



Strategy for regulation of health and safety risks - Chapter 9: Occupational Health

Summary

Occupational or work-related ill health describes conditions that are caused, or made worse, by the activity of work or the working environment.

The term “health” means three things:

The effect of work on health – for example, the adverse effects of exposure to hand-arm vibration, asbestos dust or work-related stress;

Fitness for work – this includes people’s fitness for tasks and covers, for example, drug and alcohol management, medical assessments and capability for work; and

General well-being – this includes social, physical, mental health, engagement and life-style including smoking and obesity.

Worker health had a far lower profile than worker and passenger safety in the rail sector. In response, ORR launched an Occupational Health Programme in 2010. Many rail companies have responded positively and improved their proactive health management strategies and action plans.

However, evidence shows health risk management has been weak. To date, ORR inspectors have served more than 30 prohibition and improvement notices as a result of failures to manage health risks, including manual handling, asbestos, hand arm vibration and avoiding exposure to silica dust.

ORR’s strategy for occupational health

The rail industry has to comply with health and safety law.

ORR’s role, as the health and safety regulator, is to encourage compliance with the law.

Our strategy for occupational health follows analysis of the current situation and our judgment of what needs to be achieved.

In particular, we want to see duty holders improve the health of their workers by striving for:

- Excellence in health risk management
- Greater engagement with employees and others
- Better efficiency and reduced costs from people suffering work-related ill-health
- Enabling improvements in competency, information, co-ordination and control

ORR’s Occupational Health programme is available to read online at:

http://orr.gov.uk/_data/assets/pdf_file/0007/12031/occup-health-prog-2014-19.pdf

Under our programme, we want to see train operators, infrastructure managers and railway contractors:

- Proactively manage health risks, using risk assessment, exposure monitoring, health surveillance and reporting arrangements, including RIDDOR
- Implement health policies involving senior management commitment and resources that drive continuous improvement
- Pursue early intervention on trauma and musculoskeletal disorders
- Improve the use of good health data, develop analysis of trends and comparators
- Raise awareness of and competence in health risk assessment, particularly among front line managers and supervisors

Our strategic objectives

By 2019, we intend to improve worker health by:

1. Supporting and facilitating the shift to clear industry leadership on health including delivery of the industry's Health Roadmap, so that ORR does not need to make the case for health management so audibly.
2. Demonstrating an active role in securing appropriate standards of legal compliance in health risk management and encouraging the development of a proactive, structured and managed approach to dealing with health risk.
3. Promoting the importance of good data collection and analysis in supporting a targeted and evidence-led approach to health risk management in railway organisations
4. Supporting the development of health data systems and the analysing of trends and indicators for monitoring performance, and pressing for increased application of return on investment tools.
5. Influencing the railways' national policy, sector initiatives and guidance on 'health', including the medical assessments of train drivers.

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Background

1. Historically, worker health has had a lower profile than worker and passenger safety in the rail sector. Occupational health continues to be an area of risk that must be better managed by all railway duty-holders, as our inspectors continue to find evidence of failures to meet minimum legal requirements.
2. Health and Safety Executive (HSE) research suggests 5% of railway workers suffer ill health caused or made worse by their work, which is broadly comparable with the construction industry.
3. RSSB research estimates an average Lost Time Rate (LTR) for all sickness absence of 4% across the rail industry, representing more than one million days lost per year. This compares with the Office of National Statistics (ONS) estimate of 1.8% for the private sector as a whole, 1.9% for construction, and 3% for transport, storage and distribution.
4. ORR publishes occupational health data for the rail industry on the National Rail Trends (NRT) data portal. This includes RIDDOR data but also mainline and LUL data on manual handling and shock/trauma incidents since 2005/06. Overall, the data show broad downward trends in manual handling and shock/trauma incidents, including those resulting in lost time.
5. Our statistics show railway workers do not face a higher risk of death from mesothelioma (serious asbestos-related disease) than the wider working population. However, the occupation group for vehicle body builders/repairers (which may include some rail workers) shows a higher number of deaths from mesothelioma caused by past exposures to asbestos, than the average for all workers.
6. The number of RIDDOR reportable health cases rose to 100 in 2016-17 (see Table below), with reports for HAVS and carpal tunnel syndrome dominating the figures. Both conditions are associated with vibration exposure from power tools.
7. We expect the industry to demonstrate strong leadership and to agree and deliver its priorities. ORR will continue to monitor industry progress by engaging with the RSSB Health and Wellbeing Policy Group (HWPG) and other groups. We may revisit how we structure our engagement with industry if needed.
8. We will continue to use existing and new datasets on worker health to inform our strategic priorities, and to assess progress by the industry in moving towards excellence in health risk management. We will report key trends in health data via our annual health and safety report, and our NRT data portal.
9. In April 2014, ORR updated its occupational health programme following extensive consultation workshops with the rail industry. The 2014-19 programme picks up the cross-government agenda on health and engagement, and recognises some of the traditional ways of working on the railway require specialist intervention in order to develop better job design, working equipment and practices.
10. Over the next five years, we want to see railway companies improve the health of their workers by working towards the '4E' themes.
 - **Excellence** in health risk management
 - Greater **Engagement** with employees, safety representatives and others
 - Better **Efficiency** and reduced costs from people suffering work-related ill health

- **Enabling** improvements in competency, information, co-ordination and control

Table showing disease cases reported to ORR under RIDDOR* from across Britain's railways: 2011-12 to 2016-17¹ (most relate to the mainline railway):

Disease type	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Carpal tunnel syndrome	0	2	2	4	1	12
Cramp in the hand or forearm due to repetitive movements	0	2	1	0	0	0
Hand arm vibration syndrome (HAVS)	95	97	74	77	28	85
Infectious disease due to biological agents	1	3	0	0	0	0
Occupational asthma	0	0	1	2	0	0
Occupational cancers	0	0	0	0	0	1
Occupational dermatitis	0	0	0	1	0	1
Tendonitis or tenosynovitis in hand or forearm	1	0	0	1	0	1
Total	97	104	78	85	29	100

Source: RSSB and ORR.

*Reporting of Injuries, Diseases and Dangerous Occurrences Regulations, 2013²

Legal context and guidance

11. Employers, employees, directors, suppliers, owners of premises and others have duties under the Health & Safety at Work etc. Act 1974 to ensure, so far as is reasonably practicable, the safety and health of those at work in or who enter their premises, or who are otherwise affected by their activities.
12. ORR's role, as the health and safety regulator, is to encourage compliance with the law.
13. Four areas of health which require a 'mandatory investigation' by ORR inspectors are:
 - Legionellosis (legionnaires' disease) where the source of infection may be at a railway location
 - Any instance where a worker is suspended from work due to lead poisoning.
 - Any report of a case of occupational asthma caused by exposure to a "respiratory sensitizer", such as isocyanate paint.

¹ data covers 1 April 2016- 4 March 2017 as RSSB introduced a new Safety Management Intelligence System on 5th March 2017 that did not map to existing categories

² <http://www.hse.gov.uk/riddor/>

- A case of worsening hand arm vibration syndrome (became a mandatory investigation criteria in July 2017).

14. We investigate other incidents if we consider they may reveal important intelligence about management systems failures or breaches of the law.

15. Relevant health and safety regulations include:

- The Health and Safety at Work etc. Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Workplace (Health, Safety and Welfare) Regulations 1992
- The Control of Substances Hazardous to Health Regulations 2002
- The Control of Asbestos Regulations 2012
- The Control of Vibration at Work Regulations 2005
- The Manual Handling Operations Regulations 1992
- The Noise at Work Regulations 2005
- The Health and Safety (Display Screen Equipment) Regulations 1992
- The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013
- The Safety Representatives and Committees Regulations 1977
- The Health and Safety (Consultation with Employees) Regulations 1996

16. The Train Driving Licences and Certificates Regulations 2010 (TDLCR) set out the legal requirements of the licensing and certification system for train drivers in Great Britain. ORR registered 'Recognised Doctors' carry out train driver medical assessment, requirements set out in Schedule 1 of TDLCR. In 2016, after carrying out an audit of the 56 doctors, ORR made a number of recommendations: principally to introduce a regular audit regime and to deliver education and information to the Recognised Doctors.

<http://www.orr.gov.uk/rail/licensing/train-driving-licences-and-certificates>

Leadership and understanding

17. Our inspection evidence shows that strong leadership and management commitment are directly related to occupational health performance. Leaders and managers should demonstrate health risk understanding and the desire to prevent ill health. Involvement of employees and their safety representatives is essential for improving occupational health. They should be actively involved in reviewing and revising health and safety policies and their application. Occupational health performance should also be monitored and the findings used to make improvements. Industry leadership on health has improved markedly in response to ORR's increased focus in this area.

RSSB

18. In 2014, RSSB published the industry's [health and well-being roadmap](#) to encourage collaborative action to achieve a common vision for health and wellbeing improvement.

19. The RSSB Health and Wellbeing Policy Group (HWPG) has been set up to coordinate and work towards 'An industry where we all take responsibility for and benefit from managing health and wellbeing'.

20. The HWPG is exploring opportunities to extend its work to include facilitating collaboration and sharing of good practice among its Railway Group members; improving the collection, analysis and use of health data, and setting out of industry strategic objectives for both occupational health and public health.

21. An RSSB project to improve industry data collection on health through the new SMIS+ platform (safety management software and database for recording safety-related events) should provide an opportunity for better collection and analysis of data on work related ill health to inform company priorities and eventual industry benchmarking against key health metrics. Support from rail companies will be essential to a successful outcome.

22. RSSB project T1085 'Research into common rail environments and their roles, and their impact on employees' health and wellbeing' aims to improve understanding and support proactive management of key health risks including silica, diesel engine fumes and HAV.

23. Despite significant progress in recent years, [ORR's independent review of RSSB](#) in November 2016 concluded that occupational health and wellbeing still received insufficient attention across the rail sector. ORR therefore recommended that RSSB should '*give greater prominence to occupational health and wellbeing across all work-streams, putting in place an action plan and the necessary resourcing to ensure it is given due consideration.*'

24. We believe that with the support of its members, RSSB will sustain the good work it has done so far in supporting and improving the health and fitness of the industry's workforce and, in doing so, reduce the significant costs and minimize the inefficiencies associated with work-related ill health.

25. RSSB - Workforce health and wellbeing website: <https://www.rssb.co.uk/improving-industry-performance/workforce-passenger-and-the-public/workforce-health-and-wellbeing>.

The Risk Management Maturity Model (RM3)

26. ORR wants to see more rail duty-holders using RM3 to assess the maturity of their health risk management and the effectiveness of underlying management systems. Our evidence shows RM3 can help identify areas where improvements could be made to manage hazards to health.

27. From our assessments, RM3 levels for occupational health management are generally below those for managing safety. To improve occupational health management duty-holders would benefit from using a 'Plan and Implementation Risk Control System' (RCS) focussing on health risk.

28. ORR has published guidance on the use of RM3 for occupational health and bow-tie analysis as part of an organisation's assurance process.

<http://www.orr.gov.uk/rail/health-and-safety/occupational-health/occupational-health-compliance-and-good-practice/occupational-health-and-the-risk-management-maturity-model>

ORR action

29. Occupational health remains a priority for ORR. We have been active for many years, using all available levers to pursue our strategy and improve the rail industries management of health risks. Key activities for the remainder of our second occupational health programme 2014-19, and the outcomes we seek from them, are summarised in the following table:

ORR activity	..the outcome we seek from this activity
Excellence in health risk	
<p>Publish guidance on Fitness For Duty.</p> <p>Set up audit regime to maintain standard of medical assessment of ORR Recognised Doctors.</p> <p>Work with the industry to clarify responsibilities for managing HAV risk through the supply chain. Support the development of industry guidance on HAV health surveillance for contingent labour.</p> <p>Continue inspections of Network Rail’s operations (e.g. depots, walkways, access points and construction sites), reactive complaint handling and investigation activity to secure legal compliance on:</p> <ul style="list-style-type: none"> ○ Hand arm vibration syndrome (HAVS) ○ Respiratory disease ○ Manual handling <p>Pursue activities consistent with the IOSH silica “Commitment”, including publishing Railway Inspectors Guidance on silica management. We will be pressing for effective control of dust filtration systems in new plant and machinery and during construction activity.</p> <p>Scrutinise health risk control during train operator depot inspections (e.g. tritium monitoring, HAVS, legionella and risks associated with stagnant water, biohazards associated with train under-frame washing activities or carriage cleaning), effluent handling/COSHH compliance, on-going asbestos management, and work-related stress and post-incident care.</p> <p>Check DEEE control and management during station inspections</p> <p>For the freight sector, ORR inspectors will continue to promote good practice for HAVS, COSHH, biomass dust, asbestos and work-related stress.</p>	<p>Clarity on legal requirements given significant number of changes to disclosure and medical assessment with TDLCR, and changes to group and company standards.</p> <p>Ensure that duty-holders, who use vibrating tools, recognise and assess the risk to health, and implement effective controls to minimise HAV exposure.</p> <p>Ensure HAVS health surveillance arrangements for at risk workers, including investigation of new or worsening diagnoses, are effective in reducing risk and preventing disease progression.</p> <p>Rail companies take ownership of the risk assessment and management process, with a clear focus on improved control by technical means rather than sole reliance on use of respiratory protective equipment.</p> <p>Improved assessment and control of respiratory hazards, including diesel engine exhaust emissions, asbestos, silica dust, welding fumes, and isocyanate-based paint fumes. Ensure rail duty-holders’ health management systems recognise and properly manage risks from asbestos-containing materials in their premises, including buildings, infrastructure, and rolling stock.</p> <p>Ensure risks from manual handling are effectively managed by duty-holders.</p> <p>Encourage duty-holders to develop a health policy which specifically addresses work- related stress; pursue our stress strategy with focus on preventing stress at an organisational level.</p> <p>Support industry groups on driving improvement to the management of health risks.</p> <p>Drive strategic changes to continuous improvement of health risks.</p>

<p>Provide targeted support to the industry / RSSB Health Policy Group and associated operational groups, such as: the H&W Professionals Group developing guidance on diabetes risk assessment; the T1085 stakeholder groups working on organising a HAVS Conference; the musculoskeletal disorders' Healthy by Design group; the DEEE group to advance delivery of the Industry Roadmap themes.</p> <p>Monitor progress with our strategic position papers on HAVS, stress, musculoskeletal disorders, asbestos management and effluent management to ensure we deliver on our public commitments.</p>	
Engagement	
<p>Engage as required with the DfT on franchising and its inclusion of health and potential cross-transport health event.</p> <p>Deliver information and an event for Recognised Doctors and Medical Assessors.</p> <p>Support the Industry H&W engagement activity e.g. strategic industry road-map workshops, the data and economic indicator groups, continue to push for the inclusion on health risk and control in rail industry standards documents.</p> <p>Continue to develop and publish case studies on good practice.</p> <p>Support the ARIOPS endeavours on setting down competency frameworks and on-going education on emerging issues in the rail sector.</p> <p>Continue to engage with TU Representatives on health during our inspection work and collaborate on activities within cross industry groups.</p>	<p>Further strengthen and embed the health in relevant industry standards, franchising agreements, and competency frameworks.</p> <p>Ensure medical assessments meet standards and governance arrangements</p> <p>Improve the use and visibility of meaningful health data to support future trend analysis and industry benchmarking</p>
Better efficiency and reduced costs	
<p>Provide input on the development of ORR's 2018 periodic review (PR18).</p> <p>Participate in the Industry / RSSB health economics indicators work and Cost Benefit Analysis Workshops to up-skill and ensure good</p>	<p>Ensure health risks are considered when ORR sets Network Rail's outputs and funding for control period 6 (2019-24).</p>

understanding on the cost indicators and return on investment tool.	
Enabling improvements in competency, information, co-ordination and control	
<p>Consider and update Railway Inspectors Guidance at their revision date. In 2017 we anticipate reviewing RIG-2014-04 on diesel exhaust emissions and RIG-2015-03 on accessing medical or specialist support.</p> <p>Continue to report on progress on health management across the industry in ORR publications, e.g. ORR’s Chief Inspectors Annual Report.</p> <p>Continue data monitoring activities, e.g. Implementation of SMIS+, changes to RIDDOR arrangements, the data quality audit of Network Rail and data portal website information, on-going review of HSE published data.</p> <p>Deliver education, coaching and training for ORR inspectors on management of health risk,</p> <p>Contribute to the review of the Mandatory Investigations guidance for inclusion of critical health risks.</p>	<p>Raise awareness of any changes to legal requirements, guidance and good practice in managing health risks.</p> <p>Improve the use and visibility of meaningful health data to support future trend analysis and industry benchmarking</p>

Industry activity

Network Rail

30. Our inspections identified a number of areas requiring specific attention:

- Risks from hand arm vibration (HAV) from the use of power tools
- Musculoskeletal risks from poor manual handling arrangements
- Respiratory hazards, particularly silica dust and asbestos management.

31. In the last two years, we have seen demonstrable improvement of control of silica dust in ballast handling. However, at route level and within project work there remains a lack of ownership, responsibility and commitment to delivering better occupational health performance. Network Rail has recognised in its strategy and implementation programme that more needs doing to deliver solutions at route level, and has set out a framework for achieving this.

ORR activity

32. Our focus with Network Rail will continue to be on managing the risks from HAV, manual handling and respiratory hazards, principally silica and asbestos. However, we will also continue to

intervene on other COSHH compliance issues and will monitor Network Rail's progress with implementing and embedding its occupational health strategy and delivery of solutions at route level.

Operating Companies (FOCs & TOCs)

33. ORR inspections of passenger and freight operating companies have found evidence that occupational health strategies are being proactively applied.

ORR activity

34. Our focus with the TOCs will continue to be on manual handling in depots and as well as on-board trolleys, wheelchair assistance, and securing compliance with the requirements of COSHH - for example, risk assessments for changing engine oil, risks from diesel fumes, use of isocyanate based paints, management of legionella in water systems, and underframe washing in depots.

35. We will also aim to examine FOCs' wider arrangements for the management of occupational health related risks arising from rolling stock maintenance activities and work on ballast sites as part of our routine supervision activities. We are also working with industry on guidance on dealing with emerging health issues such as managing diabetes within safety critical staff groups.

London Underground

36. Occupational health issues on London Underground (LUL) are broadly comparable to those on the mainline railway, albeit exacerbated by the need to work extensively underground and to access such work via stations (frequently with stairs as the only means of access). Consequently the main risks are from manual handling, HAV, noise, and construction dust (a particular issue in maintenance owing to the constrained size of the working environment).

37. LUL is proactive in addressing occupational health and wellbeing; example interventions include its efforts to deal with lower back pain and the effects of stress. LUL increasingly seeks to demonstrate the notable cost benefits of its targeted health initiatives, going beyond sickness absence rates to explore links with medical retirements, return to work times, and medical claims costs. LUL has provided a number of good practice case studies which are published on the ORR web site: <http://www.orr.gov.uk/rail/health-and-safety/occupational-health/occupational-health-compliance-and-good-practice/case-studies>

ORR activity

38. Our inspection programmes for London Underground include focussing on manual handling and HAV where these issues arise. In addition, we continue to monitor current activity and investigate selected incidents and complaints about occupational ill health issues.

Heritage/ Tramways and light railways

39. Our inspections have found that tramways and light railways are continuing to improve the health and safety culture within their organisations. In the heritage sector, our evidence shows workers face limited risks from hazards such as noise, vibration, and hazardous substances due to the short duration of exposure and the manual working methods used for example, hand painting rather than paint spraying.

ORR activity

40. ORR continues to monitor and promote occupational health management. We undertake this primarily through regular liaison meetings, reviewing RIDDOR reports and investigating incidents and complaints on occupational ill health issues.

Glossary of terms

Acronym	Definition
ACM	Asbestos Containing Material
ARIOPS	The Association of Railway Industry Occupational Health Practitioners
COSHH	Control of Substances Hazardous to Health
DEEE	Diesel Engine Exhaust Emissions
HAVS	Hand Arm Vibration Syndrome
HWPG	RSSB Health and Wellbeing Policy Group
FOC	Freight Operating Companies
HSE	Health and Safety Executive
IOSH	Institution of Occupational Health & Safety
LUL	London Underground
LTR	Lost Time Rate
MSDs	Musculoskeletal Disorders
NICE	National Institute for Health and Care Excellence
NRT	National Rail Trends
ONS	Office of National Statistics
ORR	Office of Rail & Road
PR18	Periodic review 2018
RCS	Risk Control System
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013
RM3	Railway Management Maturity Model
RSSB	Rail Safety and Standards Board
SMIS	Safety Management Information System
SPAD	Signal Passed at Danger
TDLCR	Train Driving Licences and Certificates Regulations 2010
TU	Trade Union
TOCs	Train Operating Companies



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