

National Integrated Information and Monitoring System (NIIMS) Next Generation

Business Requirements Document (BRD)

Version 2.0

Date: 2023/01/13

TABLE OF CONTENTS

1. DOCUMENT CONTROL	4
1.1 Version History	4
1.2 Distribution and Review list	5
1.3 Approved By:	5
2. GLOSSARY OF TERMS	5
3. EXECUTIVE SUMMARY	7
4. BACKGROUND	7
5. PURPOSE OF THIS DOCUMENT	9
6. PROBLEM STATEMENT	9
6.1 Outdated Functionality and Technology	9
6.2 Inadequate Network, Database and Security	9
6.3 Document Management Deficiencies	10
6.4 System Coding Inefficiencies	10
6.5 Data Analytics and Business Intelligence (Bi) Capability	10
7. OBJECTIVES OF NIIMS NEXTGEN PROJECT	10
7.1 Organisational Benefits	11
8. PROJECT SCOPE	14
8.1 Project Approach	15
8.2 Assumptions	15
9. OPERATIONAL MODEL	16
10. BUSINESS REQUIREMENTS	16
10.1 Requirements prioritisation legends	16
10.2 Safety Permit Management and Administration Business Requirements	16
10.3 Occurrence Reporting, Data Management and Safety Analysis Business Requirements	40

10.4 Occurrence Investigation Business Requirements	45
10.5 Audits and Inspections Business Requirements	50
10.6 Penalty Management Business Requirements	61
10.7 Safety Intervention Planning Business Requirements	67
10.8 Safety Compliance Management Business Requirements	70
10.9 Operator Asset Management Business Requirements	79
10.10 General Business Requirements	81
10.11 Business Rules	84
10.12 Non-functional Requirements	85
11. REPORTING REQUIREMENTS	85
11.1 Safety Permit Management and Administration Reporting Requirements	85
11.2 Occurrence Investigation Reporting Requirements	87
11.3 Audits and Inspections Reporting Requirements	89
11.4 Penalty Management Reporting Requirements	90
11.5 New Works and Technology Reporting Requirements	92
11.6 Data Management Reporting Requirements	93
11.7 Safety Intervention Planning Reporting Requirement	95
11.8 Safety Compliance Management Reporting Requirements	96
11.9 Operator Asset Management Reporting Requirement	97

1. DOCUMENT CONTROL

This document is available in two forms, controlled and uncontrolled. The controlled variant is maintained electronically and accessed by authorised users. Uncontrolled variants are all other electronic and printed copies.

Title	Business Requirements Document (BRD) for NIIMS Next Generation project
Custodian	Information and Communications Technology (ICT)
Responsible Person	Chief Information Officer (CIO)
File Name	RSR_BRS_NIMS_NEXTGEN_V2.0_13_01_2022

1.1 Version History

Version	Date	Author	Change Description
0.1	02.08.2021	Maria Mogale	First Draft
0.2	03.08.2021	Maria Mogale	First Draft after internal review
0.3	03.08.2021	Maria Mogale	First Draft after review with Client
0.4	06.08.2021	Maria Mogale	Updated from the stakeholder input
1.3	18.11.2021	Project Team	Updated from the stakeholder input
1.4	26.11.2021	Project/Dev Team	First Draft with Cost Estimates Constraint Table
1.5	08.09.2022	Tshepo Mothoagae	Prioritization and classification of requirements
1.6	28.11.2022	Tshepo Mothoagae	Updated with inputs received from SMS Committee
2.0	13.01.2023	Tshepo Mothoagae	Inputs received from Operations Department incorporated.

The latest approved version of this document supersedes all other versions. Upon receipt of the latest approved version, all other versions should be destroyed, unless specifically stated that previous version (s) are to remain in existence. If in any doubt, please contact the Author of this document.

1.2 Distribution and Review list

Name	Designation/Role	Responsibility
Safety Management System Committee	EXCO sub-Committee	Distribution and Reviewer
Executive Committee	N/A	Distribution and Reviewer
Kenny Makgati	Module Champion	Distribution and Reviewer
Koliswa Sheburi	Module Champion	Distribution and Reviewer
Louisa Moloisane	Module Champion	Distribution and Reviewer
Muziwandile Masango	Module Champion	Distribution and Reviewer
Thembelani Mzimba	Module Champion	Distribution and Reviewer
Eric Nkwinika	Module Champion	Distribution and Reviewer
Sibonelo Gumede	Module Champion	Distribution and Reviewer
Ernest Gow	Module Champion	Distribution and Reviewer

1.3 Approved By:

Name	Designation	Date	Signature
Tshepo Mothoagae	CIO		
Denis Owaga	ACOO		

2. GLOSSARY OF TERMS

Acronym	Term
ASIP	Annual Safety Improvement Plan
AI	Artificial Intelligence
CAPEX	Capital Expenditure
DoT	Department of Transport
EAMs	Enterprise Assets Management system
EDMS	Electronic Document Management System
GPS	Global Positioning System

Acronym	Term
ICT	Information and Communications Technology
IDs	Improvement Directives
IRR	Internal Rate of Return
NCs	Non-Conformances
Non-comp	Non-compliance
NIMS	National Information and Monitoring System (NIMS)
NIIMS	National Integrated Information and Monitoring System (NIIMS)
NWTD	New Works and Technology Development
OAM	Operator Asset Manager
OPEX	Operating Expenditure
PDs	Prohibition Directives
RIC	Rail Incident Commander
RSR	Railway Safety Regulator
RTM	Regional Technical Manager
RFQ	Request for Quotation
SADC	South African Development Community
SARA	Southern African Railways Association
SCM	Supply Chain Management
SIP	Safety Intervention Planning
SM	Senior Manager
SMS	Safety Management System
SMSR	Safety Management System Report
SPA	Safety Permit Administration
SPCAM	Safety Permit Conformity Assessment Methodology
SPM	Safety Permit Management
SQL	Structured Query Language

3. EXECUTIVE SUMMARY

The Railway Safety Regulator (RSR) was established in terms of the National Railway Safety Regulator Act 16 of 2002 ("the Act) as amended, to establish a national regulatory framework for South Africa and to monitor and enforce safety compliance within the rail sector. The RSR is an agency of the Ministry of Transport and comprises a Board, Chief Executive Officer (appointed by the Minister), Executive management and staff.

The primary legislative mandate of the RSR is to oversee and enforce safety performance by all railway operators in South Africa, including those of the neighbouring States whose rail operators enter South Africa. Notwithstanding the foregoing, operators are, in terms of the Act, primarily responsible and accountable for ensuring the safety of their railway operations.

Information Systems have become increasingly integrated with business processes, improving productivity and efficiencies; as well as ensuring business survival. Cognisant of the importance of technology in the digital age, the Act requires the RSR to establish the National Information and Monitoring System regarding safe railway operations. It is therefore imperative for the RSR to implement and maintain a National Information and Monitoring System which supports its core business functions and processes, and which can adapt to the ever-changing business needs and requirements.

4. BACKGROUND

Between the years 2013 and 2015, the RSR developed the National Information and Monitoring Systems (NIMS) as a requirement by the Act. The objective of the bespoke system was to assist the RSR to use modern technology for automation of its core business functions and processes as guided by the Safety Management System (SMS), while also improving service delivery through timely and accurate information for informed decision making. Currently, the current system (NIMS) consists of six (6) modules, namely:

- a) **Permit Management** – to manage the permit lifecycle.

- b) **Occurrence Investigations and Reporting** – to manage the reporting of rail occurrences and incidents and later facilitate the investigation of occurrences.
- c) **Audit and Inspection** – to plan, facilitate and manage the audits and inspections performed.
- d) **Contravention/Penalty** – to facilitate, manage, and monitor the issuance of contraventions/penalties.
- e) **Safety-Critical Grade** – to monitor and manage safety-critical grades in the rail industry.
- f) **Asset Register** – to inform RSR on the state of the Operators' rail assets and the maintenance thereof.

However, NIMS has reached its end-of-life and its functionality is unable to adapt and cater for organisational needs and requirements. The system's outdated technology is also vulnerable to failures which will impact negatively on RSR's business continuity.

The system is a web-based application developed using the C#, .NET framework and SQL Server 2008 R2 Enterprise database and makes use of Documentum as the Electronic Document Management System (EDMS). These technologies are no longer supported by proprietary software vendors, which compounds the risk of NIMS having a permanent system failure.

Considering the above, the RSR opted to develop the NIIMS Next Generation (NIIMS NextGen) as a replacement to the current NIMS IT System. The RSR seeks to appoint a qualified and experienced service provider to design, implement, maintain, and support the NIIMS NextGen system. The new system (NIIMS NextGen) will be developed as a bespoke solution leveraging on modern technology which can be tailored to RSR's requirements. Additionally, the system shall be fully owned by RSR.

5. PURPOSE OF THIS DOCUMENT

The purpose of this document is to specify the business requirements for the NIIMS NextGen project based on the detailed analysis of the business problems, needs and expectations for the RSR.

6. PROBLEM STATEMENT

The current NIMS has reached its end-of-life and its functionality is unable to adapt to the ever-changing business needs and requirements. The system's outdated technology is also vulnerable to failures and security attacks which will impact negatively on RSR's business continuity.

Additionally, the current NIMS has challenges which were either inherent or recently identified. Challenges include inadequate system functionalities that were identified as technical and resource gaps. These challenges impact negatively on productivity of RSR staff, while also prolonging the time it takes operators to perform activities on the system. The system's functionality and data architecture are also unable to provide advanced and integrated data analytics capability to inform the RSR of the effectiveness of compliance monitoring activities. Additional challenges of the current NIMS are detailed in section 6.1 to 6.5 of this document.

6.1 Outdated Functionality and Technology

The current NIMS is built on outdated Microsoft C# and .NET framework technology and cannot undergo any major system upgrades, yet the business processes and the technology platforms have been evolving. As a result, NIMS is unable to adapt nor sufficiently cater for RSR's requirements.

6.2 Inadequate Network, Database and Security

Additionally, NIMS is also developed using SQL Server 2008 as a database engine, which is outdated and impacts on its speed. This outdated SQL engine is also vulnerable to failures and security attacks.

6.3 Document Management Deficiencies

The current NIMS lacks the intelligence/capability to extract data from uploaded documents for data analytics and dynamic reporting purposes. There are however static reports being generated as per initial business requirements.

6.4 System Coding Inefficiencies

The current system code was built using outdated Microsoft C# and .NET framework technologies and does not support major system enhancements. The current contract for system support maintenance is only for minor enhancements, primarily focusing on bug fixes and manual interventions. RSR personnel must often deal with inefficiencies that were created by the system which takes away time from conducting valuable productivity work within their workstreams.

6.5 Data Analytics and Business Intelligence (BI) Capability

There is no overview dashboard for both management and users to see the safety status of any Railway Operator. This would make it easy for the user to derive benefits and it will encourage greater use of the system. The system lacks basic BI functions. In addition, historical data was not fully migrated into NIMS during the initial implementation and there never defined business rules for uploading data into the system. Management reports and analytics are compromised due to continued capturing of data on unintegrated formats.

7. OBJECTIVES OF NIIMS NEXTGEN PROJECT

The NIIMS NextGen project aims to replace the current NIMS application system which has reached its end-of-life, and is vulnerable to frequent system downtimes, system failures and security attacks. Therefore, the RSR seeks to appoint a qualified and experienced service provider to develop and implement the NIIMS NextGen (IT System) for automation of RSR's core business functions and processes. The system will be developed as a Bespoke solution which can be adapted to the needs and requirements of RSR and its stakeholders.

7.1 Organisational Benefits

The table below depicts the organisational benefits of NIIMS NextGen in relation to RSR's core functions and business processes:

Benefits	Safety Permit Management	Occurrence Investigations	Audits and Inspections	Penalty Management	New Works and Technology	Data Management and Safety	Safety Intervention Planning	Revenue Management	Safety Compliance Management	Operator Asset Management
Accessibility for users	x	x	x	x	x	x	x	x	x	x
Traceability of all Actions e.g., Status Changes, Data entry Changes, Master Data Changes, Notification Audits.	x	x	x	x	x	x	x	x	x	x
Generation of Static and Dynamic Reports	x	x	x	x	x	x	x	x	x	x
Improved Planning of Resources to execute Activities		x	x							
Tracking of Productivity for Internal Processes	x	x	x	x	x	x	x	x	x	x

Benefits	Safety Permit Management	Occurrence Investigations	Audits and Inspections	Penalty Management	New Works and Technology	Data Management and Safety	Safety Intervention Planning	Revenue Management	Safety Compliance Management	Operator Asset Management
Improved Customer Interactions and Engagement	x	x	x	x	x	x	x	x	x	x
Access to Operators Physical Asset Registers	x	x	x	x	x	x	x	x	x	x
Improved organizational Analysis	x	x	x	x	x	x	x	x	x	x
System Support by Engineers	x	x	x	x	x	x	x	x	x	x
System Offline Capability	x	x	x	x	x	x	x	x	x	x
Customised Notifications per SOP	x	x	x	x	x	x	x	x	x	x
Financial Insight								x		

8. PROJECT SCOPE

The table below depicts the project scope for NIIMS NextGen:

Project Component	Included in scope	Impacted Business Areas/Stakeholders
Organisation	<ul style="list-style-type: none"> • RSR 	<ul style="list-style-type: none"> • Inspectors • RSR Contact Centre • Railway Operators • Finance Personnel • Permit Administrators • Regional Technical Managers • OCOO • Legal Services • ICT
Systems	<ul style="list-style-type: none"> • NIMS • SRM • Third-Party Systems 	
Offices	<ul style="list-style-type: none"> • Coastal, Central and Eastern Regions • Head Office 	
In-Scope Items	<ul style="list-style-type: none"> • Safety Permit Management & Administration • Occurrence Investigations • Audits and Inspection • Penalty Management • New Works and Technology Development • Data Management and Safety Analysis • Safety Intervention Planning • Compliance Management • Operator Asset Management • Permit Fee Calculation solution (Safety Permit) • Notes log on any field at any point in the process (General) • Offline Capability • Auto save & backup Capability • Cascading fields - Questions displayed dependent on previous questions answers 	

Project Component	Included in scope	Impacted Business Areas/Stakeholders
	<ul style="list-style-type: none"> Capability to integrate with other systems Data Migration of Historical Data from the Current NIMS IT System. 	

8.1 Project Approach

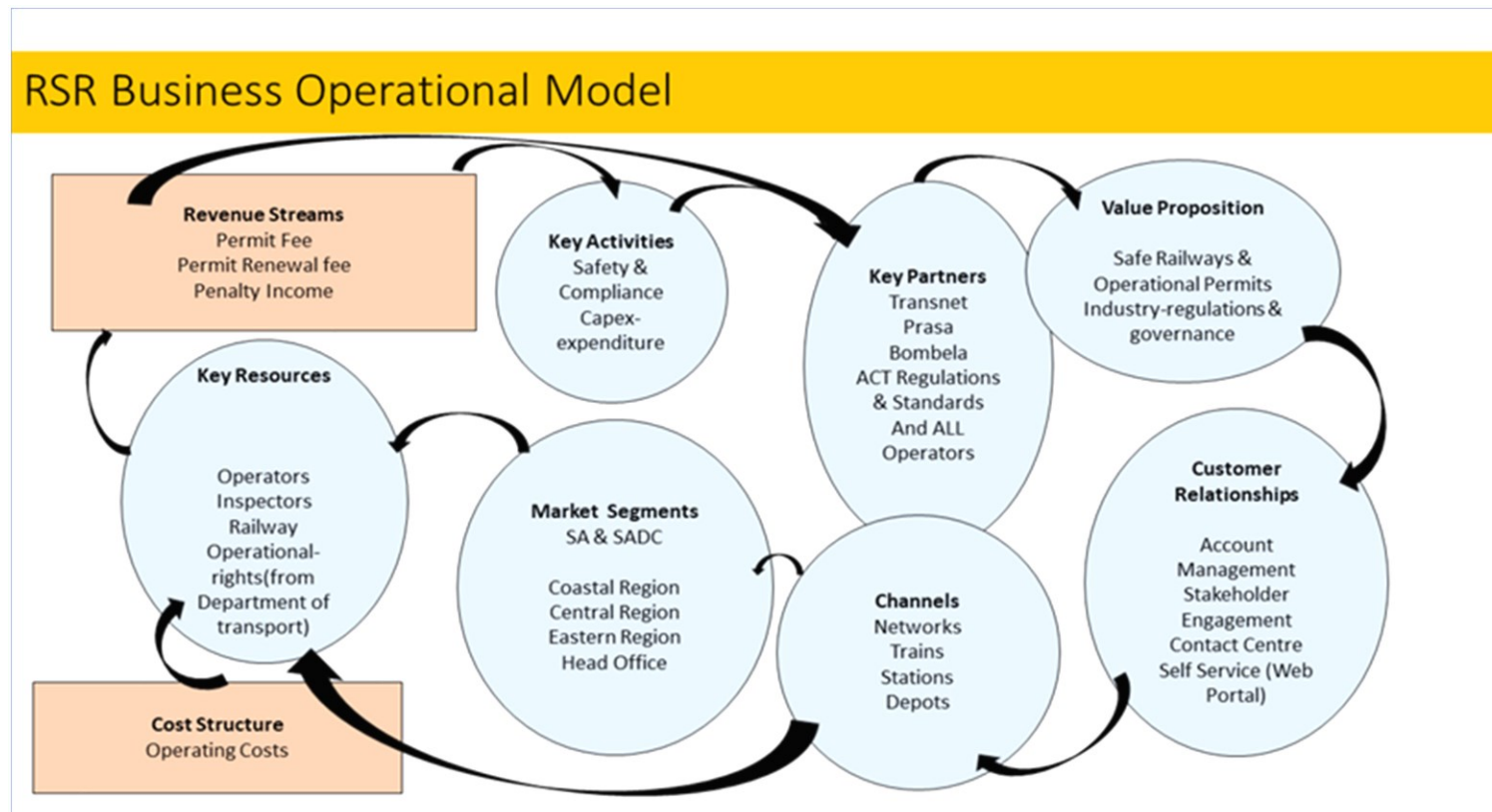
The NIIMS NextGen project will follow the Hybrid methodology (Agile and Waterfall approach) and will be delivered in phases. The Agile approach will be deployed during the development of each of the NIIMS modules.

8.2 Assumptions

- Project is fully funded by the RSR.
- System users will be available for testing and requirements elicitation.
- RSR has the required stable connectivity and hosting environment.
- RSR staff to assist with data mapping and classification.
- A qualified service provider is appointed to develop, implement, support, and maintain the system.

9. OPERATING MODEL

The below diagram depicts the Business Operating Model for the RSR:



10. BUSINESS REQUIREMENTS

This section specifies the business requirements for all modules stipulated in the scope of work.

10.1 Requirements prioritisation legends

The table below depicts the requirements prioritisation legends:

Legend	Description
Mandatory (M)	The requirement is mandatory and must be built into the system.
Optional (O)	The requirement is optional and may be omitted or built into the system depending on the outcome of the functional requirements analysis exercise.
No longer Required (NLR)	The requirement is deemed to not be feasible or adding value and is no longer required.

10.2 Safety Permit Management and Administration Business Requirements

The table below depicts the business requirements for the Safety Permit Management and Administration module:

Req#	Description of Requirement	M / O / NLR
Operator On Boarding Process (Registration)		
SPM_1	The system must provide capability to On-board a New Operator.	M
SPM_2	<p>The system must provide capability for the New Operator to enter relevant details of their organization, as part of the On-boarding application, namely:</p> <ul style="list-style-type: none"> Details of Applicant (Name of Operator, Legal Name and Trade Name) <ul style="list-style-type: none"> NB: The Trade Name Field must be mandatory 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> • Head Office Physical Address • Head Office Postal Address • Company telephone number • Business sector / Industry [Drop down of options to select from] • Head of Organization (Name, Surname, Job title, Landline phone number, Cell phone number, Fax number, email address) • Nominated Manager (Name, Surname, Job title, Landline phone number, Cell phone number, Fax number, email address) • System must provide an option to choose whether the Head of Organisation is the same as the Nominated Manager. <ul style="list-style-type: none"> ○ If the Head of organisation is the same as the Nominated Manager, the system must auto-populate the information for Nominated Manager with information provided for the Head of Organisation. ○ If the Head of organisation is <u>not</u> the same as the Nominated Manager, the system provide capability for the Operator to manually provide details for the Nominated Manager. • Categories of Rail Operations applied for i.e. Network Operator, Train operator, Station operator [Drop down of options to select from] <ul style="list-style-type: none"> ○ NB: The system must provide definitions for each option which must be visible to the operator to allow them to choose the correct type of operation. The field will be a multi-select field. • Application Completed By (Head of Organization, Nominated Manager or Other) <ul style="list-style-type: none"> ○ If Head of Organization or Nominated Manager is selected, the system auto-populates the information for “ Application Completed By” field, with the details entered in the prior form. 	

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> If "Other" is selected the system must provide capability for the Operator/User to provide the required information, namely (Name, Surname, Job title, Landline phone number, Cell phone number, Fax number, email address) <p>NB: The fields must be customisable and dynamic. The System Administrator should be able to edit the Field descriptions and add/remove new fields.</p>	
SPM_3	<p>The system must provide capability for Operators to Upload their Company registration Document and Nominated Manager appointment letter in various document formats.</p> <p>NB: The system must provide capability for the Operator to provide a document name and short description.</p>	M
SPM_4	<p>The system must provide capability for the Operator to type in their intent or reason for wanting to apply for a Safety Permit.</p>	M
SPM_5	<p>Once the Operator has completed the required On-boarding information, the system must provide capability for the Operator to submit the On-Boarding/Registration request by clicking a "Submit" button.</p> <ul style="list-style-type: none"> NB: The system must verify that all the mandatory fields have been completed before allowing the Operator to submit the On-Boarding request. NB: If any of the mandatory fields have <u>not</u> been completed by the Operator, the system must provide an alert/pop-up message /asterisk indicating the mandatory fields which must be completed before the Operator can submit the On-Boarding request. 	M
SPM_6	<p>Once the Operator has submitted the On-Boarding Request, the system must send the relevant RSR user a Registration / On-Boarding request notification via email.</p>	M
SPM_7	<p>The system must provide capability for RSR to review the details of the New Operator and to Approve or Request Additional Information or Reject Submission.</p>	M

Req#	Description of Requirement	M / O / NLR
SPM_8	<p>The system must provide capability for the Operator and RSR to make multiple comments on the On-Boarding request.</p> <p>NB: The system must send a notification of comments made on the On-boarding request by either the RSR or the Operator. The notification should be via e-mail or inbox functionality.</p>	M
SPM_9	Once the new Registration / On-Boarding has been approved, the system must send the Operator an e-mail with auto-generated log-in credentials.	M
SPM_10	The system must provide capability for a User / Operator to reset their login credentials. The system must send an e-mail to the user to reset their password using a forgot password functionality.	M
Safety Permit Application (Pre-Application form)		
SPM_11	<p>The system must send existing Operators with valid safety permits an automatic e-mail notification reminder five (5) months before the expiry of their existing Safety Permit.</p> <p>If the operator has already applied, reminders will still be sent out to show proof that reminder was done from RSR. The business rules around sending reminders should be customisable e.g., reminders could be sent daily, weekly, number of months before expiry date, configuration of reminders to not be sent for a particular Operator (second or so reminders if the operator have already applied).</p>	M
SPM_12	The system must provide capability for the Operator to apply for a Safety Permit.	M
SPM_13	<p>The system must provide capability for the Operator to provide the reason for the Safety Permit Application, using the following pre-defined options:</p> <ul style="list-style-type: none"> Existing Group A, B or C safety permit to be renewed (Option Yes or No) Temporary Safety Permit holder needing a safety permit (Option Yes or No) 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> Construction Train Safety Permit holder needing a safety permit (Option Yes or No) Test & Commissioning Train Safety Permit holder needing a safety permit (Option Yes or No) New application – first time a safety permit is applied for (Option Yes or No) New permit needed – taking over an entity with a current safety permit (Option Yes or No) Current permit number [Free text to write the permit number] Current permit expiry date [Date selection from Calendar] 	
SPM_14	<p>The system must provide capability for the Operator to state any Objections to Railway Safety Permit being Issued, using the following pre-defined options:</p> <ul style="list-style-type: none"> Are you aware of any other party objecting to your railway activities or a safety permit being issued to you? (Option Yes or No) If Yes, the system should request the following details: <ul style="list-style-type: none"> Name of party objecting Contact details of party objecting Reasons provided for objection <p>NB: The fields must be customisable and dynamic. The System Administrator should be able to edit the Field descriptions and add/remove new fields.</p>	M
SPM_15	<p>The system must provide capability for Operators to update their online profiles.</p> <ul style="list-style-type: none"> The fields that an Operator is allowed to change are Legal Name Company name, Trading name, Physical and Postal address, telephone numbers and Nominated Manager. As part of online profile update, the system must provide capability for the Operators to upload their registration document and nominated manager. 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> Changes or update of information related to the online profile should trigger RSR's approval before the operator can continue with the application. 	
SPM_16	<p>The system must provide capability for Operators to provide / update Annual Volumes of people and goods transported in the previous year / 12-month cycle:</p> <p>Operator to choose the relevant one, tick Yes or No.</p> <p>Operators must enter all fields required within the "Annual Volumes and Goods Transported" section as part of the initial ticket/Work Order Involvement in the transportation of commuters</p> <p>5.1.1 If Yes, what is the annual total number of commuters transported</p> <p>5.1.2 State the total annual kilometer rail distance travelled with commuters</p> <p>5.2 Involvement in the transportation of any other passengers (including tourists, excluding commuters)</p> <p>5.2.1 Annual total number of passengers transported</p> <p>5.2.2 Total annual kilometer rail distance travelled with passengers (including tourists), excluding commuters</p> <p>5.3 Do you dispatch/receive/transport dangerous goods by rail?</p> <p>5.3.1 If yes, provide details on 5.3.2 and or 5.3.3</p> <p>5.3.2 What is the total annual kilometer rail distance covered with dangerous goods?</p> <p>5.3.3 What is the total annual dangerous goods tons?</p> <p>5.4 Do you dispatch/receive/transport general freight by rail?</p> <p>5.4.1 If Yes, provide details in 5.4.2 and or 5.4.3 below</p> <p>5.4.2 What is the total annual kilometer rail distance travelled with general freight?</p> <p>5.4.3 What is the total annual general freight tons?</p> <p>5.5 Are you a railway manufacturing/maintenance company involved only with the movement of equipment and/or empty coaches/wagons and locomotives?</p> <p>5.5.1 If yes, provide details in 5.5.2 below</p>	M

Req#	Description of Requirement	M / O / NLR
SPM_17	The system must provide capability for the Operator to Submit the Safety Permit Pre-Application to RSR.	M
SPM_18	The system must provide capability to calculate the applicable Permit Fee based on the latest Permit Fee Determination.	O
SPM_19	<p>The system must provide capability for the Permit Officer to send back the Safety Permit Application to the Operator for additional information if incomplete.</p> <ul style="list-style-type: none"> NB: The system must provide the Permit Officer to request additional information using the comments functionality NB: The system must send a notification of comments made on the Onboarding request by either the RSR or the Operator. The notification should be via e-mail or inbox functionality 	M
Application Fee input after receipt of Pre-Application form		
SPM_20	The system must provide capability for the Permit Officer to input the Application fee (Fixed amount) and request SM: SPA for approval	M
SPM_21	<p>The system must provide capability for the SM: SPA to approve or reject the amount. (If rejected the application goes back to the Permit officer to amend)</p> <ul style="list-style-type: none"> NB: The system must provide capability for the SM:SPA to provide comments as part of rejecting or approving the Permit Application Fee. 	M
SPM_22	Once the application has been approved by the SM:SPA, the system must provide capability for the SM: SPA to route the application to Manager: Revenue Management for Finance Approval	M
SPM_23	<p>The system must provide capability for the Manager: Revenue Management to approve or reject the amount. (If rejected the application goes back to the SM:SPA / relevant user to amend):</p> <p>NB: The system must provide capability for the Manager: Revenue Management to provide comments as part of rejecting or approving the Permit Application Fee.</p>	M

Req#	Description of Requirement	M / O / NLR
SPM_24	Manager: Revenue Management upon Approval to route the application to Finance Officer to prepare the invoice.	M
SPM_25	The system must send an e-mail and inbox notification to the Operator indicating the actual invoice available for viewing. The system must enable Operators to download and view uploaded invoices.	M
SPM_26	The system must provide capability for Operator to Upload Proof of Payment on Application and submit to RSR. NB: The system must send an e-mail and inbox notification to the RSR indicating the uploading of proof of payment by the Operator.	M
Safety Permit Application process (continues)		
SPM_27	The system must provide capability for the Operator to start populating or uploading safety permit information before payment, but not allowing submission before proof of payment is uploaded.	M
SPM_28	The system must pre-populate the Application form with information already submitted as part of the Pre-Application form.	M
SPM_29	The system must provide capability for the Operator to Complete Safety Permit Application process, and must complete the following mandatory fields (Pages including Pre-application information/pages): <ul style="list-style-type: none"> Reason of Application Objections to Rail Operations Details of Applicants Annual volumes of People and Good Transported Network Operations: Running lines Network Operations: Sidings (including document uploads) Description of Train Operations Stations Operations 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> Safety Management System(SMS): SPCAM, including all supporting documents Operator Declaration <p>NB! Each page consists of detailed information, some of which requires document uploads. A separate document with detailed information to be provided.</p>	
SPM_30	The system to provide capability for the Operator to provide information on Network Operation: Running line to Declaration, including supporting documents or additional information.	M
SPM_31	<p>The system to provide capability for the Operator to provide/upload information related to Safety Management System, namely:</p> <ul style="list-style-type: none"> Safety Management System Report (SMSR) Nominated Manager Letter Safety Permit Conformity Assessment Methodology, SPCAM (with various elements). NB: Separate document with detailed information to be provided. 	M
SPM_32	The system to provide capability for the Operator to comment on relevant questions in the Safety Management System which consist of various elements and sub-elements, with a username and timestamp related to that comment.	M
SPM_33	<p>The system must perform verification that all required documents have been uploaded before allowing the Operator to submit the application.</p> <p>NB: Set standard of documents and naming conventions required for each type of application needs to be determined.</p>	M
SPM_34	<p>The system must provide capability for Operator to Upload Proof of Payment on Application and submit to RSR.</p> <p>NB: The system must send an e-mail and inbox notification to the RSR indicating the uploading of proof of payment by the Operator.</p>	M

Req#	Description of Requirement	M / O / NLR
SPM_35	The system must only allow the Operator to submit full application only once proof of application fee payment has been uploaded on the system	M
Regulatory Assessment		
SPM_36	Upon Submission by the Operator, the system must provide capability for the Permit Officer to view the submitted application and verify if all necessary documents and information has been uploaded and filled in.	M
SPM_37	<p>The system must provide capability for the Permit Officer to route the application either back to the Operator for additional info or the next step in the process (Technical Assessment).</p> <ul style="list-style-type: none"> NB: The system must provide capability for the Permit Officer to provide comments as part of requesting for additional information. 	M
Technical Assessment		
SPM_38	<p>The system must provide capability for the Permit Assessor to:</p> <ul style="list-style-type: none"> Execute assessment/s on the SMS elements. Assessing the supporting documents provided by the Operator. Comment on each section of the element and revert to the operator. 	M
SPM_39	<p>If SPCAM Assessment is found to be non-conforming, the system must enable the Permit Assessor to route the application to the Permit Officer to request the additional Information to be submitted by the Operator.</p> <p>NB: The Notification to be sent to the Permit Officer via e-mail and inbox functionality.</p>	M
SPM_40	<p>The system must provide capability for the Permit Officer to Route the Application back to the Operator for Additional Information.</p> <p>NB: The Notification to be sent to the Operator via e-mail and inbox functionality.</p>	M
SPM_41	The system must provide capability for the Operator to update and upload additional Information and Documentation on the System.	M

Req#	Description of Requirement	M / O / NLR
	NB: The Notification to be sent to the Permit Officer and Permit Assessor via e-mail and inbox functionality.	
SPM_42	The system to provide capability for the Permit Assessor to upload the Draft outcome Letter with special conditions if Applicable.	M
SPM_43	The system must provide capability for the Permit Assessor to route the application with the outcome letter to the SM: Permit Assessment for review.	M
SPM_44	The system must provide capability for the SM: Permit Assessment to either Approve or Reject the Outcome Letter. (If rejected the application goes back to the Permit Officer to amend).	M
SPM_45	The system must provide capability for the SM: Permit Assessment to have to route the application after approval to Head: SPM for Approval or Rejection.	M
SPM_46	Head: SPM to have the ability to approve or reject (If rejected the application goes back to the SM: Permit Assessment to amend).	M
SPM_47	Upon approval, the Head: SPM to have the ability to route to Permit Officer / SM: SPA to initiate the Permit Fee Process.	M
Safety Permit Fee Process		
SPM_48	The system must provide capability for the Permit Officer to calculate the Safety Permit Fee on the system by entering the different variables used in the existing calculation model. NB: The Safety Permit Fee calculation algorithm should be customisable.	O
SPM_49	The system must provide capability for the Permit Officer to input the calculated Safety Permit Fee into the System and route to SM: SPA for approval.	M
SPM_50	SM: SPA to have the ability to approve or reject the amount. (If rejected the application goes back to the Permit officer to amend)	M

Req#	Description of Requirement	M / O / NLR
SPM_51	Upon approval, the system to provide capability for the SM: SPA to route the application to Manager: Revenue Management for Finance Approval	M
SPM_52	The system must provide capability for the Manager: Revenue Management to approve or reject the amount. (If rejected routes back to the SM: SPA)	M
SPM_53	The system must provide capability for the Manager: Revenue Management to approve and route the application/amount to SM: Finance only if the amount is above one million Rand. If not, then route to the Finance Officer. NB: The amount threshold and related approval delegation should be customisable.	M
SPM_54	The system must provide capability for the SM: Finance to Approve or Reject the amount. (If the amount is more than R1Million). NB: The amount threshold and related approval delegation should be customisable.	M
SPM_55	The system must provide capability for the SM: Finance upon Approval to route the application to Finance Department for invoicing (If the amount is more than R1Million). NB: The amount threshold and related approval delegation should be customisable.	M
SPM_56	The system must provide capability for the relevant RSR user to upload on the system an invoice generated on SAGE 300.	M
SPM_57	The system must send an Invoice Notification via e-mail and inbox functionality to the Operator indicating that an invoice has been uploaded and is ready for viewing.	M
SPM_58	The system must provide capability for the Operator to view the invoice.	M
SPM_59	The system must provide capability for the Operator to upload Proof of Payment.	M
SPM_60	The system must provide capability for the Finance Officer to upload Receipt in System.	M

Req#	Description of Requirement	M / O / NLR
SPM_61	<p>The system must provide capability for the Finance Offer to route through the Application to the Permit Officer to initiate the Safety Permit Issuance Process.</p> <p>This step is to be system-triggered (automatically) by above (SPM_60) having been completed.</p>	M
Safety Permit Issuance process		
SPM_62	The system must provide capability for the Permit Officer to Generate the Safety Permit (with Special Conditions, where applicable, Done out of the system) and upload the Permit as a document into the system.	M
SPM_63	The system must provide capability for the Permit officer to upload a cover letter on the system.	M
SPM_64	The system must provide capability for the Permit Officer to route the Permit and/ or cover letter to SM: SPA to review.	M
SPM_65	<p>The system must provide capability for the SM: SPA to review the Permit and Cover letter uploaded:</p> <ul style="list-style-type: none"> The system must provide capability for the SM: SPA to make comments and route the Permit and or cover letter back to the Permit officer for correction/amendment. The system must provide capability for the SM: SPA to route the Permit and or cover letter to Head: SPM to review. 	M
SPM_66	<p>The system must provide capability for the Head: SPM to review the Safety Permit and Cover letter uploaded:</p> <ul style="list-style-type: none"> The system must provide capability for the Head: SPM to make comments and route the Permit and / or cover letter back to the Permit Officer for correction/amendment. 	M
SPM_67	The system must provide capability for the Head: SPM to view the documents and sign the cover letter on the System. Current process of signing documents will be adhered to as agreed upon.	M

Req#	Description of Requirement	M / O / NLR
SPM_68	The system must provide capability for the Head: SPM to route the Safety Permit and/or cover letter to the COO for Approval of Cover Letter.	M
SPM_69	The system must provide capability for the COO to approve or reject the Cover Letter.	M
SPM_70	The system must provide capability for the COO to route to CEO to approve or reject the Safety Permit.	M
SPM_71	The system must provide capability for the CEO to view and sign the permit.	M
SPM_72	The system must provide capability for the CEO to route the signed permit to the Permit Officer.	M
SPM_73	<p>The system must provide capability for Permit Officer to issue the safety permit to the operator.</p> <p>NB: The system must send a notification via e-mail or inbox functionality to the Operator indicating that a safety permit has been issued.</p>	M
Special Conditions Process (these may emanate from any Safety Permit Application)		
SPM_74	All Special Conditions should be raised individually of the initial application and sent to the operator with specified dates for completion. This will allow to track the progress of these special conditions that need to be done by the Operator. The initial process remains the same whereby the assessment letter is uploaded with the relevant special conditions. The individual raising of the special conditions is to send to the operator so as each condition is completed, the operator will be able to upload and submit supporting documentation to close off the special condition.	M
SPM_75	<p>The system must send an automatic reminder/notification via e-mail or inbox functionality two (2) months prior to every special condition's due date to the Operator.</p> <p>NB: The business rules around sending reminders should be customizable e.g., reminders to be sent daily, weekly, number of months before expiry date, configuration of reminders to not be sent for a particular Operator.</p>	M

Req#	Description of Requirement	M / O / NLR
SPM_76	<p>The system must send a Notification to the Permit Officer if the special condition has not been actioned 1 week prior to the set due date.</p> <p>NB: The business rules around sending reminders should be customizable e.g., reminders could be sent daily, weekly, number of months before expiry date, configuration of reminders to not be sent for a particular Operator.</p>	M
SPM_77	<p>The system must provide capability for the Operator to request extension with a new proposed date for submission and provide reasons thereto.</p> <p>The system must automatically route this application to the SM: SPM for approval.</p>	M
SPM_78	<p>The system must provide capability for the Head: SPM to approve or reject the Proposed Dates and route the Special Condition back to the Permit Officer.</p> <ul style="list-style-type: none"> If proposed dates are approved, the system must provide capability for the Permit Officer to change the initial specified dates to the approved dates. The system must send a notification to the Operator indicating approval of new dates. 	M
SPM_79	The system must provide capability for the Permit Assessor to assess and finalize relevant information filled and uploaded by the operator.	M
SPM_80	The system must provide capability for the Permit Assessor to upload the Assessment outcome letter.	M
SPM_81	The system must provide capability for the Permit Assessor to route the Special Condition to SM: Permit Assessment.	M
SPM_82	The system must provide capability for the SM: Permit Assessment to Approve or Reject the Assessment outcome letter uploaded on the special condition.	M

Req#	Description of Requirement	M / O / NLR
SPM_83	The system must provide capability for the SM: Permit Assessment to Route the Assessment outcome letter to Head: SPM for Approval or rejection.	M
SPM_84	The system must provide capability for the Head: SPM to Approve or Reject the Assessment letter uploaded on the special condition.	M
SPM_85	Upon Approval, the system must provide capability for the Head: SPM to route the Special Condition to Permit Officer.	M
SPM_86	The system must provide capability for the Permit Officer to route the special Condition to the Operator, notifying them that the outcome assessment letter is Issued.	M
SPM_87	The system must provide capability for the Operator to access the Special Condition, view and download the Issued Assessment Letter.	M
Other types of Safety Permit Application: TSP or CTSP or TCSP		
SPM_88	<p>The system must provide capability for the Operator to submit TCSP, CTSP or TSP application.</p> <p>NB: Existing operators to confirm their rail operations before completing the submission.</p>	M
SPM_89	<p>For a legal Entity Change (company registration number) / company take over, Operators must upload the previous entity safety permit and confirm the railway operations of the former legal entity *NB: there must be an existing and valid permit.</p> <p>NB: Similar process to Safety Permit application with relevant SMS information:</p> <ol style="list-style-type: none"> 1. On-boarding (Registration) process to be followed 2. Safety Permit Application process (TSP / CTSP / TCSP) 3. Assessment of the Safety Permit Application Process 4. Safety Permit Fee Process 5. Safety Permit Issuance process 	M

Req#	Description of Requirement	M / O / NLR
SPM_90	The system must provide capability for the Operator to Submit Application to RSR (have access to system and login credentials).	M
SPM_91	Upon Submission by the Operator, the system must provide capability for the Permit Officer to view the submitted application and verify if all necessary documents and information have been uploaded and filled in.	M
SPM_92	The system must provide capability for the Permit officer to route the application back to the Operator for additional info with comments if necessary.	M
SPM_93	The system must allocate a Permit number to the Application or Operator who applied and route to the next steps of the process (Technical Assessment, Permit Invoicing and Payment and Permit Issuance).	M
Annual Safety Improvement Plan(ASIP), Application (Existing operators with valid safety Permit)		
SPM_94	The system must send the first automatic reminder to be sent out five months prior to the expiry of the multi-year permit anniversary to the operator, reminding them to submit their annual ASIP. The business rules around sending reminders should be customizable e.g., reminders to be sent daily, weekly, number of months before expiry date, configuration of reminders to not be sent for a particular Operator.	M

Req#	Description of Requirement	M / O / NLR
SPM_95	<p>The system must provide capability for the Operator to complete Application, and must complete the following mandatory fields:</p> <ul style="list-style-type: none"> Permit Information (to default this information from permit application / Online Profile): <ul style="list-style-type: none"> Current Permit number Current Permit expiry date Objections to Rail Operations Details of Applicants Annual volumes of People and Good Transported Network Operations: Running lines Network Operations: Sidings Description of Train Operations Stations Operations Safety management System: ASIP, Operator to be able to upload all supporting documents Operator Declaration 	M
SPM_96	The system must provide capability for the Operators to enter all fields required within the "Annual Volumes and Goods Transported" section as part of the application.	M
SPM_97	The system must provide capability for the Operator to Submit ASIP to RSR (Permit Officer).	M
ASIP Regulatory Assessment		
SPM_98	<p>The system must provide capability for the Permit Officer to assess submission and determine if an upward class is need or if any change is present.</p> <ul style="list-style-type: none"> If there is an upward class or change is needed, the System or Safety Permit must close the submission and send a notification to the Operator indicating that the Operator should apply for a new Safety Permit. 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> If no change or upward class is determined, the system must provide capability for the Permit Officer must assess the application and conduct the regulatory assessment. 	
SPM_99	The system must provide capability for the Permit Officer to review the submitted application and verify if all necessary documents and information have been uploaded and filled in. Permit officer then to route the application either back to the operator for additional info or the next step in the process (Technical Assessment and Permit Fee Process).	M
SPM_100	NB: The system must allow for ASIP Technical Assessment and Permit Fee Process to be parallel processes.	M
ASIP Technical Assessment		
SPM_101	Safety Management System: The system must provide capability for the Permit Assessor to: <ul style="list-style-type: none"> Execute assessment/s on each requirement of the ASIP Assess supporting documents provided by the Operator. Comment on each section of the element and revert to the operator. 	M
SPM_102	If ASIP requirement is not met, the system must provide capability for the Permit Assessor to route the application back (with comments) to the Permit Officer to request additional Information to be submitted by the Operator. <ul style="list-style-type: none"> NB: The system must send a Notification to the Permit Officer. 	M
SPM_103	The system must provide capability for the Permit Officer to Route the Application back (with comments) to the Operator for Additional Information - Notification to be sent to the Operator.	M
SPM_104	The system must provide capability for the Operator to update and upload additional Information and Documentation on the System. <ul style="list-style-type: none"> NB: Notification to be sent to Permit Officer and Permit Assessor. 	M
SPM_105	The system must provide capability for the Permit Assessor to upload the Outcome Letter to the application (NB: with special conditions if Applicable).	M

Req#	Description of Requirement	M / O / NLR
SPM_106	The system must provide capability for the Permit Assessor to Route the application with the outcome letter for Review by the SM: Permit Assessment.	M
SPM_107	The system must provide capability for the SM: Permit Assessment to Approve or Reject the Outcome Letter.	M
SPM_108	The system must provide capability for the SM: Permit Assessment to have to route the application (with comments) after approval to Head: SPM, for Approval or Rejection.	M
SPM_109	The system must provide capability for the Head: SPM to approve or reject the application (with comments).	M
SPM_110	<p>The system must provide capability to each actor within the workflow to route the application back (with comments) to the actor in the preceding step.</p> <ul style="list-style-type: none"> NB: The system must send a Notification to the actor for which the workflow has been routed back to 	M
ASIP Assessment Outcome		
SPM_111	<p>The system must provide capability for the Permit Officer to issue the assessment outcome letter to the Operator.</p> <p>Conditions:</p> <ul style="list-style-type: none"> The safety permit fee must have been invoiced and paid, as per the Permit Fee Process. 	M
SPM_112	The system must provide capability for the Operator to upload siding information, SMS report, other required information, and to submit the Application.	M
SPM_113	The system must provide capability for the Permit Officer to review and undertake a regulatory assessment, and to verify whether uploaded documents and fields completed as part of the application.	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> If additional information is required, the system must enable the Permit Officer to route the application back (with comments) to the Operator. Operator to be able to Submit Additional Information. NB: The Notification to be send to the Operator and Permit Officer via e-mail and inbox functionality to indicate arrival of new assignment. 	
Safety Permit Amendments		
SPM_114	<p>Adding siding information:</p> <p>The system must provide capability for the Permit Officer to assess if adding a siding result in a permit fee increase, the Permit Officer should be able to Route the Permit Fee and Invoice Process.</p> <ul style="list-style-type: none"> If no increase is warranted, permit officer must be able to route the application for Technical Assessment and Permit Issuance Process 	M
SPM_115	The system must provide capability for the Operator to apply for Removing/Withdrawing of a siding and must complete all mandatory fields, including uploading of proof that a particular siding has been spiked or decommissioned (image upload, decommissioned certificate upload).	M
SPM_116	The system must provide capability for the Operator to Submit the Application to the SPM Department (Permit Officer).	M
SPM_116	<p>The system must provide capability for the Permit Officer to route the Application (with comments) to the SM: SPA for approval or rejection.</p> <ul style="list-style-type: none"> Upon rejection, the SM: SPA must route the application back to the operator with reasons/comments. The system should send a notification to both Permit Officer and the Operator. 	M
SPM_117	The system must provide capability for the Permit Officer to initiate the application to the Permit Issuance Process.	M

Req#	Description of Requirement	M / O / NLR
SPM_118	The system must provide capability for the Operator to submit a request for a dormant siding to be used and informing the RSR of the intended use of siding, 1 month prior to the intended usage.	M
SPM_119	The system must provide capability for the Operator to upload a written statement of intended use, Risk assessment and Certification by a Professional Engineer/Technologist.	M
SPM_120	The system must provide capability for the Operator to submit to SPA Unit (Permit Officer).	M
SPM_121	<p>The system must provide capability for the Permit Officer to trigger an Ad hoc Inspection linked to the dormant siding application and route through to the Audits and inspections department for further processing.</p> <ul style="list-style-type: none"> Based on Findings Permit Officer to close the application and notification to be sent out to Operator 	M
SPM_122	<p>The system must provide capability for the Operator to submit a request to make a change and upload an appointment letter of the specified New Nominated Manager if the change is for the nominated manager.</p> <ul style="list-style-type: none"> The request must be able to be submitted by the operator to the SPA Unit (Permit Officer) 	M
SPM_123	The system must provide capability for the Permit Officer to validate the uploaded documentation and approve the change.	M
SPM_124	<p>The system must provide capability for the Permit Officer to update the Operator's Nominated manager Details.</p> <p>This will be a manual approach and not based on the approval to automatically update the change.</p>	M
SPM_125	<p>The system must provide capability for the Operator to apply for a trade name change on the system and fill in the relevant fields and upload proof of the New Trade Name.</p> <ul style="list-style-type: none"> The name change application to SPA Department (Permit Officer) 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> Permit Officer to be able to route name change application to SM: SPA for Approval SM: SPA to be able to approve or Reject the Trade Name Change 	
SPM_126	The system must provide capability for the Permit officer to initiate a Permit Issuance process.	M
Safety Permit and Administration – General Requirements		
SPM_127	The system must provide capability for the Operators to view all their submitted applications.	M
SPM_128	The system must provide capability for the RSR to be able to view all applications sent back to the Operator (Status Audit Trail and comments).	M
SPM_129	The system must provide capability for actors / users within the workflow to route forward/back Applications (with comments) to relevant stakeholders.	M
SPM_130	The system must provide capability to send Notifications via email and inbox functionality (system automation).	M
SPM_131	The system must provide capability for RSR users with appropriate system rights to view all closed Applications/Safety Permits/ASIPS/Nominated Manager Changes/Additional Sidings, Running Lines or sites added or removed.	M
SPM_132	The system must provide Editable Screen Layouts for relevant stages (workflow stages) of the Process.	M
SPM_133	The system must provide capability to auto populate Operator information from previous applications to new application to allow operators to update and change what is necessary.	M
SPM_134	The system must provide capability to make comments on any application ticket. A time stamp should be captured.	M
SPM_135	<p>The system must provide capability to Generate reports as per reporting requirements for SPA (Dashboards):</p> <p>Examples:</p>	M

Req#	Description of Requirement	M / O / NLR
	<ol style="list-style-type: none"> 1. Status or Progress report of applications received until the end of the process; different permit applications and ASIP submissions 2. List of operators due to renew safety permit, indicating the due dates 3. Additional Information report 4. Safety Permit issued report 5. Sidings information report 6. New operator registrations report 7. Special conditions report 8. Safety Management System application report (showing non-compliances, comments made on the application), Assessment outcome report 9. Operator activity changes, e.g., which operators changed class, category changes, company names that changed 10. Be able to draw Operator database from the system 	
SPM_136	The system must provide capability to retrieve real time and dynamic reports: Seamless retrieval of daily, monthly, quarterly, and annual reports (Integration with PowerBI) .	M
SPM_137	The system must provide capability to retrieve the database/list of Operators- All details relating to all operators.	M
SPM_138	The system must provide capability to upload documents: Users to be able to upload documents and view uploaded documents.	M
SPM_139	The system must guide Operators (using Tooltip or mouse hover functionality) on the various profiles that need to select for certain types of Applications.	M
SPM_140	The system must provide capability for users to cancel duplicate work orders.	M
SPM_141	The system must provide capability for RSR users (Permit Officer and Technical Assessor) to assess each of the supporting documents submitted and either 'accept' or 'reject' individual elements.	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> If rejected, the RSR should be able to add comments from a list of standard comments or/and input free text. 	
SPM_142	<p>Safety Permit Administration – Accept or reject elements:</p> <ul style="list-style-type: none"> The RSR (Permit Officer and Technical Assessor) must be able to assess each of the supporting documents submitted and either 'accept' or 'reject' individual documents. If rejected, the RSR should be able to add comments from a list of standard comments. Possible: Accepting or rejecting elements and adding comments from a list of comments. 	M
SPM_143	The system must provide capability for Operators and RSR Users to make comments on Elements and Sub-Elements (Regulatory and Technical Assessment)	M
SPM_144	The system should archive and provide 5-Yr viewer access to the user and supervisor for any workflow they have been involved in.	

10.3 Occurrence Reporting, Data Management and Safety Analysis Business Requirements

The table below depicts the business requirements for Occurrence Reporting, Data Management and Safety Analysis.

Req#	Description of Requirement	M / O / NLR
Log Occurrence		
ODMS_001	<p>The system must provide capability for the Operator to report an Occurrences by completing an electronic and dynamic form with the following fields:</p> <ol style="list-style-type: none"> 1. Name of the operator. 2. The date the occurrence/incident was reported to the RSR. 3. Time of the occurrence/incident. 4. Date of the occurrence/incident. 	M

Req#	Description of Requirement	M / O / NLR
	<p>5. Place where the occurrence/incident took place.</p> <p>6. Province where the occurrence/incident took place.</p> <p>7. SANS category of the occurrence/incident.</p> <p>8. SANS description of the occurrence/incident.</p> <p>9. Number of fatalities.</p> <p>10. Number of injuries.</p> <p>11. Possible Cause/s of the occurrence/incident.</p> <p>12. Operator's reference number of the occurrence/incident; and</p> <p>13. Any other relevant information on the occurrence/incident.</p> <p>NB: The fields must be customisable and dynamic. The System Administrator should be able to edit the Field descriptions and add/remove new fields.</p>	
ODMS _002	The system must evaluate the occurrence information provided and identify possible duplicates.	M
ODMS _003	<p>The system must ensure all mandatory fields are completed before the Operator can submit an occurrence for reporting purposes.</p> <p>NB: The mandatory fields must be customisable and dynamic. The System Administrator should be able to edit the Field descriptions and add/remove new fields.</p>	M
ODMS _004	<p>The system must provide capability for the Operator to report an Occurrence by completing an electronic and dynamic Dangerous Goods Template form with the following fields:</p> <ol style="list-style-type: none"> 1. Type of wagons involved. 2. Location of the occurrence. 3. The topography of the occurrence location. 4. Weather condition description. 5. Occurrence description. 6. UN classification(s) code; and 7. Description of the risks involved. 	M

Req#	Description of Requirement	M / O / NLR
	NB: The mandatory fields must be customisable and dynamic. The System Administrator should be able to edit the Field descriptions and add/remove new fields.	
ODMS_004	The system must assign a unique identifier to each occurrence reported.	M
ODMS_005	The system must store all reported occurrences in a relational database.	M
ODMS_006	The system must provide capability for RSR users with appropriate system rights to view all occurrence reported, using dynamic filters, amongst others date of occurrence, occurrence type, Operator name, period (from-to date) and unique identifier. NB: The data filtering fields must be customisable and dynamic.	M
ODMS_007	The system must provide capability for an Operator to view all occurrences related to them, using dynamic filters, amongst others date of occurrence, type, Operator, period (from-to date). NB: The system must not allow Operators to view occurrences related to or reported by other Operators.	M
ODMS_008	The system must provide capability to load occurrence report sent to Nominated Manager and RIC (Person who logged occurrence) via email	M
ODMS_009	The system must provide capability for Lookup functionality based on previous lookup fields (Cascading Fields) i.e., Category and Sub-category	M
ODMS_010	The system must provide capability for the Call Centre to select Operator's asset (e.g., station) from a GPS map view.	M
ODMS_011	The system must provide capability for bulk-importing of occurrences. (Refers to the bulk-upload of occurrences to be transferred in bulk to NIIMS from the Operator's system)	M
ODMS_012	The system must provide capability to monitor that immediate occurrences are logged within the 15 min time frame of the occurrence. System to provide	M

Req#	Description of Requirement	M / O / NLR
	<p>a report. To compare date and time of occurrence with date and time the occurrence was reported to the Call Centre.</p> <ul style="list-style-type: none"> • If the occurrence or incident is immediately reportable but not reported within 15 minutes, the system must indicate that the penalty management process should be initiated. • The system should provide capability for the relevant RSR user change the timeframe for immediate occurrence reporting. 	
ODMS_13	Monitor whether daily occurrences are logged before 11H00 the following morning - If time frame exceeded, see Penalty Management Business Process Requirements.	M
ODMS_14	The system must provide capability to verify occurrence data e.g. Correct capturing of occurrence, no missing data - integrity/completeness/accuracy.	M
ODMS_15	<p>If the operator has not submitted the required occurrence reports within the stipulated timeline, a reminder must be sent to the operator to submit the occurrence reports.</p> <ul style="list-style-type: none"> • If the operator has not submitted the occurrence reports 14 days after the reminder has been sent, a contravention notice is issued and the Penalty Management process proceeds. • If the operator submits the occurrence report following the reminder, the system is updated. 	M
ODMS_16	The system must provide capability to view submitted documents to conduct data verification for integrity/completeness/accuracy.	M
ODMS_17	System must provide Audit log capability for changes made to occurrences.	M
ODMS_018	Notes/Comments field must be utilized to advise operator of areas of clarity - email to be sent.	M
ODMS_019	The system must provide capability to send notification to compile and submit the quarterly reports.	M

Req#	Description of Requirement	M / O / NLR
ODMS_020	The system must provide capability for submission of Quarterly report by Operators to be verified by the RSR with the data in the system against the report submitted. Verification of data can be done by reports developed.	M
ODMS_021	The system should have the capability to develop queries for dashboards, graphs and summations on data selected by the RSR user.	M
ODMS_022	The system must provide capability to assess whether occurrence logged by phone and daily occurrences qualify as immediately reportable occurrences based on characteristics of the occurrence (e.g., fatalities)	M
ODMS_023	The system must provide capability for Classification of occurrences on the MAP using different colors to reflect the severity and frequency of occurrences.	M
ODMS_024	The system must provide capability to select occurrences from map view and open related assignment and occurrence report	M
ODMS_025	The system must provide capability for the Data administrator to link occurrence logs (e.g., the same occurrence logged by phone and by daily occurrence upload.	M
ODMS_026	<p>The system must not allow Operators to amend submitted occurrences.</p> <ul style="list-style-type: none"> Once an occurrence has been submitted/reported the Operator will only be able to view details of the occurrence and not amend it. The Operator must be able to send a request for amendment to RSR. Operators must not be able to view occurrences submitted by other Operators. 	M
ODMS_027	The system must provide capability for the RSR (Users with appropriate system rights) to update/edit occurrences.	M

Req#	Description of Requirement	M / O / NLR
ODMS_028	The system must provide capability for the Operator to view occurrences related to them.	M
ODMS_029	Operators should not be able to delete submitted occurrences.	M
ODMS_030	The system must provide capability for the Safety Data Analyst to delete duplicate occurrences.	M
ODMS_031	The system must provide capability to notify RSR user and operator when missing data for daily occurrence logs.	M
ODMS_032	The system must provide capability to add comments to submitted data to highlight where changes need to be made.	M
ODMS_033	Data administrator to be able to accept/reject occurrences reported daily individually or in-bulk	M
ODMS_034	When populating the site or siding details on an occurrence log, the contact center must be able to search for the site from a drop-down menu (once the operator's name or permit number has been entered).	M
ODMS_035	The contact center agents must not be restricted from selecting a pre-existing site but should be able to enter a new site (occurrence address).	M

10.4 Occurrence Investigation Business Requirements

The table below depicts the business requirements for the Occurrence Investigation module:

Req#	Description of Requirement	M / O / NLR
Occurrence Investigation: Preliminary Investigation		

Req#	Description of Requirement	M / O / NLR
OI_001	The system must provide capability to assign user roles/groups per occurrence investigation (User rights).	M
OI_002	Once a request to respond to an occurrence site to conduct a preliminary investigation is logged, the system must provide capability for the RSR user with appropriate rights to the system to activate the team with necessary resources.	M
OI_003	The system must provide capability for information or evidence collected during the preliminary investigation on occurrence site to be uploaded onto the system (Work order documents upload)	M
OI_004	The system must provide capability for the RSR inspector to log individual items of evidence. Evidence logs to have description of evidence, date and time collected and GPS location of collection.	M
OI_005	<p>The system must provide capability for the RSR inspector to upload the preliminary draft occurrence investigation report.</p> <ul style="list-style-type: none"> Once the preliminary draft has been completed and uploaded onto the system, RSR personnel involved in the occurrence investigation should be able to view and share the report internally within the system. 	M
OI_006	The system must provide capability for all RSR personnel involved in an occurrence investigation to review and sign the report.	M
OI_007	The system should only provide rights to the Principal inspector/RTM to close the preliminary investigation report after all the members of the team have reviewed and signed.	M
OI_008	The system must provide capability to identify / allocate / initiate desktop review from the list of daily occurrence submission, immediate occurrences, or list of preliminary investigations	M
OI_009	The system to provide capability for RSR users to provide comments / outcomes on the Desktop review documents received.	M

Req#	Description of Requirement	M / O / NLR
OI_010	The system must provide capability for details of a specific occurrence to automatically be populated when assigning the same occurrence for investigation	M
OI_011	The system must provide capability for RSR and the Operator to make comments to documents submitted.	M
OI_012	The system must provide capability for the engagement between Inspector and Operator to be linked to a specific occurrence. (including ability to upload documents as part of engagement)	M
OI_013	<p>The system must send reminders for the operator to submit the report so that an Inspector can be allocated to an occurrence investigation.</p> <ul style="list-style-type: none"> The system must provide capability for the relevant RSR user to override or stop notifications from being send for a particular event / instance. 	M
OI_014	The system must provide capability for the Inspector to upload a letter requesting additional information (notification to be send to the Operator).	M
OI_015	The system must provide capability for the Operator to review a letter of request for additional information required.	M
OI_016	The system must provide capability for the Operator to upload the required information on the system.	M
OI_017	Should the RSR find an immediate threat on the submitted report from the operator, the system must provide capability for the Inspector to issue and upload a Prohibition Directive (No movements of trains until the threat have been addressed accordingly.	M
OI_018	The system must provide capability for the Inspector to make a follow up for additional information to operator, and a notification should be sent to the Operator with specified dates	M
OI_019	The system must provide capability for the Regional Technical Manager to select an internal team (on the system) that will execute the safety issue investigation and upload a draft of "terms of reference" on the system.	M

Req#	Description of Requirement	M / O / NLR
OI_020	Once the terms of reference are approved by the relevant RSR user, the system must provide capability for all team members to view and have access to uploaded documents.	M
OI_021	The system must provide capability for the Draft report (safety issue Investigation) produced by the appointed team, to be directed to the principal inspector through the system.	M
OI_022	If the safety issue investigation follows the SCM process and an external contractor is appointed, the system must provide capability for the Principal inspector/RTM to upload all required information and the completed report (Final report outcomes) onto the system.	M
Board of Inquiry Investigation:		
OI_023	Board of Inquiry Investigation: <ul style="list-style-type: none"> • Provide capability to choose within the operator's submitted occurrences. • Chief Operating Officer or Regional Technical Manager should be able to create a work order to request Board of Inquiry to be conducted 	M
OI_024	The system must provide capability for the relevant RSR staff (with appropriate system rights) to share different drafts of the Board of Inquiry. <ul style="list-style-type: none"> • All RSR team members must have access to upload their individual reports and one designated team member to consolidate all the submitted drafts to make one comprehensive report and upload onto the system. 	M
OI_025	The system must provide capability for the RSR Inspector to upload individual and a comprehensive report on their mobile devices (using offline capability – Mobi app) so that info can be viewed and captured at site without Internet connection.	O

Req#	Description of Requirement	M / O / NLR
OI_026	The system must provide capability for the Chief Operating Officer to view the completed Board of Inquiry investigation report and have ability to accept or reject the report within the system.	M
OI_027	The system must provide capability to open and view all occurrences on a map view based on certain parameters (Operator, Region, Date etc.)	M
OI_028	The system must provide capability to select occurrences from map view to open the occurrence log and create new assignment from the log.	M
OI_029	Once the COO approves the completed Board of Inquiry investigation report, the system must provide capability for the Regional Technical Manager to close the occurrence investigation report.	M
OI_030	The system must provide capability to sign the investigation report within the system.	M
OI_031	The system must allow Inspectors to prioritise investigations based on severity of the occurrence.	M
OI_032	The system must provide capability to raise Directives and Contravention Notices against investigation findings.	M
OI_033	The system must provide capability to create findings log with root causes and contributory root causes to be listed or selected from drop down list.	M
OI_034	The system must provide capability for RSR users to add a summary of investigation findings and root cause 'codes' to the work order / assignments / ticket.	M
OI_035	The system must not allow Investigation assignments/work/tickets to be closed until all corrective actions are addressed.	M
OI_036	The system must provide capability for inspectors to review and download original occurrence log and operator reports.	M
OI_037	The system must provide capability to draw a report on all investigations to track progress status on investigations (A table with record list on status of investigation)	

10.5 Audits and Inspections Business Requirements

The table below depicts the business requirements for the Audits and Inspections module:

Req#	Description of Requirement	M / O / NLR
Plan Audit		
AUD_001	The system must provide capability to create audits & inspections by raising a work order / work assignment based on the quarterly tactical plans. The quarterly plan will stem from the tactical plan. The tactical plan is region specific and guides the audit scope for each quarter.	M
AUD_002	The system must provide capability for the Inspector to close all work order / assignments / ticket for sites marked as dormant.	M
AUD_003	The system must provide capability to create an audit case file, the audit case file is created for all audit or inspection related documents. This is based on the tactical plan. (Initiating an Audit Work).	M
AUD_004	The system must provide capability to assign an Inspector to the case file.	M
AUD_005	The audit case file must indicate the progress of each step taken within the audit process until the completion and sign-off the final report. The progress should be indicated by means of where in the process the current case file is laying.	M
AUD_006	<p>The system must provide capability to retrieve and review the following operator information from the system, and assess the operator risk profile:</p> <ul style="list-style-type: none"> • Operator's SMSR • SPCAM assessment report • Permit conditions (standard and special conditions) • Previous (state number or timeline) audits and inspections conducted by the RSR on the Operator and the results thereof. • Outstanding submissions between RSR and Operators 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> • Outstanding Corrective Action Plans, Notifications, or Directives • Operator's Site layout Diagram • Occurrence history of Operator • Quarterly Occurrence reports and outstanding penalties 	
AUD_007	The system must provide capability to review operator information and attach/upload documentation while being offline (offline capability)	O
AUD_008	The system must provide capability to develop Audit Protocol/Scope based on master protocol and the operator's risk profile. The elements and sub-elements that make up the scope should have a Compliant/ Non-Compliant field as well as a comment section within the system.	M
AUD_009	The system must provide capability to upload the Audit Scope to the case file.	M
AUD_010	The system must provide capability for the Principal Inspector to review the Audit Protocol/Scope in the system by means of an attachment.	M
AUD_011	The system must provide capability for the Principal Inspector to review the Audit Protocol/Scope as part of the system.	M
AUD_012	The system must provide capability for the Principal Inspector to review the Audit Protocol/Scope in the system by means of the elements and sub elements.	M
AUD_013	The system must provide capability for the Principal Inspector to approve the scope.	M
AUD_014	The system must provide capability for the Principal Inspector to route back the Audit Protocol for amendment.	M
AUD_015	The system must provide capability to see which Inspectors are booked/available during a specific period.	M

Req#	Description of Requirement	M / O / NLR
AUD_016	The system must provide capability for a Principal Inspector to assign an inspector to an audit or inspection activity.	M
AUD_017	The system must provide capability for the RSR user to send a notification letter to an Operator to confirm audit/inspection planned date at least 10 days before the planned date.	M
AUD_018	The system must provide capability for the Operator to confirm audit/inspection date (Notification to be send to relevant RSR user).	M
AUD_019	The system must provide capability for inspector and operator to be reminded via e-mail of the planned date at least 10 days before the planned date.	M
AUD_020	The system must provide capability to request relevant information from the Operator.	M
AUD_021	<p>If the site is found to be dormant:</p> <ul style="list-style-type: none"> The Operator is notified to make the RSR aware 30 days before using the site again SM: SPA is notified, the audit is then aborted, and the case file is closed. 	M
Ad-Hoc Activities		
AUD_022	The system must provide capability for RSR employees to raise an ad-hoc inspection.	M
AUD_023	The system must provide capability for the RTM to validate ad-hoc inspection request.	M
AUD_024	The system must provide capability for the Principal Inspector to be notified when RTM validates the ad-hoc inspection request.	M

Req#	Description of Requirement	M / O / NLR
AUD_025	The system must provide capability for the Principal Inspector to assign an Inspector to an ad hoc inspection.	M
AUD_026	The system must notify the Inspector when assigned to an inspection	M
AUD_027	<p>If the site is operational but operators have not submitted all necessary documentation, the system must provide capability for a follow-up request to be sent to the operator to submit additional information.</p> <ul style="list-style-type: none"> The details of outstanding documents must be able to be added to a comments field on the system. 	M
AUD_028	If the SMS is not implemented, a non-compliance notice is raised, the audit is aborted, and the case file is closed.	M
AUD_029	If an ad-hoc inspection is conducted once the case file is closed , the system must inform the Operator before proceeding with the ad-hoc inspection.	M
AUD_030	If the SMS is being implemented , a final review of the Audit Scope is conducted by the Lead Inspector. The system must provide capability for the Inspector to access all the information and attachments in the case file.	M
AUD_031	The system must provide capability for the principal inspector to approve the audit scope in the system.	M
AUD_032	The system must provide capability to add additional elements and sub elements to the system for the audit.	M
AUD_033	The system must generate unique MWC reference numbers and retain an MWC for a closing ad-hoc inspection	M
AUD_034	The system must provide capability for notifications to be sent to relevant users only.	M

Req#	Description of Requirement	M / O / NLR
AUD_035	The system must ensure that the Internal comments must not reflect on external user's user interfaces. Profiles for an Operator and RSR user to be different	M
AUD_036	The system must provide capability to alert a Principal Inspector that the Inspector has arrived on-site and convened on-site opening meeting	M
AUD_037	If the site is not functional, the operator is notified, to make the RSR aware 30 days before using the site again, for safety inspection reasons.	M
AUD_038	If the site is functional, review SMS guidelines and assess SMS implementation. The SMS elements should be audited individually as per the audit scope. Each sub-element must have a Compliance or Non-compliance as well as a comment section. This should be able to be done even on a mobile platform.	M
AUD_039	If the SMS is not implemented, a non-compliance notice shall be raised, in such cases, no audit reports will be generated.	M
AUD_040	The RTM and Principal Inspector shall approve Notice of Non-Compliance.	M
AUD_041	Draft Safety Compliance Audit report. The final report with all report writing should be able to be attached to the case file in the system	M
AUD_042	The draft Safety Compliance Audit should be accessible in the case file in the system.	M
AUD_043	<p>The Principal Inspector will review Safety Compliance Audit Report and should have the ability to recommend to the RTM via the system</p> <ul style="list-style-type: none"> Principal Inspector to have capability to approve safety compliance report for class B & C. The system should not allow one Principal Inspector to review and approve same report. 	M

Req#	Description of Requirement	M / O / NLR
AUD_044	The system must provide capability for the Principal Inspector to review the Safety Compliance Audit Report and should have the ability to reject and send it back to the inspector for amendments via the system.	M
AUD_045	The RTM will review Safety Compliance Audit Report and should have the ability to reject and send it back to the Inspector for amendments via the system.	M
AUD_046	The Team Member will review Safety Compliance Audit Report and should have the ability to reject and send it back to the Inspector for amendments via the system.	M
AUD_047	Ability to monitor if the final Safety Compliance Audit Report is completed and signed and distributed within 30 days of the audit. A report highlighting if the 30-day target is being met should be generated.	M
AUD_048	Capability to register non-conformances/non-compliances on the database. Ability to view all related NCs, IDs, and PDs related to the originating process	M
AUD_049	The system must provide capability to upload the final audit report to the system.	M
AUD_050	The system must provide capability to print and sign the report.	M
AUD_051	The system must provide capability for the final audit report to be sent to the Operator.	M
AUD_052	The system must provide capability for the Operator to be able to access the final audit report through the system as an attachment.	M
Ad-Hoc Inspection		
AUD_053	The system must provide capability for the Principal Inspector to receive a work request for an ad hoc inspection from internal staff members	M

Req#	Description of Requirement	M / O / NLR
AUD_054	The system must provide capability to create a case file for an ad hoc inspection	M
AUD_055	The system must provide capability for the Principal Inspector to allocate the ad hoc inspection to a Lead Inspector	M
AUD_056	The system must provide capability to review an ad hoc inspection request	M
AUD_057	The system must provide capability to update the ad hoc inspection request.	M
AUD_058	The system must provide capability to review operator information within the system. This could be in the form of reports or master data.	M
AUD_059	The system must provide capability to add elements and sub elements that make up the scope of the inspection should have a Comply/ Not comply field as well as a comment section within the system.	M
AUD_060	The system must provide capability to notify the operator of the planned inspection via the system.	M
AUD_061	The system must provide capability to request relevant information from the operator via the system	M
AUD_062	<p>If the operator does not provide the information after 7 days, a reminder is sent to the operator to submit the required the information</p> <ul style="list-style-type: none"> 14 days after the reminder has been sent out, should the operator not provide the requested information, a contravention notice (category 2c) shall be issued, and the Penalty Management process will commence. See penalty management requirements 	M
AUD_063	The system must provide capability to add elements and sub elements for ad hoc inspections	M

Req#	Description of Requirement	M / O / NLR
AUD_064	The system must provide capability for an Inspector appointment certificate to be loaded to their profile and be accessed, when necessary, even offline	O
AUD_065	The system must provide capability to indicate to the Principal Inspector that the inspector has arrived on-site.	O
AUD_066	If the Operator denies the Inspectors access to the site, a direct contravention notice will be issued (category 1d) or, at the discretion of the inspector, a criminal charge may be laid as per section 45 of the Act. See penalty management requirements.	M
AUD_067	The system must provide capability to assess the relevant SMS implementation based on the selected elements and sub elements.	M
AUD_068	The system must provide capability to assess and comment on a specific request.	M
AUD_069	The system must provide capability to link photos and documents to the individual sub elements.	M
AUD_070	The system must provide capability to generate findings and export to pdf for signature by Operator. (e.g., sub elements ticked compliant/non-compliant and their comments).	M
AUD_071	The system must provide capability to extract information from the audit to assist with the compilation of the Audit/Inspection report.	M
AUD_072	The system must provide capability to upload a draft inspection report.	M
AUD_073	The system must provide capability to raise non-compliance/non-conformance notices.	M
AUD_074	The system must provide capability to review inspection report via the system.	M

Req#	Description of Requirement	M / O / NLR
AUD_075	The system must provide capability to recommend the report to the RTM via the system.	M
AUD_076	The system must provide capability for the Principal Inspector to return the report to the Lead Inspector for amendment via the system.	M
AUD_077	<u>The system must provide capability for the RTM to return the report to the Principal Inspector for the Lead Inspector to make amendments via the system.</u>	M
AUD_078	The system must provide capability to upload the final inspection report to the system.	M
AUD_079	The system must provide capability for relevant RSR staff to digitally sign the reports.	M
AUD_080	The system must provide capability to allocate audits and inspection work orders / assignments to a single or multiple inspectors based on, availability (taking weekends, holidays and leave into account), standby roster, trade, skills, and experience.	M
AUD_081	The system must provide capability for the final inspection report to be sent to the Operator in compliance with Section 59 of the Act.	M
AUD_082	The system must provide capability to send, receive, action, execute, write notes in the system.	M
AUD_083	The system must provide capability to follow up on requests.	M
AUD_084	The system must provide capability to generate and retrieve real time reports.	M
AUD_085	The system must provide capability to upload documents to the system.	M
AUD_086	The system must provide capability to load documents.	M

Req#	Description of Requirement	M / O / NLR
AUD_087	The system must provide capability to receive and send notifications via e-mail, inbox functionality or SMS.	M
AUD_088	The system must provide capability to prevent or/and cancel duplicate orders.	M
AUD_089	The system must provide capability ability to schedule inspection and audit work.	M
AUD_090	The capability to 'repeat' past, closed inspection work assignment.	M
AUD_091	The capability to create work orders with tasks/checklists for SMS elements, sub-elements, and audit checklists (the Audit Scope) so that when inspectors are undertaking an audit, they can check off items on the checklist.	M
AUD_092	Checklist items should have element number, name, a separate inspector, document attachment field, "comply/not comply" and operator comments field	M
AUD_093	The system must provide capability for Inspectors to upload files (word, pdf, images, voice, and video)	M
AUD_094	The system must provide capability to send an email notification to the operator with the work order / assignments details (e.g., audit location, assets to be audited, audit date),	M
AUD_095	The system must provide capability to send the operator a link to the audit scope	M
AUD_096	The system must provide capability to send the operator a list of documents that must be submitted (from the developed audit scope)	M
AUD_097	The system must provide capability to download/export the audit scope in word, excel and pdf format for use by inspectors in the field.	M

Req#	Description of Requirement	M / O / NLR
AUD_098	<p>The system must provide capability to allocate an MWC number or any autogenerated code to the submission</p> <ul style="list-style-type: none"> If the MWC number is generated in another system, it can be entered on a work order /assignment by means of a UDF. 	M
AUD_099	The system must provide capability for audit scope reviewers and approvers to add or delete audit items from the audit scope	M
AUD_0100	The system must provide capability to book vehicles and equipment	O
AUD_0101	The system must provide capability to update the date scheduled for the audit.	M
AUD_0102	The system must provide capability to give reasons/insert comments on why a work order was aborted/ cancelled.	M
AUD_0103	The system must provide capability for all non-compliances raised to be linked to a single report or multiple non-conformance findings.	M
AUD_0104	The system must provide capability of ad-hoc inspection work assignments to be linked to aborted audit work orders / assignments.	M
AUD_0105	The system must provide capability to send the audit report to the operator by email and list the recommendations/ CAP to be submitted.	M
AUD_0106	The system must provide capability for operators to access /view evidence that inspectors have uploaded to the work order.	M
AUD_0107	The system must prevent audit work orders /assignments being closed until all non-conformances are addressed or escalated to non-compliance notices or directives.	M
AUD_0108	The system must provide capability to indicate that non-conformances have been addressed by the Operator's Corrective Action Plan.	M
AUD_0109	The system must provide capability to send reports	M

Req#	Description of Requirement	M / O / NLR
AUD_0110	The system must provide capability to review operator information and attach/upload documentation while being offline (offline capability)	O

10.6 Penalty Management Business Requirements

The table below depicts the business requirements for the Penalty Management module.

Req#	Description of Requirement	M / O / NLR
Raising a Contravention		
PM_001	The system must provide capability to create a contravention notice work order from non-conformance finding/ non-compliance.	M
PM_002	The system must provide capability to enter the penalty fee amount.	M
PM_003	The system must provide capability to save a Contravention Notice as a reference document.	M
PM_004	The system must provide capability for the Inspector to upload a submission as a reference document.	M
PM_005	The system must provide capability to serve a contravention notice in compliance with Section 59 of the Act (registered mail/email)	M
PM_006	The system must provide the capability to upload proof of service as a reference document.	M
PM_007	The system must provide capability to view list of contraventions (full register) in the system and develop a report of the same.	M
PM_008	Contravention Notice details must be part of details within Work Order / Assignments.	M

Req#	Description of Requirement	M / O / NLR
PM_009	The system must provide capability to monitor the 21-day period in which operators are given from the Proof of Service to respond to the Contravention Notice.	M
PM_010	The system must provide capability to be notified of the response or non-response by the Operator.	M
PM_011	The system must provide capability to upload penalty letter to the system.	M
PM_012	The system must provide capability to save the Acknowledgment of debt letter or settlement agreement as a reference document.	M
PM_013	The system must provide capability for the operator to upload the acknowledgment of the debt letter or settlement agreement	M
PM_014	The system must provide capability for the Inspector to save a letter of dispute received from an operator, as a reference document	M
PM_015	The system must provide capability for an Inspector to be notified that a dispute letter has been uploaded to the system by the operator (notification).	M
PM_016	The system must provide capability to upload a dispute letter received from the operator/CEO/legal.	M
PM_017	The system must provide capability to review dispute letter and confirm/reject the original contravention and make related comments.	M
PM_018	The system must provide capability for the RSR CEO to either approve or reject the contravention.	M
PM_019	The system must provide capability for an Inspector to load a submission as a reference document.	M
PM_020	The system must provide capability to enter/adjust the penalty amount.	M

Req#	Description of Requirement	M / O / NLR
PM_021	The system must provide capability to withdraw the contravention notice if CEO considers operator's case to be reasonable/valid and issues the same communication to the operator via the Section 59 service process.	M
PM_022	The system must provide capability for the Legal advisor to enter dates of the hearing onto the system after it has been agreed outside the system.	M
PM_023	The system must provide capability to upload pre-hearing minutes and recommendations to the system.	M
PM_026	The system must provide capability to accept/reject pre-hearing report and either proceed to penalty invoice process or to submission of bundles.	M
PM_027	Valid contravention notices will be considered by Legal Advisor and Pre-hearing meeting is agreed to by parties. Notes of exchange of pleadings and hearing to be recorded and saved as a reference document.	M
PM_028	Tracking of the operator who will have to submit evidence documents/bundle 7 days before the dispute hearing or date to be agreed by both parties.	M
PM_029	Tracking of the inspector who will have to submit the evidence documents/bundle 7 days before the dispute hearing or date to be agreed by both parties.	M
PM_030	The system must provide capability for the Legal Advisor to enter the date on which the evidence documents need to be submitted. Date then to be tracked by the system and parties to be notified to submit bundles and reminded, as necessary. Date of hearing to be entered and 7-day prior notification required	M
PM_031	Case file documents including witness statements and evidence documents to be saved as reference documents (uploaded to the system).	M
PM_032	A ruling is made after the dispute hearing and is communicated to parties (legal advisor, inspector, and operator) within 30 days	M

Req#	Description of Requirement	M / O / NLR
PM_033	Parties should be notified that ruling has been issued.	M
PM_034	Notification reminder to be sent ruling within 30 days if not done.	M
PM_035	Notice of Intention to Appeal and Grounds of Appeal to be saved as reference documents (either by CoSec or Legal Advisor).	M
PM_036	The system must provide capability to add dates that process steps will happen/ have happened to track the process and report on the same.	M
PM_037	The system must provide capability to upload motions report and meeting notes to the system.	M
PM_038	The system must provide capability to trigger the penalty withdrawal process or the penalty fee process.	M
PM_039	If Operator appeals the decision of the CEO and an appeal hearing meeting is requested. Appeal hearing meeting notes to be recorded and saved as a reference document (CoSec)	M
PM_040	Decision of appeal made by board to parties should be communicated within 30 days of the decision.	M
PM_041	The system must provide capability to load 'Notice of intention to appeal to the Board' letter	M
	The system must provide capability to load " Grounds of appeal to the Board	
PM_043	The system must provide capability to request Operator to upload CAP.	M
PM_044	The system must provide capability for the Operator to upload CAP to the system and input corrective actions and due dates to the system. Inspector to be able to review individual CAP actions and due dates and make comments.	M
PM_045	The system must provide capability for the Operator to upload proof of compliance/ implementation of corrective actions. Inspector to be able to accept/reject individual corrective actions implemented (proof of compliance) and make comments.	M

Req#	Description of Requirement	M / O / NLR
PM_046	The system must provide capability to upload a compliance letter to the system and issue by S59.	M
PM_047	The system must provide capability to escalate matters to relevant parties for action. (Notification).	M
PM_048	The system must provide capability to indicate on the penalty that the matter has been resolved and to 'close' the work order.	M
PM_049	The system must provide capability for Loading of 'Approved Invoice Request' form as a reference document.	M
PM_050	The system must provide capability for Loading of Invoice from SAGE as a reference document.	O
PM_051	If the penalty has not been paid within 30 days and the operator does not communicate an inability to pay due to cash flow problems, payment is demanded in terms of the debt management policy and the matter is handed over to Legal.	M
PM_052	The system must provide capability to load proposed payment plan.	M
PM_053	The system must provide capability to review, comment and approve payment plan. Notification to operator before payments are due, there might be multiple payment dates that need to be documented i.e., 6-month agreement to pay 1 invoice.	M
PM_054	Inspector drafts the withdrawal of Contravention Notice Letter and submits to the Executive: Legal Services for vetting Reviews and recommends the withdrawal letter to the COO. Withdrawal of Contravention Notice Letter to be loaded as a reference document.	M
PM_055	Ability for COO / CEO to review and approve the withdrawal letter.	M

Req#	Description of Requirement	M / O / NLR
PM_056	Withdraw Contravention notice and update Contravention tracking register as per RSR file plan. Tracking register to be loaded as a reference document.	M
PM_057	The issuing department issues the withdrawal letter to the operator (via the S59 process or e- register).	M
PM_058	The system must provide capability to load credit note as a reference document	M
PM_059	The system must provide capability for the Penalty Tracking Register to be loaded as a reference document	M
PM_060	The system must provide capability for the Inspector/ Legal Advisor to raise request (child work order) to reverse invoice in the system.	M
PM_061	The system must provide capability to view list of penalties (full register) in the system and develop a report of the same.	M
PM_062	The system must provide capability for Penalty details to be part of details within Work Order.	M
PM_063	The system must provide capability for the Operator to be able to upload and download response to/from the system.	M
PM_064	The system must provide capability to re-route the document to the originator, and insert comments to the document. ie, Contravention Issue, Hearing notes; Hearing report.	M
PM_065	The system must provide capability to issue letter via S59.	M
PM_066	The system must provide capability to monitor conditions of settlement agreement i.e., where penalty is suspended subject to conditions.	

10.7 Safety Intervention Planning Business Requirements

The below table depicts the business requirements for Safety Intervention Planning.

Req#	Description of Requirement	M / O / NLR
Develop Safety Intervention Report		
SIP_001	<p>The system must provide capability to view historic data in the system including:</p> <ul style="list-style-type: none"> • Audits and Inspections • Permit applications • Investigation reports • Non conformances • Directives • SPCAM assessment Permit Special Conditions • Verified occurrence data 	M
SIP_002	<p>The system must provide capability to draw data and download documents from the system including:</p> <ul style="list-style-type: none"> • Audits and Inspections • Permit applications • Investigation reports • Non conformances • Directives • SPCAM assessment Permit Special Conditions • Verified occurrence data 	M
SIP_003	<p>The system must provide capability to export data from the system including:</p> <ul style="list-style-type: none"> • Audits and Inspections • Permit applications • Investigation reports • Non conformances • Directives 	M

Req#	Description of Requirement	M / O / NLR
	<ul style="list-style-type: none"> • SPCAM assessment Permit Special Conditions • Verified occurrence data 	
SIP_004	The system must provide capability to manipulate report parameters to assist with data mining.	M
SIP_005	The system must provide capability to assist with conducting safety data analysis to identify risk and problem areas.	M
SIP_006	Tactical Plan - RTM to be able to add individual items in the Tactical plan to the system to enable work orders to be raised for individual plan items. i.e., to create the plan in the system and not to just upload an excel document.	M
SIP_007	The system must provide capability for the specialist to review and assess the alignment of the tactical plan and the macro plan.	M
SIP_008	The system must provide capability for the specialist to send the tactical plan to the senior manager.	M
SIP_009	The ability for the senior manager to recommend the tactical plan to the head of safety management.	M
SIP_010	The system must provide capability for the senior manager to make comments in the system.	M
SIP_011	The system must provide capability for the senior manager to return the tactical plan to the RTM to make amendments via the system.	M
SIP_012	The system must provide capability for the head of safety management to review the tactical plan in the system.	M
SIP_013	The system must provide capability for the head of safety management to make comments in the system.	M

Req#	Description of Requirement	M / O / NLR
SIP_014	The system must provide capability for the head of safety management to return the tactical plan to the RTM for amendments via the system.	M
SIP_015	The system must provide capability for the head of safety management to recommend the tactical plan to the COO.	M
SIP_016	The system must provide capability for the COO to review the tactical plan in the system.	M
SIP_017	The system must provide capability for the COO to return the tactical plan to the RTM for amendments via the system.	M
SIP_018	The system must provide capability for the COO to approve the tactical plan via the system.	M
SIP_019	The system must provide capability to manipulate report parameters to assist with data mining.	M
SIP_020	The system must provide capability to upload and download documents to the system.	M
SIP_021	RSR to able to create action items (planned activities) for a group of operators or elements at a time – these may be standard audits that need to be undertaken every year.	M
SIP_022	The system must provide capability to save plans from previous years so that they can be reused in current years, with amendment.	M
SIP_023	RSR should be able to create action items (planned activities) for an individual operator or elements at a time – these may be standard audits that need to be undertaken every year. Plans from previous years to be saved so that they can be reused in current years, with amendment.	M

Req#	Description of Requirement	M / O / NLR
SIP_024	The system must provide capability to prevent scheduling (or warn RSR user) of activities for inactive operators.	M
SIP_025	The system must provide capability to prevent scheduling (or warn RSR user) of activities for dormant sites.	M

10.8 Safety Compliance Management Business Requirements

The table below depicts the business requirements for Safety Compliance Management.

Req#	Description of Requirement	M / O / NLR
Non-Conformance Finding		
SCM_001	The system must provide capability to raise a Non-Conformance through the carrying out of Audits, Inspections or Occurrence Investigations; Safety Permit Assessments; Technology Reviews, and Occurrence Reporting at any point in time.	M
SCM_002	The system must provide capability for the Operator to respond to a finding (datetime to be included automatically).	M
SCM_003	The system must provide capability to issue recommendations to Operators to address Non-Conformance.	M
SCM_004	The system must provide capability for an Operator to submit a corrective action plan.	M
SCM_005	If the Operator has not submitted a Corrective Action Plan within 30 days, a reminder is sent to the operator to submit the Corrective Action Plan.	M
SCM_006	If the CAP is not submitted within 14 days of the reminder, the ability to raise a contravention notice via the Penalty Management Process.	M

Req#	Description of Requirement	M / O / NLR
SCM_007	The system must provide capability for RSR to review, accept/reject individual items and make comments on individual items (CAP could have multiple recommendation that should be tracked individually).	M
SCM_008	The evaluation of the CAP and implementation thereof will consist of a desktop assessment and if necessary, a follow-up site inspection. The follow up site inspection can be handled by the Ad hoc inspection process. See Ad hoc Inspection Requirements.	M
SCM_009	The system must provide capability to track the CAP back to the original Audit/Inspection	M
SCM_010	The system must provide capability to update non-conformance/non-compliance on the system after the inspection has been completed.	M
SCM_011	If the non-conformance has not been addressed through the Corrective Action Plan or the CAP has not been submitted, an assessment of whether to escalate the non-conformance to a contravention notice is conducted. Should a contravention notice be raised, the ability to initiate the Penalty Management process will be required.	M
SCM_012	If the non-conformance has not been addressed and a contravention notice has not been raised the RSI evaluates if the Non-Conformance has developed into a threat. There should be an allowed time for the operator to respond and if it has elapsed the system should indicate that an ad hoc inspection is required to inspect if it had developed into a threat.	M
SCM_013	Where the non-conformance has developed into a threat and the threat is immediate, the Prohibition Directive process is followed.	M
SCM_014	The system must provide capability to escalate non-compliance to contravention notice / directives	M
SCM_015	Where the non-conformance has developed into a threat and the threat is not immediate, the Improvement Directive process is followed.	M

Req#	Description of Requirement	M / O / NLR
SCM_016	If the non-conformance has not been addressed or the CAP has not been submitted, a contravention notice has not been raised and the non-conformance has not developed into a threat. The ability to request additional information from the Operator is required.	M
SCM_017	The system must provide capability for the Operator to submit additional information	M
SCM_018	Once all Corrective Action Plans have been implemented appropriately, a compliance letter is drafted and the ability to upload to the system is required	M
SCM_019	The system must provide capability for the Operator to access the compliance letter through the system by means of an attachment.	M
SCM_020	Once all Corrective Action Plans have been implemented appropriately, a compliance letter is drafted and issued to the operator via the s59 issue process.	M
SCM_021	The system must provide capability for internal comments to not reflect on external user's user interfaces.	M
SCM_022	The system must provide capability to raise a Non-Conformance through the carrying out of Audits, Inspections or Occurrence Investigations; Safety Permit Assessments; Technology Reviews, and Occurrence Reporting at any point in time.	M
SCM_023	The system must provide capability to evaluate the seriousness of non-compliance that has been raised on the system (Assess all supporting documentation)	M
SCM_024	If the non-compliance is deemed serious, the ability for the contravention notices to be raised and the Penalty Management process to be followed is required.	M

Req#	Description of Requirement	M / O / NLR
SCM_025	If the non-compliance does not warrant the raising of a contravention notice a non-compliance notice is generated. The logging of the non-compliance.	M
SCM_026	The system must provide capability for the Non-compliance notice to be reviewed and approved by the PI or the Senior Manager	M
SCM_027	The system must provide capability for the Non-compliance notice to be reviewed and approved by the RTM or Head.	M
SCM_028	The system must provide capability for the non-compliance to be uploaded to the system.	M
SCM_029	The system must provide capability for the operator to access the non-compliance notice via an attachment to the system.	M
SCM_030	The system must provide capability for the non-compliance to be issued and comply with section 59.	M
SCM_031	If the operator has not submitted a Corrective Action Plan within 30 days, a reminder is sent to the operator to submit the Corrective Action Plan.	M
SCM_032	If the CAP is not submitted within 14 days of the reminder, the ability to raise a contravention notice via the Penalty Management Process.	M
SCM_033	The system must provide capability for an Operator to submit evidence for the Corrective Action Plan.	M
SCM_034	The CAP should be accessible via the system for a desktop evaluation and the implementation thereof.	M
SCM_035	If a follow-up site inspection is required, the follow up site inspection can be handled by the Ad hoc inspection process. See Ad hoc Inspection Requirements.	M

Req#	Description of Requirement	M / O / NLR
SCM_036	The system must provide capability for an operator to submit additional information	M
SCM_037	Where Non-Compliances are addressed as per the CAP, the Railway Safety Inspector needs the ability to upload the compliance letter to the system	M
SCM_038	The system must provide capability for the Operator to access the compliance letter through the system by means of an attachment	M
SCM_039	Once all Corrective Action Plans have been implemented appropriately, a compliance letter is drafted and issued to the operator via the s59 issue process.	M
SCM_040	The system must provide capability for internal comments to not reflect on external user's user interfaces.	M
SCM_041	If a safety threat has been detected and the threat is not immediate, a draft improvement directive should be able to be generated at any time.	M
SCM_042	The system must provide capability to review and approve the improvement directive by the PI/Senior Manager via the system.	M
SCM_043	The system must provide capability to review and approve the improvement directive by the RTM/Head via the system.	M
SCM_044	The system must provide capability for the Improvement directive to be uploaded to the system.	M
SCM_045	The system must provide capability for the operator to access the improvement directive via an attachment to the system.	M
SCM_046	The system must provide capability for the improvement directive to be issued and comply with section 59.	M

Req#	Description of Requirement	M / O / NLR
SCM_047	Ability to send a reminder if the operator has not submitted a Corrective Action Plan within 14 days	M
SCM_048	If the CAP is not submitted within 7 days of the reminder, a contravention notice is raised via the Penalty Management Process.	M
SCM_049	The system must provide capability for the operator to submit a Corrective Action Plan with evidence in response to the improvement directive.	M
SCM_050	The ability for the Inspector to receive and evaluate the Corrective Action Plan and evidence to address the Safety Threat via the system.	M
SCM_051	The system must provide capability for a contravention notice to be raised and the penalty management process to be followed if appropriate actions have not been taken to address the non-compliance to the Improvement Directive through the Corrective Action Plan or the CAP has not been submitted.	M
SCM_052	Where Non-Compliances are addressed as per the CAP, the Railway Safety Inspector needs the ability to upload the compliance letter to the system.	M
SCM_053	The system must provide capability for the Operator to access the compliance letter through the system by means of an attachment.	M
SCM_054	Once all Corrective Action Plans have been implemented appropriately, a compliance letter is drafted and issued to the operator via the s59 issue process.	M
SCM_055	The system must provide capability for internal comments to not reflect on external user's user interfaces.	M
SCM_056	The system must provide capability to issue a prohibition directive where an immediate threat to safe railway operations exists and cannot be	M

Req#	Description of Requirement	M / O / NLR
	resolved in the instant but will be done as requested by the RSR Inspector. This system should assist with making this efficient and while on site.	
SCM_057	The system must provide capability to issue a prohibition directive can also be issued where an immediate threat to safe railway operations exists, and the Operator fails to comply.	M
SCM_058	If there is an emergency, proceed directly with step 10 (Issue prohibition directive to the operator via the system and comply with Section 59)	M
SCM_059	The system must provide capability for a prohibition directive to be reviewed and approved by the PI/Senior Manager	M
SCM_060	The system must provide capability for a prohibition directive to be reviewed and approved by the RTM/Head.	M
SCM_061	In the case where a large operator has been issued with a prohibition directive, the COO will also review and approve the prohibition directive before issuance via the system	M
SCM_062	The system must provide capability to issue a prohibition directive to the operator via the system and comply with Section 59.	M
SCM_090	The system must provide capability for inspectors to fill in multiple fields while on site that will assist in drafting the prohibition directive letter.	M
SCM_065	The system must provide capability to notify affected third parties about the issued prohibition directive.	M
SCM_066	The system must provide capability for the Operator to respond to the prohibition directive and submit a corrective action plan	M
SCM_067	The system must provide capability to send a reminder if the operator has not submitted a Corrective Action Plan within 14 days	M

Req#	Description of Requirement	M / O / NLR
SCM_068	If the CAP is not submitted within 7 days of the reminder, a contravention notice is raised via the Penalty Management Process.	M
SCM_069	The system must provide capability for the operator to submit a Corrective Action Plan with evidence in response to the improvement directive	M
SCM_070	The system must provide capability for the Inspector to receive and evaluate the Corrective Action Plan and evidence to address the Safety Threat via the system	M
SCM_071	The evaluation of the CAP and implementation thereof will consist of a desktop assessment and if necessary, a follow-up site inspection. The follow up site inspection can be handled by the Ad hoc inspection process. See Ad hoc Inspection Requirements.	M
SCM_072	The system must provide capability for a contravention notice to be raised and the penalty management process to be followed if the threat has not been removed or mitigated through the CAP or the CAP has not been submitted.	M
SCM_073	Where Non-Compliances are addressed as per the CAP, the Railway Safety Inspector needs the ability to upload the revocation letter to the system	M
SCM_074	The system must provide capability for the Operator to access the revocation through the system by means of an attachment.	M
SCM_075	Once all Corrective Action Plans have been implemented appropriately, a revocation letter is drafted and issued to the operator via the s59 issue process.	M
SCM_076	The system must provide capability for the Inspector to route this application/request to the Permit Department (Permit Officer).	M

Req#	Description of Requirement	M / O / NLR
SCM_077	If the Non-Compliance has not been addressed, Permit Officer to upload all the supporting documentation (Notices issued, Penalties etc.)	M
SCM_078	The system must provide capability for the Permit Officer to Route the request SM: SPA for approval or rejection (if rejected, goes to the Permit Officer-Loop).	M
SCM_079	If Approved, SM: SPA to route the request to Head: SPM for approval or rejection ((if rejected, goes to the SM: SPA-Loop)	M
SCM_080	The system must provide capability for the Head SPM: To Approve or Reject (with comments)	M
SCM_081	Upon Approval-Head: SPM to route to CEO for Approval or Rejection	M
SCM_082	CEO to Approve or Reject the request. If rejected it closes the process	M
SCM_083	If CEO Approves, routes it to the inspector who raised the request	M
SCM_084	Inspector to Draft and Upload Suspension/Revocation Notice to the Application and Close	M
SCM_085	Inspector to Send Notice in terms of Section 59	M
SCM_086	Dates fields to be auto populated e.g., when CAPs are uploaded, or notices issued to the operator.	M
SCM_087	The system must provide capability to link corrective actions to multiple non-conformance findings. The ability for multiple findings to be linked to an Audit or Inspection. The finding work orders will be classified according to the categories depending on the severity of the findings (NC, NC COMP, ID, PD). RSR will make recommendation comments on the finding work order. The Corrective Action Plan will be uploaded to the finding work order by the operator	M

Req#	Description of Requirement	M / O / NLR
SCM_088	The system must provide capability for Audit finding to be escalated to the different categories of non-conformances while still being linked to the parent activity (Audits/Inspections)	M
SCM_089	The system must provide capability to 'escalate' a work order at any point in the process if the RSI determines that more serious action is required.	M
SCM_090	The system must provide capability to attach evidence (documents, photos etc.) of CAP implementation to each finding.	M
SCM_091	The system must provide capability to link and track findings throughout the safety compliance process from the raising of non-conformance finding to issuing notices and directives to closing of findings.	M

10.9 Operator Asset Management Business Requirements

The below table depicts the business requirements for Operator Asset Management.

Req#	Description of Requirement	Mandatory / Optional
OAM_001	When applying for a Safety Permit/ASIP, Operators need to Submit an Asset Register as part of supporting Documentation. This is an excel template (provided by RSR) that is uploaded to a particular application.	M
OAM_002	<p>The system must provide capability to Bulk Upload New Operators assets onto the NIMS system with the applicable fields that is required to be populated by the Operator (Excel Template).</p> <p>NB: The fields must be customisable and dynamic. The System Administrator should be able to edit the Field descriptions and add/remove new fields.</p>	M

Req#	Description of Requirement	Mandatory / Optional
OAM_003	The system must provide capability for RSR Users (with appropriate rights) to view all assets that are owned/operated by an operator directly on the system.	M
OAM_004	The system must provide capability for the Operator to View their physical Assets loaded on the system.	M
OAM_005	The ability of the operator to make changes to their assets directly onto the system. (i.e., Change Condition of Assets, Status of Assets, Make an Asset inactive etc.).	M
OAM_006	The system must provide capability for the Operator to add new assets on the system that are procured in their operations.	M
OAM_007	The system must provide capability to initiate an ad hoc inspection to the Audits and Inspection team to verify the assets for an operator as and when the need arises. This should trigger the Audits and Inspection SOP.	M
OAM_008	The system must provide capability for the RSR and Operators to Export information relating to Assets.	M
OAM_009	The system must provide capability for Operators to upload supporting documentation in relation to asset.	M
OAM_010	RSR to have accessibility in generation of reports that are applicable to the Business Process (Through Power BI).	M
OAM_011	The system must provide capability for the Operator to have access to certain reports for viewing purposes in terms of their asset register.	M
OAM_012	The system must provide capability to easily add additional asset fields/attributes without the need for external consultants.	M
OAM_013	The system must provide capability to log the geographic location of assets (including linear assets).	M

Req#	Description of Requirement	Mandatory / Optional
OAM_014	The system must provide capability to view assets on a map.	M
OAM_015	The system must provide capability to select assets on a map.	M
OAM_016	The system must provide capability to upload and update assets based on the bulk upload/excel asset registers submitted by operators- This upload will have to be done by the RSR representative (For New Operators) using the Import tool.	M
OAM_017	The system must provide capability to show changes made to an operator's assets once a bulk upload has been done.	M
OAM_018	The system must provide capability to have the system's asset tree customized to match RSR's operator asset register structure.	M

10.10 General Business Requirements

The below table depicts the general business requirements for NIIMS.

Req#	Description of Requirement	Mandatory / Optional
GR_001	The system must provide capability for users to save documents and view uploaded documents.	M
GR_002	The system must provide capability for users to cancel duplicate work orders.	M
GR_003	Users must only be able to change a work order status to the status applicable to the work order type, their permission level, and the next step in the process. All other work statuses should not appear on the menu.	M
GR_004	The sequential order of statuses must be clear.	M

Req#	Description of Requirement	Mandatory / Optional
GR_005	Create work orders/assignments - The creation of work orders/assignments must be restricted to those with permission to do so.	M
GR_006	Operators will not need to fill in data fields where information has already been captured, e.g., Operator name, type, network, site, and train details etc.	M
GR_008	Bulk actions - The system must provide capability for users to change the work order status on multiple work orders at once. E.g., if all special conditions/corrective actions have been implemented at the same time.	M
GR_009	View work orders - The system must provide capability for users to view all open and closed work orders and their statuses.	M
GR_010	Create work orders / assignments - The system must provide capability to automatically create work orders/assignments based on a change in work order status. E.g., where there are links between SOPs.	M
GR_011	The system must provide capability for Data validation on fields for dates, email addresses and contact numbers to ensure valid data is entered by users.	M
GR_012	The system must provide capability for Operators to download applicable guides and templates applicable to their work order from the system.	M
GR_013	The system must provide capability for users to save work orders for completion later without having to re-complete fields or upload documents.	M
GR_014	The system must indicate Mandatory fields.	M
GR_015	The system must provide capability for users to obtain a change log for all actions performed on the system.	M
GR_016	Query builder – save query to allow user to search and display relevant work orders (only related to audits e.g.)	M

Req#	Description of Requirement	Mandatory / Optional
GR_017	Types of work orders/assignments must be viewable depend ending on user access.	M
GR_018	Work order fields to be pre-populated where possible, e.g., details of adult work order, dates issued.	M
GR_019	Email link to outstanding action <ul style="list-style-type: none"> Email notifications to operators – to have link in email to login to system and then directed to the outstanding action. Or to upload documents. 	M
GR_022	The system must provide capability to view a RSR employee's workload by viewing open work orders assigned to the RSR employee, estimated hours to complete tasks and start and due dates.	M
GR_024	The system must provide capability for Users to set priority of work orders.	M
GR_025	The system must provide capability to set and change target duration of work order statuses (SLAs for each process steps).	M
GR_026	The system must provide capability to define standard work units consisting of estimated equipment and Labour required to complete each work order.	M
GR_027	Ability for users to change their own profile information (e.g., craft and skills)	M
GR_028	The system must provide capability for users to easily filter/query (filter) data (e.g., according to date ranges, geographic regions etc.), to select the subset of data they want to export without the help of IT or 3rd party service providers.	M
GR_029	The system must provide capability for users to view and extract of the selected data before exporting.	M
GR_030	The system must provide capability for users to save and view past data extract parameters and run reports on an ad-hoc basis.	M

Req#	Description of Requirement	Mandatory / Optional
GR_031	The system must provide capability to send Predefined notifications a change in work status.	M
GR_032	Standard/automatic notifications can be added, removed and the contents edited by RSR users without the help of IT or 3rd party service providers.	M
GR_033	The system must provide capability for RSR (System Administrator) to email notifications on and off.	M
GR_034	Data for past/inactive operators and sites (historical data) not deleted when status changed.	M
GR_035	<p>The system must provide capability for Operators and RSR Users to make general comments on a work order (Internally and Externally included)</p> <ul style="list-style-type: none"> If needed an Email notification on work order status change to inform the user of the comment made. 	M

10.11 Business Rules

The below table depicts the business rules associated with NIIMS.

Req#	Description of Requirement
BUR_01	The SMS and SMSR must reach the RSR at least 90 days before the expiry of the current permit. At the beginning of the calendar year in which the current permit life cycle ends, operators are sent a reminder of the need to re-apply for their Safety Permits
BUR_02	The Contravention Notice must be issued to the operator via NIMS and/or email.
BUR_03	A safety issue investigation must have a COO-approved Terms of Reference and the COO shall table the final report of the Investigation to EXCO for adoption and recommendation to the RSR Board.

Req#	Description of Requirement
BUR_04	Tracking improvement directives individually for integrations with other SOP's
BUR_05	Accessible, Accurate, up-to-date data for reporting and consistent data management

10.12 Non-functional Requirements

The below table depicts the non-functional requirements associated with NIIMS.

Req#	Requirement Name	Requirement Details
NR_01	Master data management	Availability, accuracy, and easy access of master data
NR_02	Audit trail and history	Retrieval of historical data
NR_03	Protection of operator information	Improved data security as well as improved transparency and traceability of safety-compliance matters

11. REPORTING REQUIREMENTS

This section specifies the reporting requirements and capability for NIIMS.

11.1 Safety Permit Management and Administration Reporting Requirements

The below table depicts reporting requirements for Safety Permit Management and Administration.

Req ID	Description of Requirement	Category
SP_RR_01	Number of Permits Applications per Period	Operational
SP_RR_02	Number of Applications based on statuses within the process	Work Management and Productivity

Req ID	Description of Requirement	Category
SP_RR_03	Time Measurement between processes (Turn Around Time)	Work Management and Productivity
SP_RR_04	Number of New Operator Registrations	Operational
SP_RR_05	Number of Special Conditions issued per Operator	Operational
SP_RR_06	List Operators -All operator Details	Operational
SP_RR_07	Budgets-Actual income received vs Forecasted Income from Operators	Financial
SP_RR_08	Number of Applications Received for a period vs Number of applications that have been invoiced	Financial
SP_RR_09	Status Report of Operators (Active and in active)	Operational
SP_RR_10	Number of Comments made on SPCAM/ASIP Applications	Operational
SP_RR_11	The system must allow RSR officials to view a report of all past applications assessed for an operator.	Operational
SP_RR_12	The system must generate a report that highlights the changes the operator has made to their network (e.g., between ASIP applications) so that the Permit Office can assess these changes at the same time as the application	Operational
SP_RR_13	Special conditions raised and/or comments made on applications to be generated to allow this detail to be pasted in an assessment outcome letter template.	Operational

Req ID	Description of Requirement	Category
SP_RR_14	The user must be able to prepare multi-year Application and Permit Fee Budgets for an operator and add up all operator budgets	Financial
SP_RR_15	All open special conditions with due dates, by operator	Operational
SP_RR_16	Permit non-compliance report showing operators that are not complying with permit special conditions, requests for information, ASIP applications and permit re-applications.	Operational

11.2 Occurrence Investigation Reporting Requirements

The below table depicts the reporting requirements for Occurrence Investigation.

Req ID	Description of Requirement	Category
OI_RR_01	The reports should be able to pull data of occurrence investigations of operators (name) and province	Operational
OI_RR_02	The report should be able to display short description (1 line) and a provision for a full description (5-10 lines) of an occurrence investigation	Operational
OI_RR_03	The report should be able to have an occurrence date and time, Occurrence date and time reported, start and finish of the occurrence, location the occurrence occurred	Operational
OI_RR_04	The report should be able to categorize occurrences. E.g., train collision or derailment	Operational

Req ID	Description of Requirement	Category
OI_BR_05	The report should be able to have total hours spend on a type of occurrence investigation e.g., preliminary review or desktop review and corresponding levels	Operational
OI_RR_06	The report should include costs. E.g. (accommodation, flights, hotel, or other costs)	Financial
OI_RR_07	The report must also be able to display the status of the occurrence investigation	Operational
OI_RR_08	The report should also include total duration spent on the occurrence investigation	Work Management and Productivity
OI_RR_09	The report should be able to display Staff members names, and roles (Lead investigator) within the occurrence investigation	Operational
OI_RR_10	Booking of inspectors so that a proper planning can be conducted	Work Management and Productivity
OI_RR_11	Turnaround Time (average time is taken)	Work Management and Productivity
OI_RR_12	Number of Desktop Reviews undertaken (Monthly, quarterly)	Operational
OI_RR_13	Operator Occurrence Report Submission Time	Work Management and Productivity
OI_RR_14	Actual costs of occurrence investigation	Financial
OI_RR_15	Occurrence investigation non-compliance report showing operators that are not complying with CAPs and requests for information.	Operational
OI_RR_16	Findings (root causes) report of all investigations undertaken for a period.	Operational

Req ID	Description of Requirement	Category
OI_RR_17	Work order status of all open investigations showing status, time spent at the status, target due date, investigator allocated to the investigation, and action required.	Operational
OI_RR_18	Detailed investigation report (work order history) for each investigation from the time of occurrence log to closing of corrective actions with findings.	Operational

11.3 Audits and Inspections Reporting Requirements

The below table depicts the reporting requirements for Audit and Inspections.

Req ID	Description of Requirement	Category
AI_RR_01	Audit Labor Hours	Work Management and Productivity
AI_RR_02	Audit Costs	Work Management and Productivity
AI_RR_03	Audits per Region	Work Management and Productivity
AI_RR_04	Inspector per Audit per Period	Work Management and Productivity
AI_RR_05	Audit Turnaround Time	Work Management and Productivity
AI_RR_06	Frequency Audit Report not approved by RTM/PI	Work Management and Productivity
AI_RR_07	Ad Hoc Labor Hours	Work Management and Productivity
AI_RR_08	Ad Hoc Turnaround Time	Work Management and Productivity
AI_RR_09	Frequency inspection report not approved by RTM/PI	Work Management and Productivity
AI_RR_10	Master Audit and Inspection Report	Operational

Req ID	Description of Requirement	Category
AI_RR_11	Summary of all Audits undertaken in a period	Work Management and Productivity
AI_RR_12	Summary of all Elements and sub-elements audited in a period	Work Management and Productivity
AI_RR_13	Top areas of non-compliance overall	Work Management and Productivity
AI_RR_14	Top areas of non-compliance for top three operators	Work Management and Productivity
AI_RR_15	System generated audit report - work order report with audit background details, of all findings and evidence exported from the system into word format.	Work Management and Productivity
AI_RR_16	Audit and Inspection non-compliance report showing operators that are not complying with CAPs and requests for information.	Work Management and Productivity

11.4 Penalty Management Reporting Requirements

The below table depicts the reporting requirements for Penalty Management.

Req ID	Description of Requirement	Category
PM_RR_01	Contravention notice turnaround time	Work Management and Productivity
PM_RR_02	Frequency of contravention notice rejection (Quality of contravention notice draft)	Work Management and Productivity
PM_RR_03	Acknowledgment of debt letter draft turnaround time	Work Management and Productivity
PM_RR_06	hearing meeting turnaround time	Work Management and Productivity

Req ID	Description of Requirement	Category
PM_RR_07	Submission of bundles by the inspector and the operator turnaround time	Work Management and Productivity
PM_RR_08	Appeal ruling and communication to the operator turnaround time (average time is taken)	Work Management and Productivity
PM_RR_09	CEO ruling communication to the operator turnaround time	Work Management and Productivity
PM_RR_10	Operator appeal to CEO ruling turnaround time	Work Management and Productivity
PM_RR_11	Notice of intention to appeal to the board filing turnaround time	Work Management and Productivity
PM_RR_12	Grounds of appeal filing turnaround time	Work Management and Productivity
PM_RR_13	Allocation of appeal to Board Appeal Committee turnaround time	Work Management and Productivity
PM_RR_14	Board ruling turnaround time (average time is taken)	Work Management and Productivity
PM_RR_15	Invoice issuance to operator turnaround time	Work Management and Productivity
PM_RR_16	Penalty Payment turnaround time	Work Management and Productivity
PM_RR_17	Settlement agreement draft turnaround time	Work Management and Productivity
PM_RR_18	Settlement agreement finalization turnaround time (average time is taken)	Work Management and Productivity
PM_RR_19	Contravention Notice Withdrawal turnaround time	Work Management and Productivity
PM_RR_20	Penalty Withdrawal turnaround time	Work Management and Productivity

Req ID	Description of Requirement	Category
PM_RR_21	Contravention Register Report	Work Management and Productivity
PM_RR_22	Penalty Register Report	Work Management and Productivity
PM_RR_23	Contraventions issued - by operator, by time etc.	Work Management and Productivity
PM_RR_24	Penalties issued - by operator, by time etc.	Work Management and Productivity
PM_RR_25	Report on cases where operators have not responded in time (i.e., overdue, or outstanding actions)	Work Management and Productivity
PM_RR_26	Progress report on all open cases - i.e., what stage of the process the cases are at and how many days the cases have been at the stage against the target.	Work Management and Productivity

11.5 New Works and Technology Reporting Requirements

The below table depicts the reporting requirements for New Works and Technology.

Req ID	Description of Requirement	Category
NWT_RR_01	Turnaround Time (lead reviewer)	Operational
NWT_RR_02	Date of the received submissions from the operator	Operational
NWT_RR_03	Received reviews (List of received submissions)	Operational
NWT_BR_04	Classify projects by their Categories (Infrastructure reviews, civil and permanent way, Electrical review, level crossings, signal and telecoms review, stations, rolling stock)	Operational

Req ID	Description of Requirement	Category
NWT_RR_05	Allocation of lead reviewers (Names)	Operational
NWT_RR_06	Completed phases per project report linked to MWC number	Operational
NWT_RR_07	Different disciplines of the new submissions e.g., Rolling stock, stations, infrastructure, etc.	Operational
NWT_RR_08	Change logs for all actions performed on the system	Operational
NWT_RR_09	Number of completed projects and their disciplines	Operational
NWT_RR_10	Reminders to be sent out for submission of outstanding project documents reports	Operational
NWT_RR_11	Monthly report that shows new and current projects that are active	Operational
NWT_RR_12	The user should be able to see received projects that are an on-going review	Operational
NWT_RR_13	A project that are carried over from previous months and any outstanding project from previous months	Operational
NWT_RR_14	Total number of projects that are active in a month	Operational

11.6 Data Management Reporting Requirements

The below table depicts the reporting requirements for Data Management.

Req ID	Business Requirement	Category
DM_RR_01	Number of Fatalities and Injuries, per National/Province/Location/Category Type, on Contractors, Members of Public, Employees & International Passengers	Operational

Req ID	Business Requirement	Category
DM_RR_02	Occurrence Statistics	Operational
DM_RR_03	Operational Planning	Operational
DM_BR_04	Monthly / Quarterly Statistics	Operational
DM_RR_05	High-Frequency Occurrence Analysis	Operational
DM_RR_06	Notifications of all immediately reportable occurrences call sent to relevant departmental representatives	Operational
DM_RR_07	Operator Occurrence Report Submission turnaround time	Work Management and Productivity
DM_RR_08	Data capturing and consolidation turnaround time	Work Management and Productivity
DM_RR_09	Data verification turnaround time	Work Management and Productivity
DM_RR_10	State of Safety Report compilation turnaround time	Work Management and Productivity
DM_RR_11	State of Safety Report finalization turnaround time	Work Management and Productivity
DM_RR_12	Report – log of all unverified (incomplete) data for an operator and verification requests sent to an operator (i.e., outstanding verification required by the operator)	Operational
DM_RR_13	Report – list of all verified and unverified occurrences by operator, region, RSR employee, occurrence severity etc.	Operational

11.7 Safety Intervention Planning Reporting Requirement

The below table depicts the reporting requirements for Safety Intervention Planning.

Req ID	Business Requirement	Category
SIP_RR_01	Information collection turnaround time	Work Management and Productivity
SIP_RR_02	Safety Data Analysis turnaround time	Work Management and Productivity
SIP_RR_03	SIP compilation turnaround time	Work Management and Productivity
SIP_RR_04	Macro Plan development turnaround time	Work Management and Productivity
SIP_RR_05	Regional consultation turnaround time	Work Management and Productivity
SIP_RR_06	Finalization of Safety Intervention Macro Plan turnaround time	Work Management and Productivity
SIP_RR_07	Tactical Plan development turnaround time	Work Management and Productivity
SIP_RR_08	Tactical Plan finalization turnaround time	Work Management and Productivity
SIP_RR_09	Initiatives not implemented	Work Management and Productivity
SIP_RR_10	Macro Plan Update Turnaround Time	Work Management and Productivity
SIP_RR_11	Tactical Plan Update Turnaround Time	Work Management and Productivity
SIP_RR_12	Actual (open, closed, deleted/cancelled work orders) versus planned work orders. View by operator, location, elements to enable the SIP department to determine whether the tactical plan is being implemented and whether updates are required	Work Management and Productivity
SIP_RR_13	Budget report on actual vs budgeted costs	Financial

11.8 Safety Compliance Management Reporting Requirements

The below table depicts the reporting requirements for Safety Compliance Management.

Req ID	Business Requirement	Category
SC_RR_01	Finding, Recommendations and Actions Master Report	Operational
SC_RR_02	Corrective Action Plan Evaluation Turnaround Time	Work Management and Productivity
SC_RR_03	Additional information requests to the operator	Work Management and Productivity
SC_RR_04	Non-Conformance/non-compliance Notice Issue Turnaround Time	Work Management and Productivity
SC_RR_05	Non-Conformance/non-compliance Notice rejected by PI/Senior Manager and RTM/Head	Work Management and Productivity
SC_RR_06	Improvement Directive Issue Turnaround Time	Work Management and Productivity
SC_RR_07	Improvement Directive draft rejected by PI/Senior Manager and RTM/Head	Work Management and Productivity
SC_RR_08	Prohibition Directive Issue Turnaround Time	Work Management and Productivity
SC_RR_09	Prohibition Directive Draft rejected by PI/Senior Manager, RTM/Head & COO	Work Management and Productivity
SC_RR_10	Ability to generate report on work order history with actions and dates to be used for the basis of generating various notices and directives	Operational
SC_RR_11	Ability to generate report on corrective actions and closure/non-closure of same items for and operator to form the basis of the compliance letter.	Operational
SC_RR_12	All outstanding corrective actions with due dates and days overdue	Work Management and Productivity

Req ID	Business Requirement	Category
SC_RR_13	Generate a report that lists all the instances where non-compliances should be issued across all the SOPs. This will largely happen when operators have not submitted information on time	Operational

11.9 Operator Asset Management Reporting Requirement

The below table depicts the reporting requirements for Operator Asset Management.

RR ID	Business Requirement	Category
OAM_RR_01	Total Value of Operator Assets	Financial
OAM_RR_02	Replacement Value of Operator Assets	Financial
OAM_RR_03	Asset Depreciation Value per Operator- Future report as information not currently received from the operator	Financial
OAM_BR_04	Current Maintenance Plans vs Future Maintenance Plans- Future report as information not currently received from the operator	Financial
OAM_RR_05	Occurrence Report per Asset	Operational
OAM_RR_06	Audits and inspections per Asset	Operational
OAM_RR_07	Age Analysis of Assets per Operators (Histogram)	Operational
OAM_RR_08	History of Maintenance per asset per Operator – Future report as information not currently received from the operator	Operational
OAM_RR_09	Asset status report per operator	Operational
OAM_RR_10	Total Value of Operator Assets	Operational
OAM_RR_11	Replacement Value of Operator Assets	Operational

RR ID	Business Requirement	Category
OAM_RR_12	Current Maintenance Plans vs Future - Future report as information not currently received from the operator	Operational
OAM_RR_13	Report – generate map view reports (Also applies to Audits, Inspections, and Investigations.)	Operational

END