

Measuring Safety Performance

Guideline



🦳 🕥 rissb.com.au



Notice to Users

RISSB

This RISSB product has been developed using input from rail experts from across the rail industry and represents good practice for the industry. The reliance upon or manner of use of this RISSB product is the sole responsibility of the user who is to assess whether it meets their organisation's operational environment and risk profile.

Document Control

Identification

Document Title	Version	Date
Measuring Safety Performance	Draft 1.0	15/08/16

Document History

Publication Version	Effective Date	Page(s) Affected	Reason for and Extent of Change(s)
First version	15/08/16		

Copyright

This document is published under license from Rail Safety and Standards Board (RSSB) (UK) and is an output from the research project T852: *The application of leading and lagging indicators to the rail industry (measuring safety performance)* and T953: *Enhancing and promoting the use of safety performance indicators.* This publication, along with the associated research report and appendices, can be accessed via the RSSB website www.rssb.co.uk.

©RISSB

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of RISSB, unless otherwise permitted under the Copyright Act 1968.

Current financial members of RISSB may use and reproduce the text or diagrams contained herein use within the context of their own rail operations. No photographs contained herein may be reproduced without permission of the relevant copyright holder.

Contents

Glossary 4	
Part 1: Introduction to safety performance	
indicators 5	
Background5	
Measuring safety performance 5	
Why do incidents occur?6	
What are SPIs?7	
Why use SPIs?8	
Reducing risk8	
Providing dual assurance	
Improving safety culture	
Complementing other SMS tools	
and processes	
Learning from others9	
Enhancing efficiency	
SPI pitfalls 10	
Excessive workloads	5
Not considering the whole risk	
profile	
Lost in translation10	
Encouraging unwanted behaviour 10	
Choosing metrics to suit the data 10	
Overview of the SPI process	
Part 2: Seven steps to measure safety	
performance 12	
Step 1: Assign roles and responsibilities . 13	
Involve senior management 13	
Set intent 13	
Appoint a champion 13	
Establish an implementation	
team	
Include workers 14	

RISSB \longrightarrow rail industry safety and standards board

Step 2:	Identify key issues1	15
	Step 2.1: Understand the starting	
	point 1	
	Step 2.2: Refine the intent	16
	Step 2.3: Analyse the risk 1	16
	Select and define outcome	
indicato	ors 1	19
	Step 3.1: Understand the risk	~~
	controls	20
	Step 3.2: Prioritise the risk control systems	21
	Step 3.3: Set an outcome	- '
	Vindicator	22
	Step 3.4: Define SPIs2	
Step 4:	Select and define activity	
	prs2	25
	Step 4.1: Identify essential	
	activities2	26
	Step 4.2: Identify activity	
	indicators2	27
	Step 4.3: Prioritise and select	_
	activity SPIs	
_	Step 4.4: Define activity SPIs2	
Step 5:	Collect and analyse data2	
	Step 5.1: Collect data2	
	Step 5.2: Analyse data2	29
Step 6:	Report and act on findings	31
Step 7:	Review	34

About this document

RISSB 7

This guideline has been produced under licence to the Rail Safety and Standards Board (UK) (RSSB) to help rail transport operators identify the Safety Performance Indicators (SPIs) (also known as Key Performance Indicators) that are most appropriate to their operations and to ensure their continued effectiveness. It is based on research undertaken by the United Kingdom rail industry and established good practice detailed in HSG254¹ (Health and Safety Executive UK) and by the Organisation for Economic Cooperation and Development (OECD)².

RAIL INDUSTRY SAFETY AND STANDARDS BOARD

It provides a good practice approach to:

- establishing an SPI program
- identifying SPIs
- evaluating SPIs
- using SPIs to support decisions
- reviewing SPIs

Who is this guideline for?

Rail organisations developing their first Safety Management System (SMS) will find this guideline helpful to determine their first set of SPIs. Organisations with a well-developed SMS may still find this document useful as they review and revise their SPIs.

Part 1 provides an overview and background to SPIs relevant to managers, supervisors and directors.

Part 2 gives detailed step-by-step guidance on how to develop and manage SPIs. This section is relevant to those leading an SPI program.

How to use this guideline

This guideline can be used to shape any review of the monitoring arrangements your organisation has in place. Research has been undertaken in the United Kingdom to establish good practice in developing and managing SPIs. This includes processes for establishing and maintaining an SPI program.

Specifying Indicators

This document does not set out to prescribe SPIs for an organisation to apply but it does suggest a process for selecting those that are appropriate for an organisation, based on an understanding of the risk and associated control arrangements.

The SPIs included in this document are examples and the list is not exhaustive. No two organisations are the same and therefore the most effective SPIs may differ from company to company.

The SPI toolkit

Further guidance and supporting resources can be downloaded from the SPI toolkit, which can be accessed from hyperlinks in the SPI Toolkit images:



Any associated queries can be emailed to rissb@rissb.com.au.

¹ HSE. Developing process safety indicators: A step by step guide for chemical and major hazard industries, 2006.

² **OECD**. Guidance on developing safety performance indicators related to Chemical Accident Prevention, Preparedness and Response for Industry, 2008.