Weightmans

Diesel Fumes - A Cause for Concern?

Position Paper – October 2017

Weightmans Diesel Fumes Sector Focus Group

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Section 1

Remit

This Report seeks to examine the issue of Diesel Engine Exhaust emissions both in the legal context but also to consider the wider implications for both employers and Local Authorities in the light of Government initiatives to reduce air pollution and improve health outcomes across the UK.

What are Diesel Engine Exhaust fumes?

Diesel fumes contain a multiplicity of substances; some in the gas phase and some in the particulate phase. Gaseous components include carbon dioxide, nitrogen, carbon monoxide and sulphur compounds. Those of "toxicological relevance" include benzyne and polycyclic aromatic hydrocarbons (PAH's) and the oxides of nitrogen. The particles in DEE centre around carbon which gathers to it small amounts of sulphates and nitrates. It is these compounds, which are known to have carcinogenic and mutagenic properties.

DEE particles are both extremely small and fine – with a diameter of less than 2.5 micro-meters (one thousands of a millimeter). Their size means that they are easily inhaled into the lungs. The composition of particles varies according to engine size (heavy/light duty) and according to the operating conditions – whether the vehicle is accelerating, decelerating or idling.

The historical use of Diesel engines

The Diesel engine was first patented by Rudolf Diesel in 1898 but until the 1930s, Diesel engine use was mostly confined to marine applications.

From the 1930's, Diesel engines began to be installed in heavy goods vehicles, growing to replace steam engines in locomotives by the early 1950's and to replace petrol engines in most heavy goods or light goods vehicles by the 1960s. Diesel also became the engine of choice for most industrial, construction and agricultural equipment.

From the early 1990s, Diesel engines began to be fitted to passenger vehicles with increasing regularity.

In context

Between the years 2000 and 2016 the number of licensed cars increased from 24.4 million to 30.9 million. Diesel cars, as a percentage of that total, increased from 13% in 2000 to 39% in 2016 – with over **12 million** diesel vehicles licensed for road use.

During the same period, light goods vehicles increased from 2.4 million to 3.8 million with the percentage of diesel vehicles increasing from 77% to 96% with over 3 million Diesel light goods vehicles licensed.

This significant rise in the number of Diesel passenger vehicles was principally caused by two factors:

- The convergence of designs and technologies into a common model Diesel engine and;
- Government incentives including lower road tax. This was an attempt to switch consumer use away from petrol engines – thought at that time to be a major contributor to carbon and carbon dioxide emissions.

Section 2

General health risks associated with diesel engine exhaust fumes

Exposure to Diesel fumes has been linked to a number of conditions to include, lung and bladder cancer, asthma, chronic obstructive pulmonary disease (COPD), foetal abnormalities and the aggravation of pre-existing COPD and asthmatic conditions. Recently, it has been linked to an increased risk of cardio vascular disease.

Headline claims about the health risks associated with DEE

- **Health and Safety Executive (March 2017)**
  "More than 230 construction workers die from occupational cancer each year in Britain as a result of past exposure to diesel engine exhaust emissions".
- **International Agency for Research on Cancer, Attfield & Schleiff (2012)**
  "Industrial exposure to diesel fumes increases the likelihood of lung cancer by up to 40 %".
- **World Health Organisation**
  "Occupational exposures to diesel engine exhausts have been implicated in up to 37% of COPD cases".
- **Royal College of Physicians Report (2016)**
  "Air pollution is implicated in 40,000 premature deaths each year in the UK".
- **Environmental Health Atlas (England and Wales) (2013)**
  "There is good evidence of the health effects for air pollution at high concentrations".
- **The Lancet Commission (October 2017)**
  "Air and industrial pollution is implicated in 50,000 premature deaths annually in the UK".

Confounding medical factors

Where the effects of Diesel engine exhaust fume exposure are alleged in an occupational setting, there exists a number of potential confounding factors which can have implications either as causative or contributory factors. Those include:

- Smoking history.
- Environmental exposure/pollution.
- Individual susceptibility and pre-existing respiratory conditions.
- Exposure to dust/fumes other than Diesel engine exhaust fumes.

DEE fumes - Epidemiology and what it reveals?

Lung and bladder cancer

We have reviewed the main epidemiological studies undertaken so far into DEE fume exposure and the conclusions drawn.

These studies have measured cohorts of workers in a variety of occupational settings where exposure to engine exhaust fume is likely and measured health outcomes compared to a separate cohort of non-exposed people or the general population.

Industrial Injuries Advisory Council's Report (September 2015)

The IIAC looked at the possible **prescription** of lung and bladder cancer to a range of occupations which involve exposure to Diesel exhaust emissions.

The IIAC considered a range of epidemiological studies to establish whether the occupational risk was perceived to have doubled (relative risk > 2) in workers with a given exposure relative to a suitable comparator – the aim being to establish whether attribution to work is established, "on the balance of probabilities".

This "doubles the risk" test, is necessary as it is impossible to clinically evaluate whether lung or bladder cancer (when it develops) has been caused by occupational or non-occupational factors.

Railway workers

Lung cancer

The IIAC reviewed seven key studies and concluded that the overwhelming majority did not reveal a "doubling of risk". This included a cohort study of 8,391 Finnish locomotive drivers studied between 1953 and 1991 (Nosko-Koivisto and Pukkala 1994).

Bladder cancer

Prescription was not recommended for railway workers. The majority of the five studies failed to show a doubling of risk with relative risk assessed at below 1 to 1.4 at its highest. The one exception was a British mortality study undertaken by Dolin and Cook-Mozaffari (1992) though this study was based on only four individuals and is unlikely to be considered statistically meaningful.

Bus drivers

Lung cancer

The key studies identified were **Balarajan and McDowell (1988)** which showed a 40% increase in mortality risk in addition to:

Soll-Johanning (2003) which was a study undertaken of the Copenhagen traffic company – no evidence of risk elevation was determined.

Petersen (2004) a study of 2,000 bus drivers which showed no risk elevation.

Guo (2004) a Finnish study of over £1 million citizens which showed no clear relationship with diesel exhaust fumes.

Consequently prescription of lung cancer was **not recommended**.

Bladder cancer

The studies came to similar conclusions to those above, with a conclusion that none of the studies "offers **convincing evidence of a doubling** of risks".

Lorry and HGV drivers

Lung cancer

The findings following Epidemiological study review, did generally show an increased risk but insufficient to recommend this becoming a prescribed disease. Four studies did however show an elevation in risk of between 50 and 60% namely:

Menck and Henderson (1976).
Balarajan and McDowell (1988).
Hayes (1989).
Guberan (1992).

Six studies however found a smaller risk elevation (between 4 and 24%) or no risk elevation at all.

Two studies provided some evidence of a "doubling of risk" being *Rafnsson v Gunnarsdottir* (1991) and Swanson (1993) with a stronger relationship showing between the development of lung cancer and the length of employment.

Bladder cancer

Seven studies were reviewed and are described as showing "compatibility" – with either no elevation of risk seen or at worse a small risk elevation identified.

Other studies

Hansen (1993)

This was a study of over 14,000 Danish HGV drivers and over 43,000 blue collar workers (manual labourers), the latter not ordinarily exposed to diesel fume. The study length was 10 years.

The results found an increased risk of lung cancer (1.6) in HGV drivers once the effects of smoking had been taken into account.

Boffetta (2012)

This was a study carried out within the Logistics industry in the United States. Whilst the HGV drivers studied showed an increased risk of lung cancer compared to the general population, no increased risk was reported by the unexposed comparative group. This suggests that the findings of increased risk incident, were confounded by factors such as smoking and possibly environmental exposure.

Silverman (2012)

This was a case controlled study and one of two analyses undertaken of over 12,000 workers in the mining industry at eight different workplaces.

The Silverman study looked at causation of 198 lung cancer cases. It identified an increasing risk of lung cancer with increasing Diesel exhaust exposure. The results revealed that even after adjustment for smoking, the risk of lung cancer was three times greater in workers heavily exposed to Diesel engine exhaust – typically those working underground with limited ventilation as against those with lower exposure – generally surface workers. A maximum 1.75 risk incidence was seen for those having a DEEE respirable carbon level above 964 with a lower risk incidence of 1.5 for exposure in the range 246 to 964.

Other studies

Richiardi et al (2006)

"**Occupational exposure to Diesel Exhausts and Risk for Lung Cancer in a Population based study**"

Annals of Oncology (2006)

This study did not find an association between occupational exposure to Diesel exhausts and lung cancer risk.

The Environmental and Health Atlas (2013) (England and Wales)

The authors mapped principally nitrogen dioxide and particulate matter across geographical locations in England and Wales, concluding;

- Nitrogen dioxide is a gas which is readily inhaled and can cause health effects in the lungs.
- There is good evidence for health effects at exposure to high concentration though the evidence for health effects at the lower concentrations.....is less clear in so far as particulate matter is concerned.
  They concluded that both short term and lung term exposure is associated with increased risk of heart and lung disease with long term exposure to 10 ug/m^3 increase associated with a 6 % increase in risk of death from all causes. Unsurprisingly, areas having the densest conurbations – Greater London, Merseyside, Greater Manchester and Birmingham had the highest concentrations of nitrogen dioxide in the range 39 to 126 ug/m^3.

Robinson and Others (2017)

"Mechanistic link between Diesel Exhaust Particles and Respiratory Reflexes "
(2017 – Journal of Allergy and Clinical Immunology).

This study claims to provide the first mechanistic insight into how urban air pollution damages human sensory nerves which are responsible for respiratory symptoms.

Royal College of Physician's Report (2016)

"Every breath we take: The lifelong impact of air pollution". (2016).

This Report concludes that air pollution is implicated in 40,000 deaths each year in the UK with an annual cost to society of £20 billion every year. The Report makes recommendations for action, which include educating upon the risks, promoting alternatives to petrol and diesel cars, monitoring pollution effectively and developing new technologies to improve air pollution monitoring.

The Lancet Commission on pollution and health – 19 October 2017

This, most recent report, now estimates the impact of air pollution at 50,000 deaths in the UK each year and includes calls for the Government both to stop incentivising Diesel vehicles and to commit to a new "Clean Air Act". Only Belgium according to the Report, amongst countries in Western Europe has a higher mortality rate caused through air pollution.

Cardiovascular disease

There are two main studies cited. The first involves research funded by the British Heart Foundation (Professor Newby and Dr Mus), which found that "nano particles" within Diesel exhaust, produces reactive molecules (free radicals) with the potential to injure blood vessels, increasing the risk of clotting developing in the coronary arteries and thereby increasing the risk of heart attacks.

The second, is a study of over 1,000 US citizens conducted by Dr Bell from the University of Washington. This research concluded that Diesel engine exhaust fume reduces levels of "good cholesterol" thought to protect the heart and arteries. Overall this was cited as;

"Strengthening the biological plausibility of the link between traffic related pollution and cardiovascular disease".

Section 3

The duties imposed on employers

In general, the duties owed by an employer to its employees are twofold;

(i) those owed at common law and
(ii) those imposed by legislation or Regulation.

It is however generally thought to be, "good practice" to follow the existing guidance offered by the Health and Safety Executive (HSE).

HSE guidance

The guidance offered by the HSE is contained within 2 publications which were published in 2012 and 2015 respectively;

1. **"Control of Diesel engine exhaust emission in the Workplace" (2012).**
   This guidance describes the main source of workplace exposure as being from heavy vehicles such as buses, trains lorries, tractors and fork lift trucks. It states that bus drivers, lorry drivers as well as police officers and traffic wardens are all "occupationally exposed to DEEE's"

   The publication also provides practical advice on how to control exposure in specific work situations such as garages, railway tunnels, toll booths/car parks and fire stations.

2. **"Diesel Engine Exhaust Emissions (2015)".**
   This guidance sets out;

   a. What are diesel engine exhaust emissions?
   b. What factors affect composition and references the likely harmful effects of blue and black smoke in the workplace.
   c. The effect on health.

   Here the concluding advice on the long term health impacts of DEE fumes is that; "There is some evidence that repeated exposure to diesel fumes over a period of around 20 years may increase the risk of lung cancer".

In terms of its guidance to employers, this guidance sets out the duty to "Prevent or adequately control". It suggests that where an employee is concerned about the level of diesel engine exhaust fumes, the "presence of soot" on the walls of the workplace may provide a useful indicator that Diesel fumes are not being adequately controlled.

Legislation affecting employers

The most important piece of current legislation applicable to diesel engine exhaust fumes are the **COSHH Regulations (2002)**.

COSHH (as amended) provides guidance as to what is considered to be a **"hazardous substance"** and this is defined as follows:

- Substances or mixtures of substances classified as dangerous to health under the **Chemicals (Hazard Information in Packaging for Supply) Regulations 2002**.
- Substances with workplace exposure limits listed in **the HSE publication EH40/2005** – Workplace exposure limits.
- Biological agents for example bacteria and micro organisms.
- Any other substance which "creates a risk to health" but which for technical reasons may not be specifically covered elsewhere.

The broad duty under the Regulations

The Regulations require employers to **control** exposure to "hazardous substances" to prevent ill health. Employers have to both protect employees and others who may be exposed by complying with the Regulations.

Will Diesel engine exhaust fume constitute a "substance(s) hazardous to health?"

In short form, "yes" – Diesel Engine Exhaust fume will fall within the definition and require the employer to take action to "protect its employees".

The **COSHH Regulations** do not however confer a specific workplace exposure level for engine exhaust fume save the **Regulations** sets a general nuisance dust and fume Limit of 5 mg/m^3 over an eight hour working day.

What measures must an employer take to comply with the COSHH Regulations?

In basic form, the employer must:

a. Undertake a suitable risk assessment (Regulation 6) – assess the substances used in or around the workplace and
   consider the risks that these substances present to the health of employees;
b. Ensure that levels of fume are below the workplace exposure limits, (Regulation 7);
c. Establish there is suitable and effective ventilation and extraction to prevent or adequately control exposure. If it is impossible to avoid exposure in the first place then that exposure should be adequately controlled at source – i.e., through local exhaust ventilation, with the employer looking to reduce the number of employees exposed and minimise exposure duration and to consider the provision of personal protective equipment, (Regulation 8);
d. Maintaining ventilation and extraction equipment;
e. Exposure of employees to hazardous substances should be monitored and records retained for a minimum period of five years;
f. There is a duty for the employer to carry out health surveillance, (Regulation 11);
g. Employers should ensure that their employees so exposed should be informed, trained and supervised and that they should be provided with the names of substances they work with, with access to data sheets and the findings of risk assessments, (Regulation 12).

There is little Judicial guidance on the applicability and workings of the **COSHH Regulations** though **Dugmore v Swansea NHS Trust and 1 other (2003)** held that foreseeability of injury was not a relevant consideration under the **COSHH Regulations** – here an employer was held liable for a latex allergy developed by a claimant before the considered and relevant "date of knowledge of risk of injury". Whether in the light of the "standards of the day", accepted by the Supreme Court in **Baker v Quantum Clothing Group (2011)**, this decision would be decided in the same way is open to debate.

Regulation 7 (1) (in more detail)

This requires every employer to;

"Ensure that the exposure of his employees to substances hazardous to health is either prevented or where this is not reasonably practicable, adequately controlled".

It is felt that mere compliance with the Workplace Exposure Limits is unlikely to be sufficient on its own absent any evidence that the employer had taken all reasonable steps to reduce exposure in the light of subsection (7) of this Regulation which states;

"Control of exposure (shall) only be treated as being adequate if the level of exposure is reduced so far as is reasonably practicable and in any case below the maximum exposure limit".

Employer groups most at risk

The groups of employees and occupations most at risk is wide and covers a vast range of industries. Whilst the list is by no means exhaustive, this will include:

- Drivers – both private and public sector
- Road maintenance and repair workers and refuse collectors
- Bus companies – drivers, depot workers and cleaners
- Logistic companies – HGV and light goods vehicle drivers, loaders and warehouse workers
- Mechanics
- Railway industry workers – particularly those engaged underground
- Construction industry through the use of diesel power generators and heavy construction plant
- Miners – the use of diesel powered machinery in enclosed spaces
- Farm/agricultural industry – the use of tractors and farm machinery is frequently diesel powered.

Practical steps employers can adopt?

Practical steps for employers to adopt, based upon guidance offered by the HSE includes:

- Whether an engine being run at full or idling speed can be avoided
- Can engine efficiency be improved
- Can operating times/distances be reduced
- Consideration of piping away or extracting exhaust fumes
- The use of alternative power sources.

Section 4

Trade Union activity

Trade Unions have been vocal in warning of the risks posed by DEE fumes with Dan Shears of the GMB likening Diesel fumes to "the new asbestos" (Guardian – September 2017);

Additionally , ***"Unite takes action against Diesel fumes time bomb*** **(posted 28 April 2017 – Unite website)".**

Describing this as a ***"major new initiative",*** Unite launched a Diesel Emissions Register so that members can record when they have been exposed to excessive diesel fumes.

Unite say that the information captured on this register will "*force employers to clean up their workplaces*" and could *be "the basis of future legal claims".*

The Unite website describes a number of "most at risk" occupations as: *"Truck drivers, toll booth workers and garage workers as well as those operating heavy machinery or working on the docks or railways".*

The US experience of Diesel engine exhausts

A date of knowledge of the risks of diesel engine exhaust fumes is alleged by certain plaintiff attorneys as far back as 1955. This was the date of a presentation given by a Lawyer, Robert Staub to a meeting of railroad claims executives, which touched upon "the potential dangers from exposure to diesel locomotive exhaust" and which apparently warned that prolonged exposure to diesel fumes "could initiate harmful results".

The United States legal system utilises in the main a jury system which can lead to inconsistency in applying various proofs of causation tests. The earliest successful claim appears to have been in 1999, when the spouse of a former railroad worker successfully sued the deceased's employer for developing nasopharyngeal cancer after 18 years of exposure to exhaust fume (**Baker v Norfolk Southern**).

In 2002 an Ohio Jury awarded $625,000 to a railroad worker who alleged he had contracted asthma from inhaling exhaust fume as an Engineer. The Jury accepted the Plaintiff's expert evidence that;

a. Diesel fumes are toxic and can cause asthma
b. The Plaintiff had substantial exposure to Diesel fumes in his job and
c. The asthma was not related to a previous smoking habit.

Section 5

Environmental pollution – What are the limits?

These are governed by the **Air Quality Standards Regulations (2010)** which govern nitrogen dioxide in the ambient air and are said to reflect **World Health Organisation Guidelines**. They derive from **EL Directive 2008/50 EC** which require the national government to install sampling points to assess levels of sulphur dioxide, nitrogen dioxide,

carbon monoxide and particulate matter whilst different levels apply to the different substances The Directive sets the following;

Limits	
Substance	**Limit Value**
Sulphur Dioxide	One day: 125 ug/m^3, not to be exceeded more than 3 times a calendar year.
Nitrogen dioxide	40 ug/m^3
PM 2.5	25 ug/m^3

The Government faced litigation in both 2016 and 2017 from an environmental pressure group – **"ClientEarth".** In the first Judgment, (2 November 2016) the Supreme Court held that the Government had "failed to deliver reductions in nitrogen dioxide emissions from Diesel vehicles for the last 20 years and had failed consistently to meet EU standards on air quality".

The Supreme Court ruled that the Government had a duty to reduce emissions "as quickly as possible" and that the "work to" date of 2020 for cities outside London and 2025 for London, to comply with EU standards would not be met as the Government modelling of emission levels was "too optimistic". Dr Holman, the Chair of the Institute of Air Quality Management gave evidence in that case, to the effect; *"There was good, strong evidence but exposure to nitrogen dioxide both short and long term causes adverse health impacts particularly on children".*

The Supreme Court required the national government to publish a revised plan – which it did on 5 May 2017 entitled "Clean Air Zone Framework". This requires individual Local Authorities to implement strategies in 43 geographical zones and for five cities to establish "clean air zones". "Clean Air Zone plans" covered a large range of local authorities from Bournemouth in the south to Glasgow in the north.

The document was disseminated for Consultation. The majority of the respondents to this Consultation were in favour of the basic aims set out in the plan.

The Government's "air quality plan for nitrogen dioxide".

The UK plan for tackling roadside nitrogen dioxide concentrations was published in July 2017.

The Report references the Government's commitment to invest £2.7 billion in cleaner transport and to improve air quality.

The Report also refers to improvements in air quality which have been seen over the decades and specifically references; *"A reduction in sulphur dioxide emissions since 1970 of 95 % together with corresponding reductions in particulate matter (73 %) and nitrogen oxides (69 %) over the same period".*

There is however an acceptance of the health risks associated with Diesel engine exhaust fumes and the document refers to statements issued by Public Health England that "poor air quality is the largest environmental risk to public health in the UK". Furthermore, that Defra, Public Health England and the Local Government Association accept that; *"Short term exposure to high levels of air pollution can cause a range of adverse health effects to include an exacerbation of asthma and effects on lung function".*

The Report requires local authorities to "take a leading role" but accepts that its responsibility to set a clear national framework and provide direct financial support with money towards implementation, to include a "clean air fund", in addition to monetary assistance for the "retro fitting" of buses.

Main aspects of clean air zones

- Zero emissions by 2040 for new cars and zero emissions for all vehicles by 2050.
- To ensure bus and taxi emissions are improved.
- To launch campaigns to reduce pollution to encourage cycling and walking.
- The procurement of new vehicles to meet emission standards and encouraging business to purchase "ultra low emission vehicles".
- The possible introduction of a "charging", clean air zone. The Government guidance specifically states that it does not require this to apply to private vehicles, but if the local authority chooses to do so, it must do so on a "consistent basis".

Section 6

The impact on Local Authorities

Local Authorities are uniquely placed both as an employer and (if falling within one of the 43 designated clean air zones), will now be responsible for devising and implementing strategy for improving air quality.

This duty is brought into sharper focus with the knowledge that over 2,000 schools and nurseries are currently situated within 150 metres of a road where current nitrogen dioxide levels exceed the EU standard of 40 ug/m^3.

There is also a requirement for five cities to deliver clean air zones by 2019 and comply with nitrogen dioxide levels by 2020.

The five cities named are London, Birmingham, Derby, Leeds, Nottingham and Southampton with permissible limits of nitrogen dioxide levels set at 40ug/m^3.

London itself has a separate plan with a "work to" date of 2025. An "emissions surcharge" will start from the 23 October 2017 primarily to discourage older more polluting vehicles. There are also plans around retro fitting buses and to provide pollution alerts at bus stops and tube stations.

There will be wider campaigns around "go ultra low" – to promote the uptake of ultra low emission vehicles and also "air alert and air text" to inform vulnerable people about air pollution.

Summary of proposals

- Local authorities to provide a plan by the end of December 2018 to tackle air quality which will require government approval.
- A requirement for local authorities to consider alternatives to charging individual drivers.

The prospect of future litigation?

In the main, the litigation seen to date has centred around ClientEarth's successful attempts to increase the pace of change and force the Government to take more immediate action to resolve some of the issues around air pollution – particularly in meeting the EU standards for all gaseous emissions.

Consumers have also launched a class action against one vehicle manufacturer – VW, in respect of product liability issues centred around diesel vehicles. Similar actions against other manufacturers are in more embryonic stages.

The Guardian (4 May 2017) has reported that a class action was being brought against the Government with Claimants seeking to establish that the Government had breached **EU Standard (EU 58/2010 EC)** and that Claimants had suffered injury consequent to that breach. The class action is being led by the Barrister, Frances Lawson.

In the employer's liability field we are aware of a small number of cases to include;

- Asthma arising out of warehouse exposure
- Agricultural worker exposed to diesel fume emanating from an engine situated beneath the car
- Toll booth operator alleging birth defects consequent to diesel fume exposure.

The question is whether we will see an increase in litigation generally? Certainly as awareness of the adverse health impacts become more widely known and appreciated, we would expect claims to appear in increasing numbers. Though, to have "reasonable" prospects of success, it is likely, in an employers liability context that Claimants will have to fall into the; "at risk" occupational groups and present with a "clean" medical history so far as smoking and constitutional respiratory symptoms are concerned.

Section 7

Conclusions

The impact of DEE emissions is likely to be felt for several decades both in terms of its impact on health but also in financial terms amongst employers, local authorities and manufacturers.

Reports on the adverse health impacts of air pollutions appear on almost a daily basis across the media and are becoming embedded in the public consciousness.

On one view this appears difficult to reconcile – given the improvements we have seen both in industrial pollution and falling sulphurous emissions largely due to both a decline in the manufacturing industry and improvements to extraction and treatment processes.

However, the weight of evidence suggests, that the decline in industrial pollution has been replaced or offset by rising levels of nitrogen dioxide and particulate matter which will often impact upon the poorest in society living in the denser conurbations.

Tackling these problems seriously, will come at a cost for the tax payer, the Government and local authorities. In the short to medium term, public transport as a ready alternative to Diesel car use will be placed under increasing strain.

Employers are best advised to follow the HSE Guidance and to consider, firstly, where practicable, what alternatives there are to Diesel powered engines both in industrial applications and in vehicles. Secondly, to monitor levels of particulate matter/nitrogen dioxide and where exposure cannot be controlled by other means, to provide respiratory protection for employees.

Attributing respiratory or other conditions specifically to occupational exposure will remain difficult given the confounding factors of environmental pollution and present/past smoking habits.

For those reasons alone, DEE is unlikely to present as some observers have commented, as "the new asbestos". We feel however that further claims in this space are likely given the growing awareness amongst the public and Trade Unions about the adverse health impacts of Diesel Engine Exhaust Emissions.

Weightmans Diesel Fumes Sector Focus Group

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