



Interaction of Track, Vehicle, Load

The Legal Context

Ian A Skinner, HM Principal Insp.

Objectives today

- Level of risk
- Expected benchmark
- Relevant Legislation
- Why review
- Components of a review

What is the level of risk?

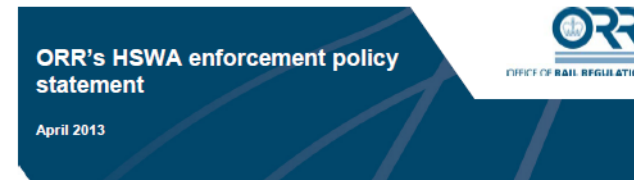
- Risk function of likelihood and consequence
- Likelihood: determined by adequacy of SMS
- Consequence of derailment – related to luck?
 - To date consequences have been reputational and business related
 - Relatively small consequence realised
 - But potential consequence much greater
- How determine the level of risk?
 - “realised risk”
 - “potential risk”

What is the risk? – Bexley 1997



The Benchmark

- Enforcement policy
- Benchmark: level of risk after controls in place
- For multi fatality ORR expects:
 - standard of risk control to be very high
 - Residual risk to be very low
 - Approach similar to other high hazard / low frequency equivalents
- For events that lead to multiple fatality on the railway we expect:
 - nil/negligible likelihood of minor or nil personal injury
 - Considering statutory duties, not deliberate rule breaking or criminality by third party



Scope

1. This policy statement sets out how ORR will use its powers under the Health and Safety at Work etc. Act 1974 (HSWA), to enforce compliance with both health and safety law and the following specific legislation (‘relevant legislation’):

- (a) the Railways (Interoperability) Regulation
- (b) the Rail Vehicle Accessibility (Non-Interoperability) Regulation
- (c) the Train Driving Licences and Certificates Regulations

2. This policy does not deal with the enforcement of the following legislation:

ORR’s approach

3. The term ‘enforcement’ has a wide meaning between ORR and those on whom the law places a duty, including employees, railway operators, contractors and the public.

4. The purpose of enforcement is to:

- (a) ensure that duty holders manage and control risks and take action to deal immediately with any breaches
- (b) promote and achieve sustained compliance with the law

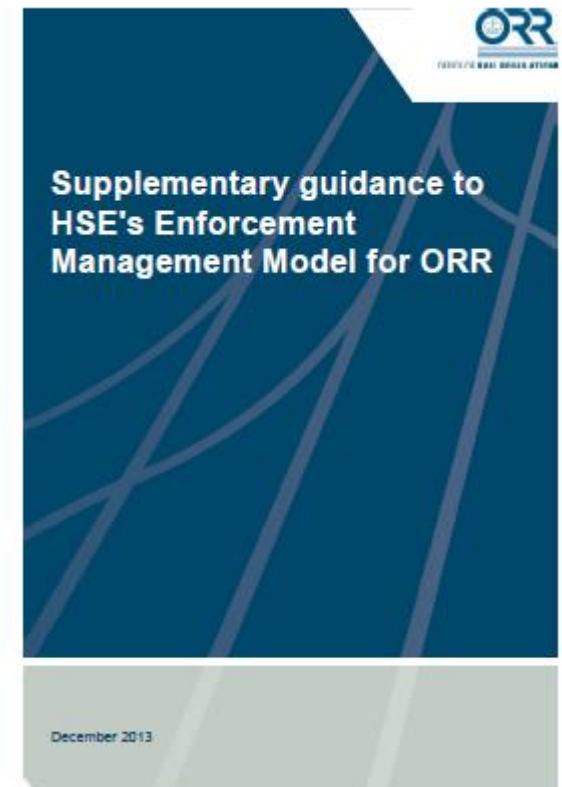
¹ Available at <http://www.legislation.gov.uk/uk>

² Available at <http://www.opsi.gov.uk/si/si2011/>

³ Available at <http://www.opsi.gov.uk/si/si2011/>

⁴ Available on the ORR website at <http://www.orr.gov.uk/>

⁵ As defined in the Railways (Interoperability) Regulations



Legislation – System Safety

- European Railway Safety Directive
 - ORR / DfT duties
 - Infrastructure Manager / Transport Undertaking duties
- Health & Safety at Work Act etc 1974
 - Sections 2 & 3
- Railways and Other Guided Transport Systems (Safety) Regulations 2006 (as amended 2013)
 - Regulation 22: transport operators to co-operate with each other
 - Regulation 5: requirement to have a safety management system
 - Schedule 1 (1d): continuous improvement of the SMS
 - Schedule 1 (2f): share information between transport operators
 - Regulation 19: undertake & review risk assessments; implement findings; put in place arrangements to implement, monitor, and review control measures

Need for review?

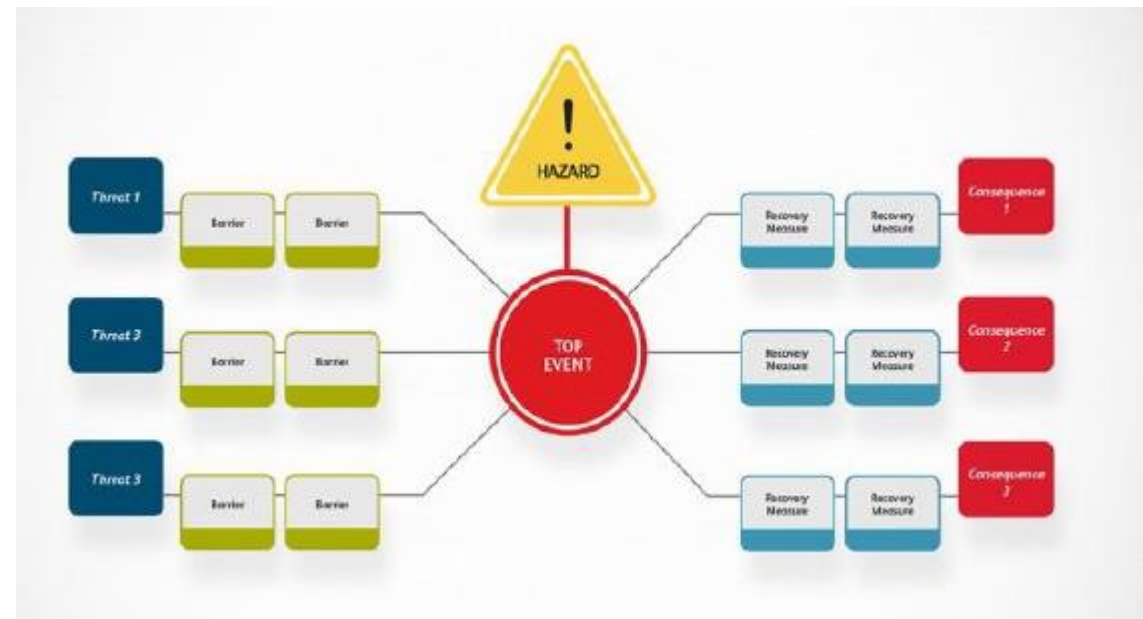
- Design requirements
- Operating environment
 - Vehicles
 - infrastructure
- Number of incidents
- Output of industry investigations
- RAIB conclusions & recommendations
- Continuous improvement in railway safety

- Are the current controls adequate?
 - At individual dutyholder level
 - At a system level

Components of a review

- Define the system
 - Track, vehicle, load system
 - Interaction between three elements
- Identify the hazards
- Describe current controls & assess their effectiveness
- Identify the gaps
- Specify action – short, medium, long term

- Bow ties diagram



Managing Change

Common Safety Method on Risk Evaluation & Assessment

- Assess significance of change
- Identify hazards & assess risk
- Identify safety requirements & demonstrate compliance

A useful model?

