ORR occupational health programme update

July 2014

OFFICE OF RAIL REGULATION

Introduction

This quarterly brief updates you on progress with some of the work under ORR's Occupational Health programme 2014-19, to inform discussions on health with ORR inspectors. We have identified key messages for rail duty holders and would welcome feedback.

This issue focuses on:

- **ORR inspection on health – 2013-14 inspection findings, current priorities, and RM3 for health**
- **Managing health risks in train carriage refurbishment**
- **Latest occupational health data published – HAVS dominates RIDDOR diseases**

1. ORR inspection – recent findings, current priorities & RM3 for health

In 2013-14 we continued our inspection focus on hand arm vibration syndrome (HAV), musculoskeletal disorders (MSDs), and hazardous substances, particularly silica and asbestos. We are encouraged by increased efforts to reduce health risks by engineering means, rather than rely on use of personal protective equipment (PPE) or job rotation. We saw good practice include reducing silica exposures by better wetting of mainline ballast wagons and stockpiles, and localised water misting for breaking out concrete in sub surface tunnels; reducing diesel engine exhaust emissions (DEEE) by charging air cylinders from shore supplies rather than via engine running; and more effective use of continuous monitoring systems on high vibration tools to assess and manage HAV risks, as well as efforts to source lower vibration hand tools. We noted sharing of good practice on managing legionella risks in carriage wash facilities, and innovation by some TOCs in using GPS controlled systems on older rolling stock (without retention tanks) to prevent discharge of toilet effluent at specific locations. We found examples where, following a thorough review of health management arrangements, companies introduced additional health surveillance for groups of staff.

We note a greater commitment on health and see the rail industry starting to manage health risks proactively. However, we found continued weaknesses in areas identified in previous years' inspections, including asbestos management arrangements, and managing MSD risks on track, on trains, and at stations. There also remains a need for improved management of HAV risk and silica dust in mainline maintenance and renewals. In some train depots we found scope for improved control of exposure to noise and diesel engine exhaust emissions, including more regular testing and maintenance of exhaust ventilation systems for DEEE, and more consistency in use of suitable hearing protection.

Issued by the Office of Rail Regulation.
For further information ring our switchboard: 0207 282 2000
Visit us online at www.orr.gov.uk

In 2013-14 we issued six enforcement notices on health and welfare requiring improved management of exposures to isocyanates in paint spraying; to asbestos in station premises; and provision of washing facilities at a ballast storage and handling site. Inspection work in 2013-14 also resulted in formal enforcement to prohibit manual lifting and carrying of heavy concrete troughing units on the mainline.

Key messages:

- **In 2014-15 we will focus on the existing priority areas of HAVS, asbestos, and MSDs. On asbestos, work will continue to look at the duty to manage asbestos on railway premises including in depots and stations, including improving awareness that minor railways also need to have proper records and management plans in place, as well as compliance with new exemptions on the sale or transfer of rolling stock containing asbestos. Better management of HAV risks in mainline maintenance work will remain a key priority. On MSD risks, we will look at manual handling in infrastructure maintenance and renewals, and progress our work with train operators on managing manual handling risks from on-board catering trollies and assistance for disabled passengers**.
- **We will continue to look at underlying health management arrangements using RM3, including manager competence and assurance monitoring, particularly of contractors. Rail duty holders are encouraged to make more use of RM3 to assess their maturity in managing occupational health risks and identify key areas for improvement. New ORR guidance on RM3 for health should help rail companies to do this. The guidance includes a specific risk control system (RCS6) for ocupational health, and an example of a key issues agenda for managing work related stress.**
- **Are you involved in maintenance, renewals or construction activity either on railway property, or on the infrastructure? Does your work involve potential exposure to silica or other construction dust, for example from ballast handling; breaking out, scabbling or grinding concrete; chasing out channels in brick/concrete; cutting concrete troughing or kerb stones on platforms or at level crossings? If so, new inspection and enforcement guidance from HSE on respiratory risks from construction dust, including silica, will be of interest. The HSE guidance will inform ORR's inspection and enforcement decision making in areas such as risk assessment and control, respiratory protective equipment (RPE) use, health surveillance, and duties on contractors.**

2. Managing health risks in train carriage refurbishment

Refurbishment of train carriages can create potential risks to health from exposure to hazardous chemicals, dusts or fumes; noise and vibration; and musculoskeletal disorders from poor posture. Following a recent inspection, a rail contractor has put in place effective controls to manage significant risks from HAV, and from isocyanates in paint spraying, which the rest of the sector might learn from.

In many depots paint spraying will be carried out in an open maintenance workshop, rather than in a purpose built spray room. Where a temporary spray enclosure is constructed around the carriage section, it needs to be airtight, kept under negative pressure, and with adequate filters on the extraction unit, in order to protect workers outside the enclosure from exposure to paint mist or solvent fumes. Where isocyanate paints are used, exposure can result in workers developing occupational asthma, putting their health and job at risk.

In this particular case, effective containment and control of isocyanate paint mist was achieved by improving the design of the mobile spray enclosures. This involved sealing the gaps between the enclosure

and the vehicle, the floor, and around the extraction unit, and weighting the enclosure sides or 'curtains' down with heavy chains at the base. Wherever possible the extraction units were vented to atmosphere; where extraction units vented inside the workshop, air monitoring was carried out to ensure that the three activated carbon filters fitted were effective in removing isocyanate paint mist. To ensure adequate protection of workers inside and outside the enclosure, minimum clearance times were clearly displayed outside the spray enclosures. Training was improved so that the sprayers knew not to remove their air-fed respiratory protective equipment during the clearance time for the extraction unit to remove paint mist from the spray enclosure.

In the pre-paint preparation process significant improvements were made in managing HAV risks from use of hand tools to remove the old carriage flooring. Rather than rely on job rotation to manage individual exposures to vibration, the older electric chisels were replaced with lower vibration pneumatic chisels. Not only did this reduce vibration levels significantly but the longer handles on the pneumatic tools also reduced the amount of crouching and kneeling, reducing associated risks of MSDs. In addition to reducing the health risks, substitution of chisels increased productivity as they were quicker and easier to use.

Key messages:

- **Do health risk assessments for carriage refurbishment activities, including pre-paint preparation and paint spraying, consider all the potential risks to health? Can you demonstrate that 'hierarchy of control' principles have been followed in managing health risks? Have you fully explored options for elimination and engineering control before opting for PPE? RSSB has produced helpful guidance for the industry on health risk assessment.**
- **Do you use isocyanate based paints or lacquers? Are you aware that 'water based paints' can still contain isocyanates? Isocyanates are the biggest cause of occupational asthma in Great Britain. Cases of occupational asthma or dermatitis diagnosed by a doctor should be reported to us under RIDDOR 2013. A case of occupational asthma linked to isocyanate exposure in a train depot was reported to ORR in 2013-14; the affected individual was not directly involved in paint spraying but worked in an adjacent area. Occupational asthma cases are included in ORR's list of mandatory investigations.**
- **If you spray isocyanate paints, you should be complying with revised HSE guidance HSG276 on safe use of spray booths. This guidance applies to spray 'rooms' or mobile enclosures, as well as purpose built spray booths. Is the enclosure constructed and sealed to run under negative pressure, so that any leakage is inward? Has the enclosure clearance time been measured using a smoke test and is this clearly marked at the entrance? Are the extraction units and filters, plus air-fed RPE, subject to regular inspection and maintenance under COSHH, and records kept?**
- **Sprayers of isocyanate paints should wear air-fed breathing apparatus when spraying, and should not remove the mask or raise the visor during the clearance time. Has the clearance time been explained to all who need to know? Are all sprayers using isocyanate paints under health surveillance? There is specific guidance on health surveillance for occupational asthma.**
- **Anyone involved in small scale spraying of isocyanate based paints should consult revised HSE guidance on SMART isocyanate spraying. This sort of work typically involves spraying small quantities (up to 25ml per coat) for about one minute per coat, using an aerosol or low pressure mini-spray gun.**

3. ORR publishes latest health data – HAVS dominates RIDDOR diseases

We have published new occupational health data for the rail industry on our National Rail Trends (NRT) data portal. We have updated industry data on manual handling and shock/trauma incidents for 2013-14, and added two new reports to show the overall trends in these data for the mainline over the past eight years. Overall, the data show continuing downward trends in manual handling and shock/trauma incidents, including those resulting in lost time. In 2013-14, however, there was a slight upturn in shock/trauma incidents.

We have also published data for 2013-14 on occupational diseases reported to ORR under RIDDOR 2013. HAVS cases continue to dominate. From a total of 79 occupational disease cases reported to us in 2013-14, 76 were HAVS, with a further two cases of carpal tunnel syndrome linked to use of vibrating tools. Of the 75 HAVS cases reported to us by Network Rail, around three quarters were newly diagnosed cases or those where symptoms had significantly worsened; a number resulted in workers being declared permanently unit for work with vibrating tools. The remainder were repeat diagnoses of existing stable HAVS cases, which had not been previously reported to us under RIDDOR.

The increase in HAVS cases reported under RIDDOR since 2010 (302 cases) reflects the marked improvements in HAVS health surveillance arrangements on the mainline, and we expect to see this trend continue in the short term as health surveillance and reporting systems mature further. These data show the value of health surveillance in identifying vulnerable workers early, but also the need for better risk assessment and more robust control of exposure to hand arm vibration among staff working on mainline infrastructure maintenance in particular.

Key messages:

- **You can access the new occupational health data under 'Safety and Health key statistics' via ORR's NRT data portal. Registration is free and simple, and provides access to all content and functionality of the NRT portal.**
- **Regular or prolonged exposure to vibration can cause permanent, painful and disabling conditions. Have you assessed the risk from work with hand held vibrating hand tools (such as grinders, nut runners, needle guns), hand guided machinery (such as whacker plates), and hand fed machines (such as pedestal grinders)? Have you looked at changes to the task design to eliminate use of vibrating hand tools; explored substitution with lower vibration tools; and put in place effective means of managing personal exposures? Can you demonstrate that your purchasing policies, contract specification, task worksheets, and supervisory arrangements support effective management of HAV risk?**
- **Do you have suitable health surveillance in place to detect early signs of disease in workers at risk of HAVS? As well as protecting and managing symptoms in individual workers, do you use collective health surveillance results to identify groups of workers or specific tasks at higher risk, and put in place improved risk controls?**