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RAIL ENGINEERING AND DESIGN SAFETY MANAGEMENT (EDSM)

THE ESSENTIAL GUIDE TO RISK & SAFETY MANAGEMENT IN RAIL

6 Modules | Over 5 Weeks | 3 Live Interactive Sessions

1 March - 9 April 2021 | 6 September - 15 October 2021

BLENDED LEARNING

6 Self-Paced Modules +
3 Live Interactive Sessions



**Our Expert
Course
Instructor**



Howard Parkinson

Howard is a chartered engineer with over 20 years of experience in the international railway industry, more recently as an independent consultant, researcher and trainer.

Key Learning Objectives

- ▶ Demonstrate a sound understanding of the principles of EDSM
- ▶ Appreciate risk in the context of the railway, design and safety management
- ▶ Describe how design and the safety lifecycle interact and influence each other
- ▶ Relate current best practice including latest safety standards EN50126-1/2:2017, EN50129:2018, and EN50128:2011 (Infrastructure), BS EN 50657:2017 (Software for rolling stock), EN50155:2017 (Hardware for Rolling stock), to your own business
- ▶ Identify and use relevant standards to aid management of design risk
- ▶ Identify hazards, assess risks and understand risk assessment and its approaches
- ▶ Discover relevant standards and illustrate how risks in general should be managed
- ▶ Describe different approaches to risk acceptance and ALARP and learn to apply the current and developing legislative requirements for rail design risk
- ▶ Contribute to a safety plan and communicate safety-related information including hazard logs and other safety records
- ▶ Understand the need for a risk-based system engineering lifecycle approach to enable built-in safety, value and performance

COURSE INFORMATION

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ABOUT THE COURSE

This blended learning course provides engineers, managers and others involved in Rail safety-related projects with a detailed understanding of the fundamentals of EDSM supported by competency-based structure.

The opening module provides background to EDSM and a brief overview of its application in the railway drawing upon best practice. The following modules introduce a number of EDSM fundamentals and the approach suggested by good practice and standards for putting them into place.

Comprehensive guidance on implementing safe work systems in the railway is provided and all participants will have the opportunity to gain hands-on experience of the main techniques involved.

- ❖ The course content is mapped to:
 - Industry standard competencies, skills and evidence requirements relevant to rail safety work (see our website for details)
 - Industry regulations
 - Australian and international standards
- ❖ Information is interspersed with practical exercises. There is a short multiple-choice examination at the end to assess the identified learning outcomes.

WHO SHOULD ATTEND

Any member of staff – decision makers, project managers, line managers, engineers, designers and others – involved with changes to the railway need an understanding of the latest best practice. The course provides a structured and robust approach to managing complex railway projects safely that is aligned with the LATEST CENELEC standard EN50126-1/2:2017, EN50129:2018 and EN50128:2011 and AS4292.2006 for infrastructure, rolling stock, hardware and software.

Recommended Pre-requisites

Participants should have a general understanding of engineering and project management principles and practice.

BENEFITS OF LEARNING ONLINE

Informa Corporate Learning's online courses are new digital, interactive and engaging educational experience designed to maximise learning for professionals with busy schedules and/or small training budgets.

Our online courses are perfect opportunity for busy professionals as they require just 2 hours per week of your time and include an interactive forum for you to ask direct questions about challenges you are facing to expert course leaders.

Modules are released on a weekly basis, so you can pace yourself alongside your peers and you will have access to a comprehensive set of assets to support your learning such as video content, quizzes and case studies.

KEY LEARNING OBJECTIVES (CONTINUED)

- ❖ Make decisions which optimise system safety and engineering design requirements in a business context
- ❖ Explain the concept of the designer as a 'rail safety worker' and its implications
- ❖ Use case studies to understand the potential for things to go wrong and develop practical risk management skills
- ❖ Understand project management, systems engineering and integration, validation and stakeholder management in the overall rail business context

WHAT OUR CLIENTS SAY

"Nice overview presented. Howard brought a lot of technical experience with him."

Principal, Shakti Corp P/L

"Very knowledgeable with significant and relevant experience. Approachable and gave excellent examples of practical application."

Manager Rollingstock Engineering,
Public Transport Services

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COURSE OUTLINE

Module 1

- Introduction to EDSM & Acronyms
- Understanding risk
- Examples of engineering and design safety risk in rail.
- Intro to EN50126-1/2:2017

Module 2

- Case studies of accidents related to design: Learning from the mistakes of others
- **Accident case study:** Detailed case study caused by design errors and inadequate EDSM

Live 1-Hour Interactive Session: **11th March - 18:00 (AEDT)**
Reviewing **Modules 1 & 2**

Module 3

- Standards for engineering safety
- Software and Electronics hardware and EN50128:2011 and EN50129:2017 and SIL Concepts. EN50155, EN506575
- Identify, Assessing and Mitigating risk
- Reliability and Maintainability (RAM), Verification and Validation (V&V)

Module 4

- What does legislation say about rail design/engineering safety risk? Demonstration of SFAIRP and compliance
- **Case study:** A practical application of the concept of SFAIRP

Live 1-Hour Interactive Session: **25th March - 18:00 (AEDT)**
Reviewing **Modules 3 & 4**

Module 5

- Safety management systems and quality management
- Safety organisational issues
- Safety acceptance and approval processes
- Security form Cyber Threats

Module 6

- Railway systems engineering and integration
- Sum up and the way forward – The new Digital railway
- Course examination

Live 1-Hour Interactive Session: **8th April - 18:00 (AEST)**
Reviewing **Modules 5 & 6** and course recap

EXPERT COURSE INSTRUCTOR



Howard Parkinson

Howard is a chartered engineer with over 20 years of experience in the international railway industry, more recently as an independent consultant, researcher and trainer. He has experience in signaling, rolling stock, infrastructure and

railway systems projects at a senior level and has just finished an assignment in Australia working on systems integration for automatic train protection.

His project positions at senior levels have included systems assurance manager, senior project manager, lead safety assessor, and head of systems engineering and safety. He has had experience in metro, tram and heavy rail (conventional and high speed).

Howard has expertise in systems engineering, compliance, safety /notified body assessment, safety and reliability engineering, the latest safety standards, European interoperability and UK legislation.

His current research interests include safety engineering in the railway, accident investigation and systems engineering. Howard has been deployed internationally in countries including: Australia, Korea, Germany, The Netherlands, UK, Croatia, Saudi Arabia, Canada and China. In addition to his consulting and research work, Howard designs, develops and delivers training to industry in the areas of engineering, safety and risk management.

Howard holds a doctorate from the department of mechanical and aeronautical engineering at the University of Manchester and a postgraduate certificate in education. He is a registered chartered engineer in the United Kingdom, a fellow of the Institution of Mechanical Engineers (FIMechE), and a member of the Institution of Railway Signal Engineers (MIRSE) including the Australasian branch.

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Easy Ways to Register

1 Web
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Course Code	Location	Course Parts	Month	Standard Price	4+ Dels Discount
P21GO07ON	Blended Learning	All 6 Modules + 3 Interactive Sessions	March - April 21	\$2,295 + 229.5 GST	\$2,524.5
P21GO07ON02	Blended Learning	All 6 Modules + 3 Interactive Sessions	September - October 21	\$2,295 + 229.5 GST	\$2,524.5

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Informa Corporate Learning – On-site & Customised Training

Informa Corporate Learning has a long-standing track record of delivering very successful customised learning solutions achieving real and measurable value for our clients through our senior training consultants.

If you have 8+ interested people, an on-site course can be the ideal solution – giving you the opportunity to customise our course content to your specific training needs, as well as attracting significant savings compared to public course costs.

Why Choose On-site With Informa Corporate Learning?

- 1. Custom design** – Together, we will identify the best blended learning solution for your culture, your people and your training objectives.
- 2. Quality Assured** – We design market-leading training programs, concepts and methodologies, with a 400+ course portfolio. Our rigorously selected 900+ instructor faculty are recognised experts in their field. Quality of their content and delivery methods is assured through continuous monitoring and evolution.
- 3. On-site training** is a cost effective way to train your people and achieve your defined outcomes.

Our Long Standing Clients Include:

ActewAGL, Ajilon, Ambulance Victoria, ANU, Arrow Energy, Australian Super, Barrick, BHP, Chevron Australia, Coffey International, ConocoPhillips, CSIRO, Dalrymple Bay Coal Terminal, Department of Education, Department of Planning, Electricity Generating Authority of Thailand (EGAT), ENI Australia, EY, Fortescue Metals Group, Health Purchasing Victoria, IBM, IP Australia, Jemena, Litmus Group, Metro Trains, Office of the National Rail Safety Regulator, Origin Energy, Pacific National, PT Freeport, Public Transport Authority – WA, QGC – BG Group, Queensland Rail, Rio Tinto, Romgaz, SA, South Australia Health, Telstra, Transport & Infrastructure, UBS, Woodside and more...

Speak with **Anton Long** or **Holly Baldwin** on **+61 (02) 9080 4455** to discuss your customised learning solution, or email training@informa.com.au

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