks that are unacceptable. At the unacceptable level, the organisation should have clearly defined and implemented process for stopping or pausing the activity until controls can reduce the likelihood as low as reasonably practicable, that makes the risk either acceptable or under review.

Step 4 – Risk mitigation

Once the risk levels have been determined, assess the safety defences or controls that are in place to work out how effective they are against the risk. If they are assessed as fully effective, the operation can continue. If they are not fully effective, the organisation should consider how to improve the controls or to remove / avoid the hazard entirely. The risk should be managed to the point of being as low as reasonably practicable. All means of mitigation should be applied until the cost of mitigation is grossly disproportionate to the benefit that the organisation would obtain. It is important to note that if the risk has been assessed as unacceptable, the organisation should consider not continuing with the operations until that risk is mitigated to an acceptable level. Be reasonable and realistic with any risk assessment action plans. Your risk assessment should only include what you reasonably expect to know, you are not able or expected to anticipate unforeseeable risks.

When looking at what risk treatment options to control or mitigate the risk, it is important to select the most appropriate risk treatment or control that balances the potential benefits in relation to the safety outcome against the efforts and disadvantages of implementation. When determining the appropriate controls, you may wish to review and consider the hierarchy of controls pyramid when making the decisions, as shown below.

Chart, diagram, funnel chart

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If your risk assessment identifies a number of different hazards, you need to prioritise them by putting them in order of importance, addressing the most serious risks first. The greater the hazard the more robust and reliable the controls to reduce the likelihood of the risk need to be.

Step 5 – Record findings and implementation

One the risks and the mitigations/defences have been put in place, decide how to implement your risk management plan. Record the outcome of your risk assessment and share across the organisation. Document what has been done so that it can be reviewed at a later date.

Step 6- Monitoring effectiveness

This is where an organisation you need to ensure that what has been agreed has been implemented and is working as expected. If they are not working as expected, they are to be reviewed and reassessed with the performance monitored.

Step 7 – Review the risk assessment and update if needed

It is not uncommon that many organisations continue to change on a frequent basis. Therefore the risk assessments completed need to be regularly reviewed to:

* Check if there have been any significant changes since the time of the initial risk assessment or previous review.
* Are there still actions or measures needed to be done to reduce the risk to as low as reasonably practicable?
* Have you received reports from staff that there is still a problem?
* Any learnings from accidents or near misses that need to be incorporated into your risk assessment?

Risk assessments should be conducted by competent person, and as they can be subjective, verified by another competent person or by review at a safety committee.

Chapter 6 Safety Assurance

Safety assurance is the core of any SMS with assurance functions monitoring the performance, managing changes and ensuring compliance. Assurance consists of processes and activities that an organisation undertakes to determine whether or not your SMS is operating as expected. Safety assurance includes systematic and ongoing monitoring and recording of the safety performance of the organisation.

Within this chapter, the following elements of Safety assurance will be further explained:

* Safety Assurance
* Safety performance indicators.
* Management of Change
* Continuous improvement of the SMS.

**Safety Assurance**

Once the organisation has decided and published its safety objectives, it now needs to monitor and measure how it is performing against them and whether it is meeting its own targets. This will also provide the organisation with feedback on its safety performance which will allow it to assess and make changes where necessary. This is done by collecting and analysing safety data and information from across a variety of different sources, which depends on the size and complexity of the organisation. Having safety data to support the organisation’s decision making is essential.

An organisation can monitor their safety performance using different sources of data to include:

* Hazard and safety reports
* Safety surveys
* Safety audits
* Safety investigations
* Operational performance data.

Safety performance management is an ongoing activity within the SMS, and as the maturity and quality of data improves over time, it is not uncommon that an organisation may consider refining the scope of its SPI’s to better align with its safety objectives.

**Safety Performance Indicators (SPI)**

The organisation needs to ensure that the SMS is working and is effective and have a proactive and systematic approach for measuring it’s performance, whilst always looking out for opportunities for continuous improvement. The development of SPI’s should be linked to the organisation’s safety objectives and based on the analysis of date and information available or obtainable. The SPI’s should be monitored to help the organisation identify any abnormal changes in safety performance and to verify the effectiveness of safety risk controls.

When looking to establish the SPI’s it is important to consider:

* Are you measuring the right areas? Which SPI’s will help your organisation to track and achieve its safety objectives?
* Availability of data and information. IS the date needed already available within your organisation or are additional data collection sources needed?
* Reliability of the data and information. Is the data being used to report on with your SPI’s reliable and complete?
* Common industry SPI’s. It can also be useful to measure your safety performance with common SPI’s used across the same industry. This can help the organisation when developing your SPI’s initially but also to allow comparisons between similar organisations.

Safety Performance Indicators (SPI’s) are defined by the organisation by identifying what they need to measure to understand if the SMS processes are performing as expected. An organisation will identify and communicate what SPI’s they intend to measure which could be, but not limited too:

* Audit findings results
* Lost time injury rate.
* Number of Signals Passed at Danger (SPADS).

The organisation will need to have processes in place to measure the SPI’s which should cover the collecting, processing, assessing, and disseminating of the safety information. The SPI’s need to be sensible, timely and relevant to the organisation and provide useful information to monitor and trend the operation.

**Safety Investigations**

When an accident or incident has occurred, it is important to understand why it happened, and how further occurrences can be prevented. Depending on the size and complexity of the organisation, it may not be possible to investigate all incidents and accidents. The organisation may wish to consider a process for assessing which incident or accident undergo a full safety investigation where more in-depth analysis of system failures can be explored.

Investigating safety events can bring many advantages to an organisation to include:

* Getting a better understanding of the events that contributed to the safety event.
* To identify any human, technical and organisational factors that contributed to the safety event.
* To identify areas to reduce or eliminate any unacceptable risks with recommendations.
* To learn from the safety event, ensuring actions are taken to reduce the likelihood of a similar safety event from happening in the future, sharing across the organisation and if necessary, the broader industry.

The overall purpose of a safety investigation is not to apportion blame to a person or organisation, but to identify any systemic causes, and implement preventative actions to prevent re-occurrence. This will support the organisations principles of a positive safety culture (just culture).

Any safety investigations should be conducted by a competent person. The organisation’s SMS should define what training is required for a member of staff to be a competent safety investigator, whilst also detailing how they maintain their competency.

An example of a safety investigation process that an organisation may wish to consider is further explained below.

Step 1 – Assess whether or not the safety occurrence needs to be investigated.

Step 2 – Safety occurrence data collection. Identify the events and underlying factors. Reconstruct the logical timeline of the events, analysing the facts and reviewing the findings and underlying factors and hazards.

Step 3 – Risk assessment process. Is there already a risk assessment that covers the safety occurrence. If so, check existing controls/defences, and identify any missing controls, fix, replace or strengthen them. If there is no risk assessment, ensure the internal risk assessment process is followed.

Step 4 – Risk control analysis. Identify and evaluate the risk control options.

Step 5 – Safety Communication. Share the findings from the investigation with staff and appropriate external stakeholders.

**Safety Audits**

An organisations internal safety audit program is a key component of their safety assurance and is used to assess the effectiveness of the SMS and identify areas that can be improved upon. This is also an opportunity for the organisation to assess if safety risk controls are effectively implemented and being monitored. The focus of any safety audit program is to ensure that the processes and procedures are controlling or mitigating the identified risks.

An organisation may wish to consider different departments auditing each other. This can make the audit program more effective as the auditors are independent from the functions or departments in scope. This may be more difficult for smaller, less complex organisations but may wish to look at other methods to maintain independence and objectivity such as dedicated procedures and protocols.

An organisation should consider as part of their SMS setting out on a regular basis an audit program, assigning those departments or functions in scope and assigning the appropriate auditor. The SMS should document the procedure and process around internal safety audits, frequency and communication program around findings. An organisation may want to consider a process around the escalation of different /high severity findings along with a process on closing out any audit findings.

Safety audits should be performed by suitably competent staff. The organisation’s SMS should define what training is required for a member of staff to be a competent safety auditor, whilst also detailing how they maintain their competency.

**Management of Change**

The rail industry is constantly undergoing periods of change and these changes can expose your organisation to new risks or new ways of working. The organisation needs to be able to identify the changes and mitigate the new risks in a structured manner. Further changes may be a result of business demands on your own organisation, and these changes also need to be managed effectively to ensure that the changes are implemented safely.

Management of change within an organisation’s SMS relates to hazard identification and risk assessment related to the safety of the organisation’s operations.

The organisation should consider implementing a documented process that can identify internal and external change that may affect their operation and have the potential to impact both internal and external stakeholders. Any changes need to be managed effectively, ensuring that the organisations operations can be operated in safe and effective manner.

The organisation process should define the types of changes that would require a formal assessment. The process should utilise the current risk management process to identify any existing or new hazards that could impact the safety.

The organisation should consider when documenting a process to include the following steps:

Step 1 – Understand the Change. At this stage, you need to identify and understand what is changing and why. Is it due to internal or external factors and could be a combination of both. What is the objective or outcome for the change?

Step 2 – Understand who and what the change will affect. This could be individuals within your organisation, external organisations or a combination of both. Any changes could also include or impact equipment, systems and processes. A review of the impact to what systems and interfaces the change interfaces with may be needed to fully understand who and what may be affected.

Step 3 – identify hazards and risk assessment. The process for this should link in directly with an organisations documented risk management process. This is explained further within Chapter 5 “Safety Risk Management” of this guidance.

Step 4- Action Plan. This will help the organisation understand what needs to be done, by whom and when to ensure that the change is implemented in such a manner that is maintains or improves safety. The action plan needs to incorporate the risk assessment conducted within the previous step, by extracting the risk treatment controls identified and listing them within the action plan to have oversight of their implementation and by whom.

Step 5 – Sign off and implementation of change. Once it is safe to go ahead with the change and all previous steps have been completed to a satisfactory standard, the organisation needs to determine who has the accountability and or responsibility and authority to sign off the change plan for implementation. The organisation may wish to consider a sign off stage for each step of their management of change process. This will ensure that the appropriate staff are included in the appropriate stage, and allows an element of oversight and governance for this step. This step is critical and the organisation may wish to consider providing guidance on what the final sign off stage involves, such as ensuring that all steps have been completed, communication plan for internal cascade with staff and reviewing the progress and performance ensuring that the risk treatments listed have been implemented and complete.

Step 6 – Assurance and monitoring. The organisation should consider how the measurement of the effectiveness of the change to include any risk treatment plans are monitored. This should also include a review of any follow up actions that have been identified as needed in previous steps, and how the change will be communicated and implemented. Such activities that can support the assurance and monitoring of the change could be audits and or post implementation review.

**Periodic Review of the SMS**

The SMS needs to ensure that it is relevant to the organisation, and that the contents are up to date and current. The organisation needs to ensure that there is a documented process to conduct a review of the SMS with an agreed time between each review cycle.

A mature organisation will ensure that key stakeholders are involved in the review, providing feedback and opinions. Those stakeholders could be internal and external stakeholders, staff representation groups, and where needed the regulator.

When there are changes to the SMS, appropriate consultation and communication with staff should be undertaken prior to any implementation. A training needs analysis of any proposed changes should be undertaken along with ensuring that the changes do not introduce new risks or increase the current risks, in which case a risk assessment may need to be considered.

Considerations when conducting a SMS review should also be:

* The effectiveness of any changes made during the previous SMS review.
* The SMS continues to meet its core safety objectives.
* The SMS reviews are risk based, with an agreed frequency and schedule.
* Involvement of key stakeholders, both internal and external.
* Incidents and accidents form part of the SMS review.
* Corrective and preventative actions from incidents, inspections and audits are reviewed to measure their effectiveness and currency. These should be reflected within the SMS documentation.

**Continuous Improvement**

The organisation needs to have embedded a culture supported by processes to continuously improve the management of Health and Safety within their organisation. This is supported by all of the safety assurance activities that are undertaken to assure the effectiveness of the SMS.

The organisation should consider to continuously improve their safety performance by:

* Day to day operations, procedures and documentation are proactively evaluated through safety audits, inspections and surveys.
* Reactive evaluations to verify the effectiveness of the system and mitigation of risk with the implemented controls, for example near misses, incident, accidents and internal/external safety investigations.
* Ensuring organisational changes are monitored and any changes implemented are measured to ensure they are effective.
* A regular review of the safety performance of the organisation, with detailed safety action plans to aid continuous improvement.

The Office of Rail and Road (ORR) has developed the Risk Management Maturity Model also known as RM3. It is a tool for helping organisations to successfully manage health and safety risks, and to help identify areas for improvement and provide a benchmark for year on year comparison.

To achieve this, RM3 works with the organisations Safety Management System. It sets out criteria for the key elements of a health and safety management system, and by applying the model an organisation can understand which areas they are performing well at, and others where additional work is needed. This is known as continuous improvement which is the ongoing effort the organisation makes to improve safety. Continuous improvement is a crucial element of a Safety Management System and crucial when implementing or further developing the SMS.

Further information on the RM3 model and tools, can be found at [www.orr.gov.uk/rm3](http://www.orr.gov.uk/rm3)

**Safety Reporting**

A critical area of the SMS is information in. Information into the SMS can be from safety incident reports, investigations or from staff. Information from people working within the organisation is a key data source and can allow an organisation to quickly identify new hazards, or where existing risk controls may not be as effective. Any information received needs to be treated in a confidential manner. Safety reporting should always be proactively encouraged by an organisation, most senior person and senior management as a means to proactively identify hazards, report safety incidents or near misses / close calls.

A safety culture that encourages the reporting in a fair and just manner needs to nurture so that it encourages staff to report, they have confidence in the reporting process and the information they submit will be acted upon. This will ensure that staff feel that the information submitted is dealt with, and feedback is provided to the reporters on the progress or outcome of their report. This will ensure staff remain engaged and confident that the information is being acted upon and encourages them to keep reporting.

Chapter 7 Safety Promotion

**Safety Training**

All staff within the organisation need to understand their roles and responsibilities in relation to working and operating safely. They should have a good working knowledge of the SMS and how their roles relate.

An organisation needs to consider:

* The competence requirements for each role, training needs of their staff, appropriate for their roles.
* The necessary competence of workers that affects or can affect its safety performance.
* To ensure workers are competent (to include ability to identify hazards) on the basis of appropriate training, education or experience.
* To ensure documented information as evidence of competence is retained.

The output of any training and competency program should result in:

* Operational staff understanding the organisations safety policy, the principles and the processes of the SMS.
* Managers and supervisors understand the safety processes, hazard identification, risk management and the management of change.
* Senior managers understand organisational safety standards, assurance and regulatory requirements.
* The most senior person should have an awareness of the SMS roles and responsibilities, safety policy, safety culture, SMS standards and assurance.

**Safety Communication**

Safety communication is essential for the organisation to have the ability to disseminate safety critical information to its staff. It is important that an organisation establishes communication processes to provide for the gathering, updating and dissemination of information. It should ensure that the information is relevant, received and understandable to all workers and interested parties.

There are many types of safety communication that an organisation may wish to consider within their processes to include:

* Safety policies and procedures.
* Newsletters, safety notices and bulletins.
* Presentations
* Websites and email information.
* Formal and informal workplace meetings between staff and their managers / senior managers.

It is recommended that an organisation’s process for safety communication includes:

* The dissemination of information to relevant people.
* Distribute relevant SMS content to new users and new interfacing organisations.
* Notify changes of SMS content to relevant users and people affected.
* Process for reporting risks to safety by staff.
* Priority given to safety critical information such as safety alerts and safety notices.
* A process to check the measurement of understanding of the information disseminated.

Appendix A – Further Reading

1. **Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS)**

*Can be found on* [*https://www.orr.gov.uk/guidance-compliance/rail/health-safety/laws/rogs*](https://www.orr.gov.uk/guidance-compliance/rail/health-safety/laws/rogs)

*Compliance with ROGS can be further explored at* [*https://www.orr.gov.uk/guidance-compliance/rail/health-safety/laws/rogs/compliance*](https://www.orr.gov.uk/guidance-compliance/rail/health-safety/laws/rogs/compliance)

1. **Health and Safety at Work Act 1974**

*Can be found at* [*https://www.hse.gov.uk/legislation/hswa.htm*](https://www.hse.gov.uk/legislation/hswa.htm)

1. **Health and Safety at Work Regulations 1999**

*Further information can be found at* [*https://www.legislation.gov.uk/uksi/1999/3242/contents/made*](https://www.legislation.gov.uk/uksi/1999/3242/contents/made)

1. **ISO45001**

*Further information can be found at* [*http://www.bsigroup.com*](http://www.bsigroup.com)

1. **HSG65**

*Further information can be found at* [*https://www.hse.gov.uk/pubns/books/hsg65.htm*](https://www.hse.gov.uk/pubns/books/hsg65.htm)

1. **Risk Management Maturity Model (RM3)**

*Further information can be found at* [*http://www.orr.gov.uk/rm3*](http://www.orr.gov.uk/rm3)

1. **Fundamentals of Risk Management**

*Further information can be found at* [*https://www.theirm.org/*](https://www.theirm.org/)

1. **HSE Health and Safety made simple**

*Further information can be found at* [*https://www.hse.gov.uk/simple-health-safety/*](https://www.hse.gov.uk/simple-health-safety/)

1. **HSE Emergency Procedures**

*Further information can be found at* [*https://www.hse.gov.uk/toolbox/managing/emergency.htm*](https://www.hse.gov.uk/toolbox/managing/emergency.htm)



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Any enquiries regarding this publication should be sent to us at [procurementteam@orr.gov.uk](mailto:procurementteam@orr.gov.uk)

1. The Risk Management Maturity Model – Topic Set 1 Heritage Railways - <https://www.orr.gov.uk/sites/default/files/2021-03/rm3-for-heritage-sector.pdf> [↑](#footnote-ref-1)