

Diesel Exhaust Emissions at Work

Guidance for Unite members



Unite Safety Reps' Rights

Unite safety reps are a key part of providing better health and safety for Unite members at work. Safety reps have specific rights enshrined in law, which enable them to:

- Inspect the workplace regularly.
- Investigate employee complaints concerning health and safety issues at work.
- Investigate accidents, dangerous occurrences and potential hazards.
- Represent workers on health, safety, and welfare matters to their employer.
- Inspect health and safety documents.
- Receive information from HSE Inspectors.
- Establish a joint union-management Safety Committee.
- Receive time off to fulfil these rights and receive training.

Employers are required to consult safety reps, especially about:

- Measures introduced at a workplace that may substantially affect health and safety.
- Arrangements for appointing health & safety competent persons and emergencies.
- Health & safety information required to be provided to employees.
- Health & safety training arrangements for the workforce, such as induction training.
- New technology introduced and planned, regarding consequences to health & safety.

Employers must provide safety reps with the resources to carry out their role. This should include:

- Room with desk and chairs at work, for carrying out interviews and meetings.
- Secure facilities for storing documents.
- Access to a telephone and other communication media used or permitted in the workplace such as e-mail, intranet and internet.
- Access to printer and photocopier.
- Notice board.

Other facilities should include copies of relevant statutes, regulations, Approved Codes of Practice and HSE guidance, copies of safety journals, and legal and international standards that are relevant to the workplace.

Unite Diesel Exhaust Emissions Guidance

Introduction

Exposure to diesel exhaust emissions (DEEs), commonly known as diesel fumes, is an increasing workplace health and safety issue and a public health issue which potentially affects us all. Large populations - men, women and children - breathe in diesel exhaust in the course of their everyday life and in their communities. Motor vehicle exhausts, diesel exhaust from trains and ships and from power generators are other sources of exposure.

Though increasing environmental concerns have resulted in regulatory action, including tighter emissions standards, in parts of the world including the USA and Europe, considerable hazards to health still remain and this is likely to continue.

In June 2012 the International Agency for Research into Cancer classified DEEs as a Group 1 Carcinogen – carcinogenic to humans. As a result the Unite policy conference held later that month passed an emergency motion calling on Unite to campaign to highlight the dangers of exposure to diesel fumes for workers in the transport sector and the wider public.

This Unite briefing focuses on raising awareness in the workplace, with a view to preventing the ill-health effects of exposure to diesel fumes.

Workplace exposures to diesel fumes

Many thousands of people die every year in this country and across the world from cancers and respiratory diseases caused by negligent exposures to hazardous substances. This is because their employers have failed to take appropriate steps to protect their workers under health and safety legislation.

Bus, car and lorry maintenance engineers, professional bus drivers and lorry drivers, fork lift truck drivers and other warehouse workers, tractor drivers, miners and construction workers are just some examples of occupations that are exposed to diesel exhaust in the course of their work.

What are diesel fumes?

Diesel engine exhaust emissions are a complex mixture of gases, vapours, liquid aerosols and substances made up of particles, including known carcinogenic substances. They contain the products of combustion including:

- Carbon (soot)
- Nitrogen
- Water
- Carbon monoxide
- Aldehydes
- Oxides of nitrogen
- Oxides of sulphur
- Polycyclic aromatic hydrocarbons

The composition of diesel fumes may vary according to:

- the quality of diesel fuel used
- the type of engine
- the state of engine tuning
- the fuel pump setting
- the workload demand on the engine
- the engine temperature
- whether the engine has been regularly maintained.



Diesel fumes and your health

Diesel fumes can potentially cause eye or chest problems and cancer.

HSE's Burden of Cancer Research Report published in 2012 gives estimates for lung cancer caused by diesel engine exhaust exposure (total men and women). These are 694 cancer registrations in 2004 and 605 deaths from lung cancer in 2005.

Exposure to diesel exhaust has been recognised as a probable cause of cancer in humans since 1988, when it was graded by the World Health Organisation (WHO) as a Group 2A carcinogen – in 1012 upgraded to a Group 1 carcinogen: definitely carcinogenic to humans.

IARC also found that there is more limited evidence that exposure to diesel exhaust may cause bladder cancer.

What symptoms should I look out for?

Exposure to diesel fumes can cause irritation to your eyes or respiratory tract. If you move away from the source of exposure these effects should generally disappear.

Prolonged exposure to diesel fumes, in particular to blue or black smoke, could lead to coughing, breathlessness and chestiness.

Members who have symptoms should consult their GP for advice if they have concerns.

What should my employer be doing?

Diesel fumes contain substances hazardous to health. This means that under the Control of Substances Hazardous to Health Regulations 2002 (as amended) – COSHH - your employer must take action as follows:

1. Make a suitable and sufficient assessment of the risks to your health if you are exposed to diesel fumes
2. Take steps to (preferably) prevent or, if this is not reasonably practicable, adequately control your exposure at work.
3. Where exposure cannot be prevented your employer must consider control measures – a combination of which may include:
 - workplace extraction fans
 - tailpipe exhaust extraction systems
 - the use of filters attached to tailpipes
 - catalytic converters

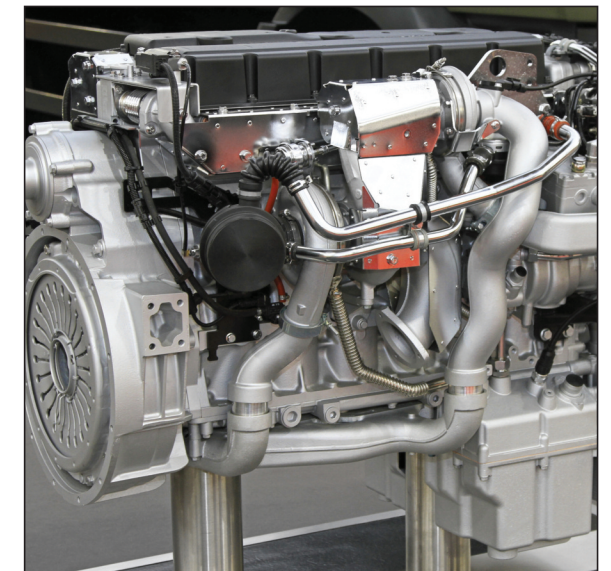
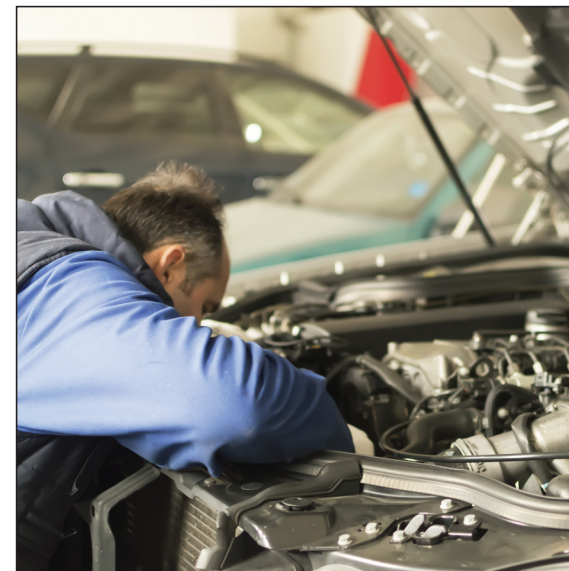
In addition, general measures in workplaces may include:

- turning off engines when not required
- keeping doors and windows open where practicable
- installing air vents in the walls and ceiling
- job rotation
- providing suitable personal protective equipment (PPE) for example, suitable gloves should be worn when handling hot and cold diesel fuel, and respiratory protective equipment (RPE) may need to be used – but see below.



Note: The use of personal protective equipment (PPE) and respiratory protective equipment (RPE) should always be the last resort

Your employer should only provide respiratory protection equipment as a last resort when other means of control are not suitable. Your employer should involve Unite safety representatives and the workers concerned in discussions on this issue.



Employers must also:

- Ensure any engineering controls used are properly maintained and checked regularly
- Where necessary, monitor employees' exposure to diesel fumes
- Provide information for employees about the risks of exposure to diesel fumes
- Provide information and training on the safe use of the control measures and any PPE being used.

Monitoring exposure to diesel exhaust fumes

There is no suitable marker of exposure to diesel fume that can be used in all occupations where exposure can occur.

No workplace exposure limit (WEL) has been set for DEEs and the IARC classification has not altered the COSHH classification.

Monitoring of carbon dioxide (CO₂) together with other factors such as the presence of soot can be used to assess the risks of diesel fume exposure in a workplace. Levels of CO₂ above a concentration of 1000 parts per million (ppm) 8 – hour Time Weighted Average (TWA) in the workplace may indicate faulty, poorly maintained or inadequately designed control systems in particular local exhaust ventilation or roof extraction systems.

Competent advice on monitoring

If your employer needs advice on monitoring and on the substances to monitor they can contact members of a professional body such as the British Occupational Hygiene Society (BOHS). BOHS is the professional body representing the scientific discipline and profession of occupational hygiene in the United Kingdom.

What to look out for at work

1. The presence of soot on the walls or on other surfaces in your workplace indicates that diesel fumes are not being adequately controlled.
2. The colour of the smoke. Smoke is the product of combustion. Vehicles at your workplace may produce three types of smoke. Two of these will indicate engine problems.

Blue smoke indicates a poorly serviced and/or tuned engine

Black smoke indicates a mechanical fault with the engine

White smoke is produced when the engine is started from cold – it disappears when the engine warms up.

Tell your employer if workplace vehicles are producing blue or black smoke so that prompt action can be taken to correct any problem

Action checklists for Unite members/safety representatives

1. Diesel fumes

Ask your employer for information on the hazards associated with diesel fumes

Avoid exposure where possible

Ensure you are consulted on risk assessments and proposed measures to prevent/control exposure and training

Ensure your training covers how to use the control measures and how to detect any faults

Make full use of any control measures provided

Report any faults in the control measures (eg poor extraction fans, defective PPE) immediately to your employer – and encourage your members to do so too.

Keep doors and windows open to remove any diesel fumes where possible

Turn off engines when not required.

If you need to wear personal protective equipment of any kind, including respiratory protective equipment make sure your training covers how to wear it correctly.

2. Diesel fuel

If you may be exposed to diesel fuel at work you will need to protect your skin.

Ask for disposable gloves if your work involves potential exposure to diesel fuel. These should be of suitable material such as nitrile, as skin contact with cold diesel fuel may cause dermatitis.

3. Personal hygiene

Do not eat or smoke in areas where there is likely to be exposure.

Wash your hands and face before drinking, eating or leaving work.

Change your clothes if possible before leaving work

Avoid skin contact with cold diesel fuel and hot fuel or oil.

Further information

Health and Safety Executive (HSE) guidance

The HSE has produced two guidance leaflets. They are free to download from the HSE website:

1. **Diesel Engine Exhaust Emissions – INDG286** – basic leaflet
<http://www.hse.gov.uk/pubns/indg286.pdf>
2. **Control of diesel engine exhaust emissions in the workplace - HSG187**
<http://www.hse.gov.uk/pubns/ priced/hsg187.pdf>

This more detailed booklet provides information on what employers should be doing to comply with health and safety law and practical steps which can be taken and advice for workers.

HSG 187 provides specific advice covering some types of workplaces where the risk of exposure is highest including:

Garages and testing stations

Bus garages

Warehouses

Railways, railway repairs and rail tunnels

Ro-ro ferries

Toll booths and car parks

Fire stations

Unite Safety Reps should obtain a copy of these booklets and use them to negotiate health and safety improvements at work.

Office of Rail Regulation Guidance (ORR)

Diesel engine exhaust emissions (DEEE) in the railway sector

http://orr.gov.uk/_data/assets/pdf_file/0019/15157/diesel-engine-exhaust-emissions-guidance.pdf

British Occupational Hygiene Society

<http://www.bohs.org/#>

Unite health and safety information

Unite health and safety guide and other resource – see Unite’s website

<http://www.unitetheunion.org/unite-at-work/healthsafety/>

