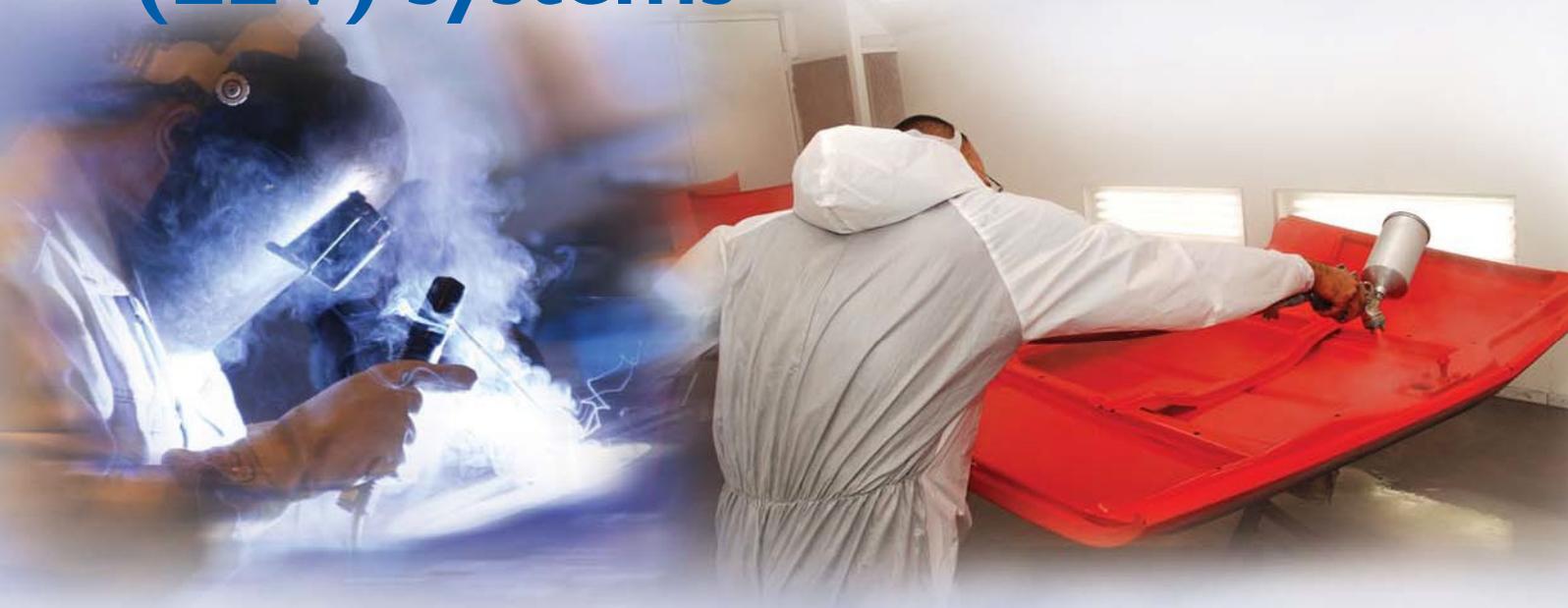




Managing the Risks of Air Quality in the Workplace

Local Exhaust Ventilation (LEV) systems



Local Exhaust Ventilation (LEV) systems

Introduction

Awareness of air quality is an everyday issue and it is particularly important in the workplace, as it generally occurs in an enclosed space with employees working on a daily basis. Every year, thousands of people in Great Britain die of lung disease or get asthma because of airborne contaminants they have breathed in at work. If your work produces dust (flour, wood, coal), mist (spraying), fumes (welding, vehicle exhaust), gas (carbon monoxide for example) or vapour (solvents from painting), there is likely to be a risk to the health of your employees. Furthermore, unlike an 'accident', the risk associated with and consequences of poor air quality is not always immediate, but will build up over a period of time, particularly for long term workers. As such, the control should be 'the best that can be achieved' in order to reduce long term exposure. Not only does it severely affect the individual, but the costs to business (including the burden to the NHS) can be significant with reduction in workforce through long term sickness and health insurance claims. Insurance premiums are likely to increase or, in extreme cases, may not be available, requiring the business to cease operations.

Risk Management

Consequently, it is imperative that employers manage the risk of poor air quality to ensure the risk is 'as low as is reasonably practicable' in accordance with the legislation¹. This will normally require a risk assessment of the process carried out, the hazards of the substances included in or produced by the work process, and implementing control measures to reduce the risk. This is particularly important where the substance is an airborne contaminant such as a dust, mist or vapour. Risk management should include minimizing the number exposed to the risk, ensuring employees are aware of the risks and properly trained to manage these, and implementing control measures, such as, effective general ventilation and local exhaust ventilation (LEV), etc.

Employer/Duty Holder Responsibilities

The employer/duty holder/owner of a work process has the primary responsibility for the safety of employees and others in the workplace¹. Local Exhaust Ventilation (LEV) is one engineering control measure, which enables the hazardous substance to be controlled at source. The Regulations² require that ventilation systems, both general and local, should be properly designed, installed, maintained and periodically examined to ensure they continue to control the hazardous substance. Employers should ensure they have, or contract in, competent services to carry out their tasks. The employer's risk management should include all relevant information concerning the hazardous substance and how it is controlled. This would include:

- Risk Assessment³
- COSHH Assessment⁴, separate from the risk assessment and pertaining to the hazardous substance
- Material Safety Data Sheets of the substances in the workplace. This provides information on the substances and regarding the state (solid, powder, liquid, mist etc.) of the substance
- A Commissioning Report where LEV is installed. This should be provided by the installer of the LEV, stating how it controls the substance
- Air monitoring/sampling reports. These can be used to confirm the effectiveness of the LEV system and that the workplace exposure limits are not exceeded.
- LEV User manual/manufacturer's instructions, to enable the operators to use the system effectively
- Routine maintenance and records of checks and maintenance carried out.
- Arranging the statutory periodic thorough examinations⁵ and keeping such reports

Such information should be made available to those working on the LEV system as required.

¹ Health and Safety at Work Act 1974 (HSWA) s2(2)(e) and, more specifically, the Control of Substances Hazardous to Health Regulations r7(1) and (3).

² Control of Substances Hazardous to Health Regulations r7, 8, 9 and Provision and Use of Work Equipment Regulations Reg 5, 6 etc

³ Management of Health and Safety at Work regulations R3 and HSE Guide INDG 163

⁴ Control of Substances Hazardous to Health Regulations R6

Furthermore, as LEV systems will degrade with use, they must be regularly inspected, cleaned and maintained, particularly any filters, which may need cleaning or replacing, and to ensure any routine defects are rectified. This is normally provided by in-house maintenance staff, but could be carried out by a contracted service. If the latter, there should be a responsible person carrying out the daily checks of operation and who can call in the maintenance contractor if required.

Consultants and Installers Responsibilities

Where the organisation does not have the in-house competence, an occupational health consultant is often employed to assist in the risk assessment and management process. Where LEV is considered necessary as a control measure, the consultant will work with the installer to ensure the system provided is properly designed to control the hazardous substance. It remains the employer's responsibility to ensure the LEV system does control the risk and this would normally be confirmed by requesting a formal commissioning report outlining how the system controls the risk.

LEV – Thorough Examination and Test (TExT) by a competent person

The thorough examination and test (TExT) should be arranged by the employer in accordance with the Regulations⁵. It is usual for this to be carried out by an independent inspection company, competent to do so. Competence requirements are addressed in HSE Approved Code of Practice (ACOP) and Guidance⁶. There are several routes to competence, and one method, acknowledged by the HSE⁷, is through accreditation by UKAS to ISO/IEC 17020 (international standard for inspection bodies) to the scope of LEV inspections. The competent person is responsible for carrying out the thorough examination and test of the system, which should include a report in accordance with the ACOP⁸ and, more importantly to advise the employer/owner, of any defects in the system and whether the system is properly controlling the hazardous substance. Where the report states that the system is not properly controlling the hazardous substance, the employer/owner should take immediate steps to address the concerns raised, least of all a review of the risk assessment, and whether the work process should be suspended until such time as the system is restored to provide control. Failure to address this may put the employer/owner in breach of legislation.

Conclusion

In conclusion, it is recommended that employers review their workplace environment to ensure the air quality provides a safe working environment for their employees. In particular they should note the guidance provided above and discharge their responsibilities to comply with the law and reduce the risk to the health of their employees.

SAFed (Safety Assessment Federation) <http://www.safed.co.uk/>

ILEVE (Institute of Local Exhaust Ventilation Engineers) <https://www.cibse.org/Institute-of-Local-Exhaust-Ventilation-Engineers-I>

UKAS (United Kingdom Accreditation Service) <https://www.ukas.com/>

⁵ Control of Substances Hazardous to Health Regulations r9(1)(a), 9(2) and 9(3)

⁶ COSHH Reg 9 ACOP para 175, HSE Guidance HSG 258 at Appendix 1 para 12 et seq,

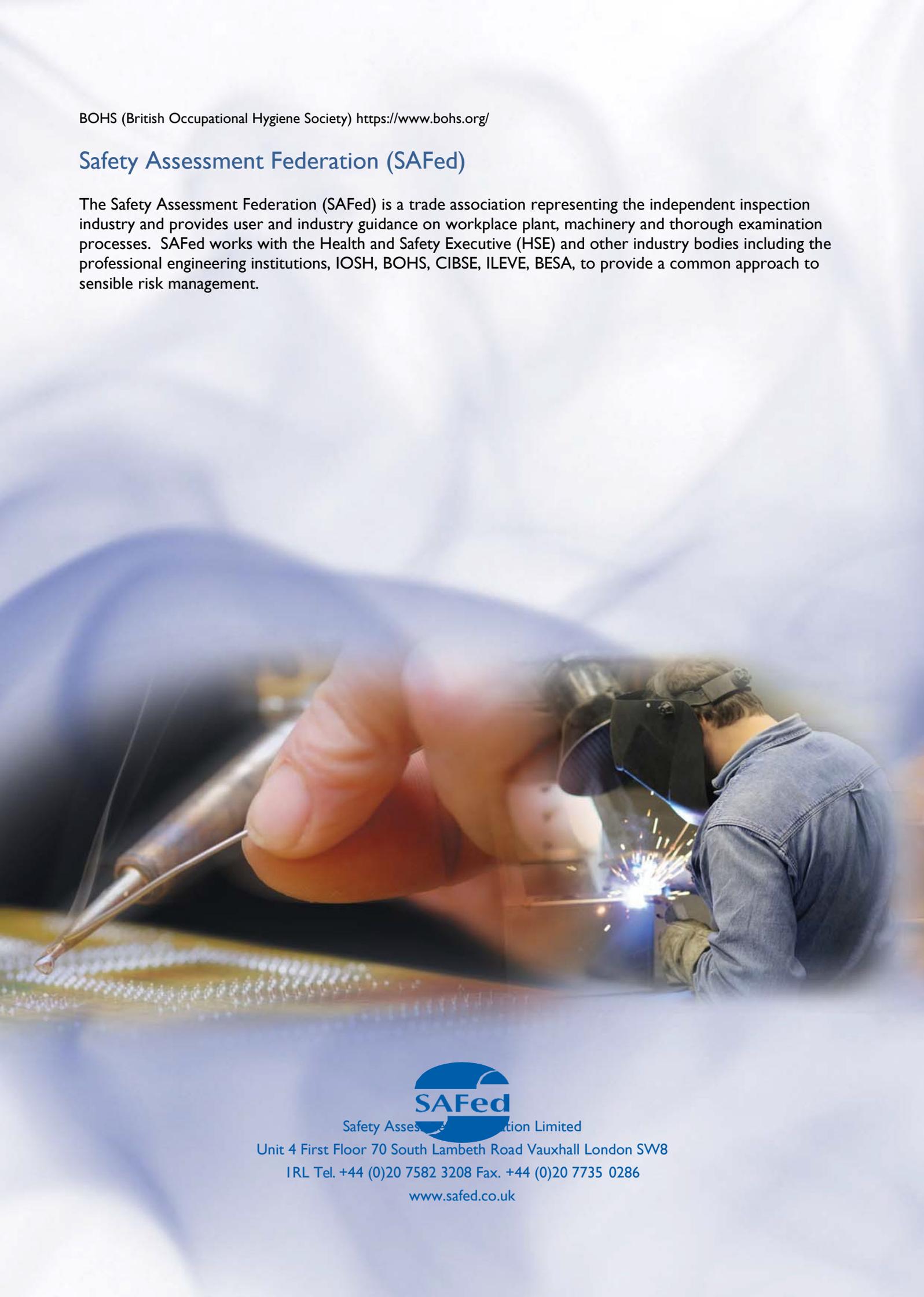
⁷ HSG 258 Appendix 1 para 17

⁸ COSHH Reg 9 ACOP para 186

BOHS (British Occupational Hygiene Society) <https://www.bohs.org/>

Safety Assessment Federation (SAFed)

The Safety Assessment Federation (SAFed) is a trade association representing the independent inspection industry and provides user and industry guidance on workplace plant, machinery and thorough examination processes. SAFed works with the Health and Safety Executive (HSE) and other industry bodies including the professional engineering institutions, IOSH, BOHS, CIBSE, ILEVE, BESA, to provide a common approach to sensible risk management.



Safety Assessment Federation Limited

Unit 4 First Floor 70 South Lambeth Road Vauxhall London SW8

IRL Tel. +44 (0)20 7582 3208 Fax. +44 (0)20 7735 0286

www.safed.co.uk