

ORR protects the interests of rail and road users, improving the safety, value and performance of railways and roads today and in the future



ORR's Annual Health & Safety Report 2017/18: Occupational Health

17 July 2018

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HM Inspector of Railways

Towards a healthier workforce...

- **Health by design:** apply innovation to drive reliability and efficiency
- Silica dust in mainline ballast handling
- Diesel engine exhaust emissions (DEEE) at major station
- Hand Arm Vibration (HAV) in supply chain
- Other challenges and opportunities...musculoskeletal disorders, mental health

MSD Design Awards

Client: **Glasgow Subway**
Designer: **Freyssinet**

BEFORE



160,000 25kg bags to supply via Fire Exits
Up to 900 bags per shift

45,000 grout holes to drill
29,000 more than 2m above the ground



AFTER

Overhead chain conveyors

Bespoke cradles, pallets and operator training

Bespoke drilling rig. Light, compact and operated from the ground

Added bonus – drilling dust controlled via vacuum system

 "Investment in the engineered solutions made perfect sense, providing both ergonomic and logistical benefits and therefore combining to increase the safety and productivity of the project".



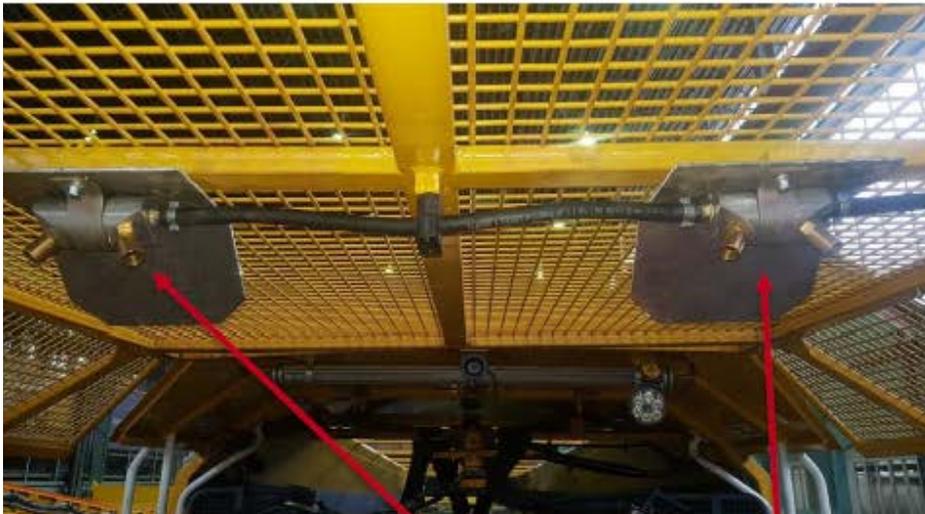

Silica: One Man's Story

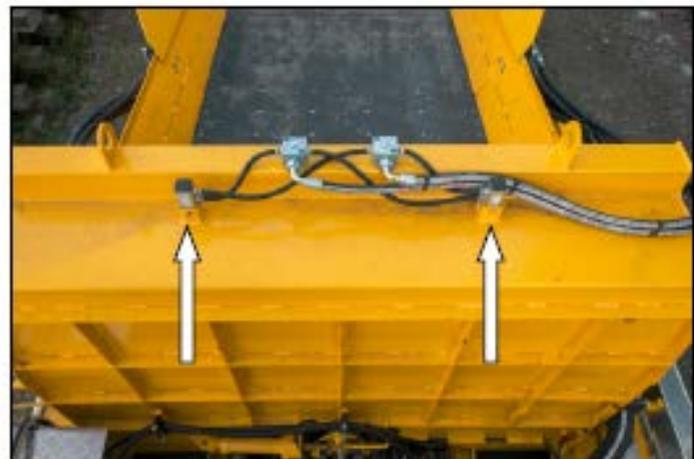
<http://orr.gov.uk/one-mans-story>



Health by design: silica dust in ballast handling:

- Move away reliance on RPE by **better design**
- Highest risk ballast handling machines: protected operator cabs and external dust suppression from new and **retro fitted**
- Process for updating design standards and product acceptance for all mainline on-track machines and plant to include health hazards including dust





Health by design: diesel fume at BNS station



- **Collaboration:** NR, TOCs, ORR
- Comprehensive monitoring: understand the risk profile for DEEE exposure and air quality
- Air quality action plan includes **health by design** by NR and TOCs
- **TOC technical design:** auto engine shutdown via software upgrades to Voyagers under trial
- **TOC operational design:** driver behaviour change programme to reduce train idling
- Work in progress: RSSB T1122 project on enclosed stations but more to do
- Alert to wider political and public concerns around air quality?

Health by design: BNS fume extract system

- Enhancement project for NR to further improve air quality
- Addition of NOx sensors on platforms to control fan speed
- Real time monitoring of DEEE gases and fan performance



Consistency: published inspector guidance

		RSD Internal Guidance		RIG-2017-01	
RESPIRABLE CRYSTALLINE SILICA IN THE RAIL SECTOR					
Date of Issue/ last review		June 2017		Date of next review June 2020	
RGD post holder/owner		Sharon Mawhood			
RGD cleared by		John Gillespie Claire Dickinson			
RGD type		Policy _____ <input type="checkbox"/> Information _____ <input checked="" type="checkbox"/> Procedure _____ <input type="checkbox"/>			
Target audience		RSD _____ <input checked="" type="checkbox"/> RPP _____ <input type="checkbox"/>		Policy _____ <input type="checkbox"/> Inspectors _____ <input checked="" type="checkbox"/> Admin _____ <input type="checkbox"/>	
Keywords		Respirable crystalline silica, RCS, silica, ballast dust			
Summary		This RIG advises inspectors/inspector assistants on the legal framework and action to take in securing compliance with the Control of Substances Hazardous to Health Regulations (COSHH) for exposures to respirable crystalline silica in railway settings, including rail ballast handling and rail property maintenance and refurbishment tasks.			
Original consultation		ORR Safety Policy and Central Regulation– John Gillespie, Martin Jones, Claire Dickinson ORR Legal Services – Ruth Luxford ORR Network Rail Division – Paul Appleton, Anna O'Connor, Jenny Lopez ORR Rail Operators Division – Keith Atkinson, Gerald Kerr, Patrick Talbot HSE – Chemicals Regulatory Directorate Health and Chemicals Unit; Construction Division Health Unit; Field Operations Directorate Occupational Hygiene specialist; HSE Science Division: HSL occupational hygiene and Centre for Workplace Health Principal Medical Advisor			

		RSD Internal Guidance		RIG-2014-04	
DIESEL ENGINE EXHAUST EMISSIONS (DEEE) IN THE RAILWAY SECTOR					
Date of Issue/ last review		June 2018		Date of next review June 2021	
RIG postholder/owner		Sharon Mawhood			
RIG cleared by		Claire Dickinson Jen Ablitt			
RIG type		Policy _____ <input checked="" type="checkbox"/> Information _____ <input checked="" type="checkbox"/> Procedure _____ <input type="checkbox"/>			
Target audience		RSD _____ <input checked="" type="checkbox"/> RPP _____ <input checked="" type="checkbox"/>		Policy _____ <input checked="" type="checkbox"/> Inspectors _____ <input checked="" type="checkbox"/> Admin _____ <input type="checkbox"/>	
Keywords		DEEE EXHAUST EMISSIONS DIESEL ENGINE			
Summary		This RIG summarises the current evidence base on health risks associated with exposure to diesel engine exhaust emissions (DEEE) and advises inspectors about action to take in securing compliance with the Control of Substances Hazardous to Health Regulations 2002 (COSHH) (as amended) in respect of exposure to DEEE in the railway operating environment.			
Original consultation		HSE - policy, occupational hygiene, and medical specialists Rail Operators teams – Gerald Kerr; Don Wilson RPP rail vehicles team - Phil Sharpe Network Rail Division - Paul Appleton; Jenny Lopez Rail Policy - Dawn Russell			
Subsequent consultation (reviews only)		HSE policy, occupational hygiene and medical specialists Mainline operators team – Paul Appleton RPP rail vehicles team – Paul Fray Network Rail Division – Tom Wake, Anna O'Connor TfL team – Keith Atkinson RSD strategy and policy – Jen Ablitt, Claire Dickinson, Dawn Russell			



Protecting the interests
of rail and road users

**Hand arm vibration syndrome
is a life-limiting condition.**

**Read more about prevention
in our occupational health
newsletter.**



Process design: managing HAV risk in the supply chain

- ORR found gaps in HAVS health surveillance for labour only workers
- Work for various contractors and legal employment status?
- **Problem:** Who is at risk from HAV? Recording and sharing daily vibration exposures between contractors and labour suppliers?
- **Design process: who does what, when and how?**
- Guidance sets out legal position
- Process requires contractors to provide labour suppliers with information they need to target HAVS health surveillance



New RPCG guidance: our view?

- Fair and workable solution deserves **industry support**
- Aligns with existing industry standards and codes
- **Cost benefit:** More efficient than complex assessment of employment status for each labour only worker?
- **Reputational benefit:** rail can lead on this...societal concerns around gig economy
- **Skills benefit:** rail is a great place to work



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Thank you