

1 INTRODUCTION

1.1 Purpose

Safety has always been the first concern for the railway. It is due to the professionalism and vigilance of its workers that railway transport is so safe, compared to other forms of transport.

Railtrack has written *Engineering Safety Management* (or the *Yellow Book* as it is more commonly known) to help people who are involved in *changes* to the railway (such as new trains and signalling) make sure that these changes contribute to improved safety. Please do not be misled by the title. The Yellow Book is not just for engineers and you can use it for changes that involve more than just engineering. We considered other titles but felt that it was least confusing to keep the title people were familiar with.

We originally published the Yellow Book for our own purposes. However, in our Network Management Statement and our Railway Safety Case, we have committed ourselves to taking a central role in Britain's railways. We have therefore sponsored issue 3 on behalf of the whole industry, under the direction of a steering group with members from across the industry.

We have improved the Yellow Book over time. This issue is in two volumes. This volume gives the basic legal background to Engineering Safety Management and the fundamentals of carrying it out. It is relevant to anyone working in the railway industry involved in, or accountable for, changing the railway. Volume 2 gives more specialised guidance as described on the next page.

1.2 Definitions

In general we have written this volume in plain language but we use a few specialised terms. In this volume they have the following meanings.

Hazard – any situation that could contribute to an accident. Hazards should be eliminated wherever 'practicable', but this is not always the case. Where a hazard cannot be completely eliminated then there will be some risk.

Risk – the likelihood that an accident will happen and the harm that could arise. In many cases, risk cannot be eliminated entirely. We must accept this if we are to continually improve safety.

We say that something is **safe** when the risk associated with it is reduced to an acceptable level. This level may reduce as technological advances make it possible to reduce risk even further.

System – any collection of equipment, people and procedures which work together to achieve a common goal. We can treat any change to the railway as introducing a new system or changing an existing one.

Engineering Safety Management (ESM) – managing the safety of changes which may affect railway safety. This involves considering the safety of the railway throughout the life of the change but is mostly done before the change is made. We cannot separate engineering from the other factors that affect safety, particularly human factors. ESM involves considering all relevant factors.

Engineering safety case – this presents the justification for the safety of a change to the railway. (Like ESM, an engineering safety case covers more than just engineering.) This is different from a **railway safety case** which is a document that describes an organisation's arrangements for safety management. Where we use **safety case** on its own, we mean an engineering safety case.

1.3 The structure of the Yellow Book

Issue 3 of the Yellow Book is in two volumes:

- 1 Engineering Safety Management Fundamentals
- 2 Engineering Safety Management Guidance

Volume 1 describes some of the safety obligations on people involved in changing the railway. It also describes the fundamentals of a systematic approach to meeting these obligations.

There are many effective ways of putting these fundamentals into practice. Volume 2 gives advice on ways that have proved effective.

Volume 2 is in three main parts, corresponding to the three groups of fundamentals we describe in this volume. We give guidance on each fundamental in a separate section. There is also a CD-ROM which provides information that supports volume 2.

Volumes 1 and 2 are relevant to you if you are involved in railway ESM, whether or not you are looking to gain our safety acceptance. If you are looking to gain our safety acceptance, you should also read our industry guidance on our acceptance procedures. This describes how we grant safety acceptance and gives guidance on how to get it.

Other organisations, such as Her Majesty's Railway Inspectorate (HMRI) and London Underground Limited, also publish guidance on their safety acceptance procedures. However, these publications are not directly associated with the Yellow Book.

Figure 1 shows the overall structure of this Yellow Book, and figure 2 gives a guide to the content and intended readers of each part.

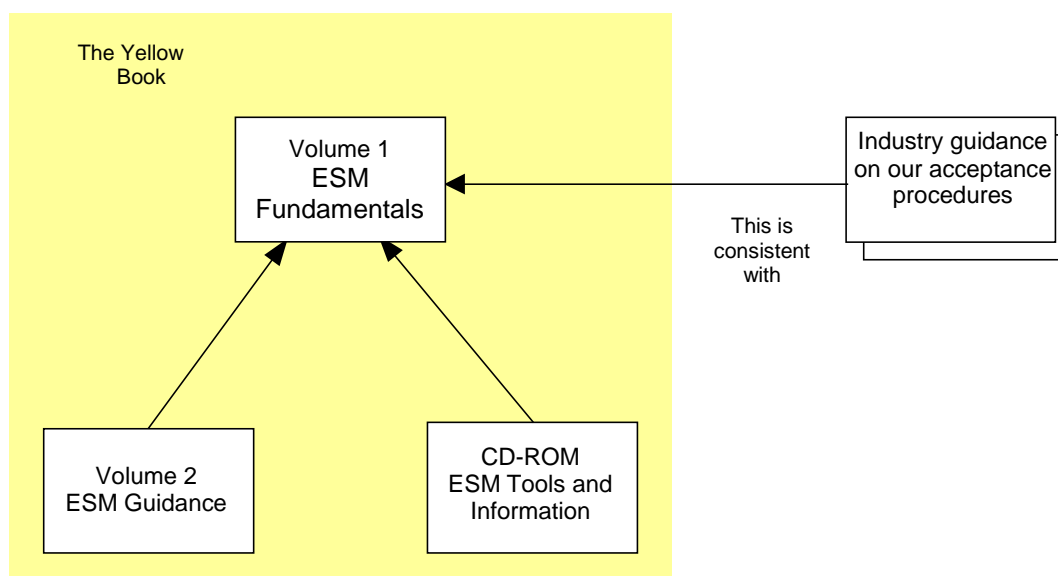


Figure 1 – Overall structure of the Yellow Book

Part	Content	Intended readers
Volume 1 – Engineering Safety Management Fundamentals	<ul style="list-style-type: none"> • The essential features of an effective approach to ESM 	<ul style="list-style-type: none"> • Senior executives in the railway industry • Anyone whose work contributes to railway change
Volume 2 – Engineering Safety Management Guidance	<ul style="list-style-type: none"> • Guidance on one proven way of putting the fundamentals into practice 	<ul style="list-style-type: none"> • Anyone whose work contributes to railway change • Anyone assessing or auditing this kind of work
CD ROM – Engineering Safety Management Tools and Information	<ul style="list-style-type: none"> • Practical support to assess risk 	<ul style="list-style-type: none"> • Anyone carrying out a risk assessment
Industry guidance on our acceptance procedures	<ul style="list-style-type: none"> • Railtrack policy and guidance on gaining Railtrack safety acceptance 	<ul style="list-style-type: none"> • Anyone seeking our safety acceptance • Anyone assessing or auditing projects for which Railtrack safety acceptance is requested

Figure 2 – Content and intended readers of the Yellow Book, and associated publications