



# Safety Cases and Safety Reports

Meaning, Motivation and Management

Richard Maguire

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The safety case and its associated reports are quickly becoming not only a mechanism for achieving safety goals, but also a valuable decision-support asset, and a vital industrial liability management tool. Recent developments in industry have led to safety cases being frequently required as contractual deliverables as part of large and complex commercial programmes.

A safety case consists of a rational argument and detailed evidence to justify and demonstrate that a system or product is tolerably safe in its use, and that it has a management programme to ensure that this remains so. The safety case report is the snap-shot presentation of the arguments and evidence demonstrating the contemporary safety performance of the system and the programme that is in place.

This book, written from personal experience and reference, provides a concentrated source document for assessing and constructing safety cases and safety case reports - from understanding their purposes, through their development and on to their presentation.

## Contents

Preface; Accidents and safety; The language of safety; The safety management system; The purpose of a safety case; The requirement for a safety case; Setting a safety boundary; Measuring safety performance; Safety targets; So far as is reasonably practicable; Individual, group and population risk; The safety team; Costs in safety; Techniques and tools for safety cases; The hazard log; Human factors in safety cases; Software factors in safety cases; Management factors in safety cases; Independent safety review; Presentation of the safety case; Maintenance of the safety case; Epilogue; Index.

## About the Author

Richard Maguire is Director of an engineering consultancy working in complex system assurance. He started his career designing and testing in the automotive industry before progressing onto computational fluid and stress analysis in the oil and gas sector. He then worked for the UK government in the defence industry, before finally branching out into the free market. He is a Chartered Engineer and is a member of the Institute of Mechanical Engineers, The Engineering Council and The Safety and Reliability Society.

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