GOOD PRACTICE CASE STUDY

TAKING ACTION TO CONTROL SILICA DUST EXPOSURE

NO TIME TO LOSE

Network Rail implemented a number of initiatives to improve the control of silica dust exposure caused by ballast. The control measures to manage exposure were introduced after engaging with senior management, employees, trade unions and key industry stakeholders.

Network Rail manages, maintains and develops Britain's rail tracks, signalling, bridges, tunnels, level crossings, and many key railway stations. With nearly 1.7 billion passenger journeys made a year, the company aims to deliver a railway that is safer, more reliable and more efficient than ever before, and that will help to build a thriving, sustainable future for the country.

The company believes that outstanding business performance and outstanding safety performance go hand in hand. Network Rail's vision is for a culture in which everyone working on the railway makes safety their number one priority.

With depots and work sites across Britain, the company employs around 35,000 people directly, and manages over 100,000 industry colleagues across the supply chain.

Network Rail aimed to improve the control of exposure to silica dust in railway ballast, as employees who work in the quarries and on the track, as well as those who handle and transport ballast, are at risk of exposure.

Neil Roberts, Programme Manager within the National Supply Chain at Network Rail said: "We procure around 2 million tonnes of new ballast each year. One of the things we noticed was that we don't just have a ballast dust issue at the quarry and during its transit to the site. We saw evidence at engineering work sites where plant operators were dropping the ballast from significant heights – 15 to 20 feet – when unloading rail wagons, thus significantly increasing the potential for dust to be released into that work environment. Simple instructions were introduced to remedy this – plant operators were briefed to lower the buckets to the ground before tipping out the ballast in order to reduce the amount of dust being released into the immediate area."

Water dousing at a local distribution centre

CONTINUED INTELLIGENCE GATHERING

To find out the amount of silica dust employees are potentially exposed to on site, Network Rail placed dosimeters on workers' shoulders.

"It's important that we have objective data, based on activity type and task duration, as it will help us challenge the existing controls, risk assessments, and our general arrangements on site," stated Neil.

The initial results were used as baseline data on ballast dust risks, which Network Rail used to check the suitability of existing arrangements. Further sampling will be undertaken in 2016–2017 so that a more accurate risk profile (by task) can be produced.

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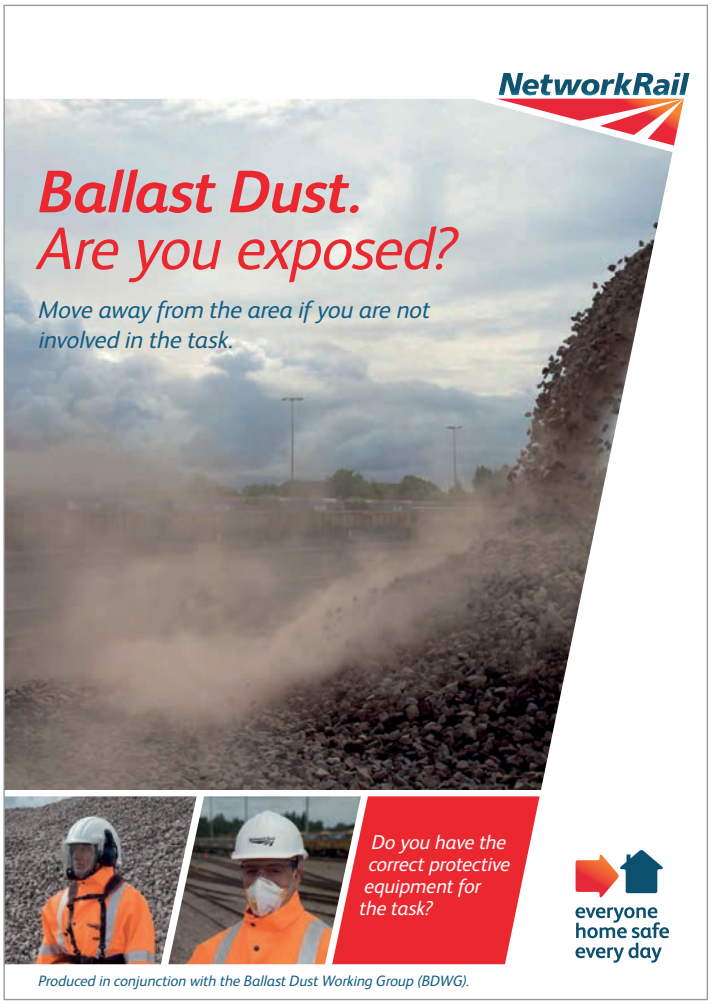
RAISING AWARENESS

To help educate both employees and industry colleagues on the health damage silica dust exposure can cause, Network Rail developed a range of awareness-raising materials, including posters, toolbox talks, films and briefing materials. The materials were shared via Network Rail's intranet, in e-communications and during safety briefings.

Neil added: "It's fair to say that the general approach and opinion in the rail industry was that because we've not, to date, had any known cases of people suffering from silicosis or lung cancer in the rail industry, potentially we may be wasting time by scaremongering. In reality, we know there is a substantial latency period for ill effects as a result of dust exposure, and from external industries we have established that there have been some reported cases – we must therefore improve the level of awareness as much as possible."

Washing ballast at the quarry



Network Rail's awareness-raising poster

CONTROLLING EXPOSURE

Each blast at a quarry produces between 15,000 to 40,000 tonnes of material. To help prevent employees who work on the track from being exposed to the dust, Network Rail worked with the quarries to manage the risk at source, and implemented techniques such as screening and washing the ballast before it is transported to local distribution centres.

Once ballast has been unloaded, stockpiled and re-loaded at a local distribution centre, the attrition of the aggregate can lead to ballast dust. To help minimise the potential for dust to be liberated, Network Rail developed an arm attachment that is fixed to tractors and bowsers, which sprays water onto the ballast to keep it damp. Network Rail also installed fixed water dousing fixtures at a number of depots to dampen both the stockpile and loaded wagons.

Additional site controls were also developed. For example, employees were advised to unload the ballast from the wagon as close to the track as possible to reduce dust liberation. Network Rail also instructs all site personnel to stay away from sites if they are not directly involved in the activity being undertaken. If an operator is required to be on site, they must wear appropriate respiratory protective equipment (RPE). The company provides powered respirators to employees who need protection for more than an hour and those employed on higher-risk activities. For operatives who require protection for less than an hour, FFP3 masks are provided. Staff are also advised to be clean shaven and are face-fit tested. FFP3 masks are disposed at the end of the working day.

Levels of silica dust are periodically monitored at local distribution centres, ballast stock piles and engineering work sites. This helps the company to measure how effective the controls have been, and to make further improvements if necessary. To prevent the rotation of dust and minimise exposure, excavators and additional equipment are used to clear dust from equipment such as wagons and the plant cab environment, instead of dry brushing.

SUSTAINABLE APPROACH

Neil concluded: "By proactively improving the general awareness of exposure to silica dust, we are enabling a sustainable approach to managing the health and wellbeing of our employees. In turn, this will reduce the likelihood of absenteeism due to occupational respiratory ill health. Network Rail is supporting IOSH's No Time to Lose campaign as we are committed to the health and wellbeing of our people. We recognise the benefits of taking a collaborative approach to engaging with our staff and supply chain to raise awareness levels, identify improvement opportunities and promote good practice."

Network Rail is also planning to use the resources from IOSH's No Time to Lose campaign to raise awareness of occupational cancer more widely in the organisation and across the supply chain.

"By proactively improving the general awareness of exposure to silica dust, we are enabling a sustainable approach to managing the health and wellbeing of our employees"

Neil Roberts, Programme Manager within the National Supply Chain at Network Rail

GOOD PRACTICE TAKEAWAYS

- Work with your supply chain – Network Rail has worked closely with its suppliers, including the quarries and aggregate handling depots, on a number of initiatives to improve product quality and the associated inspection methodologies.
- Take a collaborative approach – Network Rail has taken a lead role in supporting collaborative learning in the rail industry. Engagement with key stakeholders is essential to help focus attention on areas that need improvement and to share good practice.

Go to **www.notimetolose.org.uk/networkrail** to download free resources to help you tackle silica dust exposure.

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WORKING TOGETHER TO BEAT OCCUPATIONAL CANCER

The Institution of Occupational Safety and Health is campaigning to stop thousands of untimely deaths to work-caused cancer – find out more at **www.notimetolose.org.uk/networkrail**