

# Busting the dust

Is your dust and fume control equipment correctly specified, operated and maintained? Steed Webzell finds out

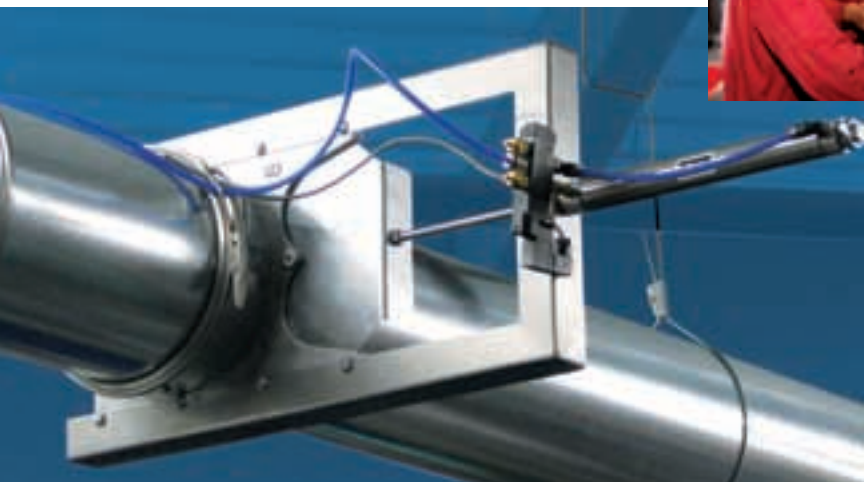
Whether it's fumes from the manufacture or application of paints, solvents, chemicals and rubber, or dust from processes such as sanding, grinding or machining, plant engineers need to be concerned with correctly applied dust and fume control equipment.

This is particularly pertinent in light of the Health and Safety Executive's recently introduced guidance HSG 258: 'Controlling airborne contaminants at work' (see panel). Having key input to this important document was SAFed, the Safety Assessment Federation, and its chief executive Richard Hulmes is very clear on the organisation's support for HSE.

"There is a concern regarding the correct application and maintenance of local exhaust ventilation [LEV] at UK plants," he says. "At a recent meeting with the HSE, we presented some statistics on LEV examinations carried out by selected SAFed members. As ever, there are some caveats, but they support the premise of inadequate systems and possible causes of occupational health concerns."

SAFed's failure and defect data covered the examination of more than 16,000 LEV systems, mostly in heavy and light manufacturing, over 12 months. Astonishingly, only 45% were free

**The new AutoAire gate from K&B Duct can save energy and equipment costs for any plant**



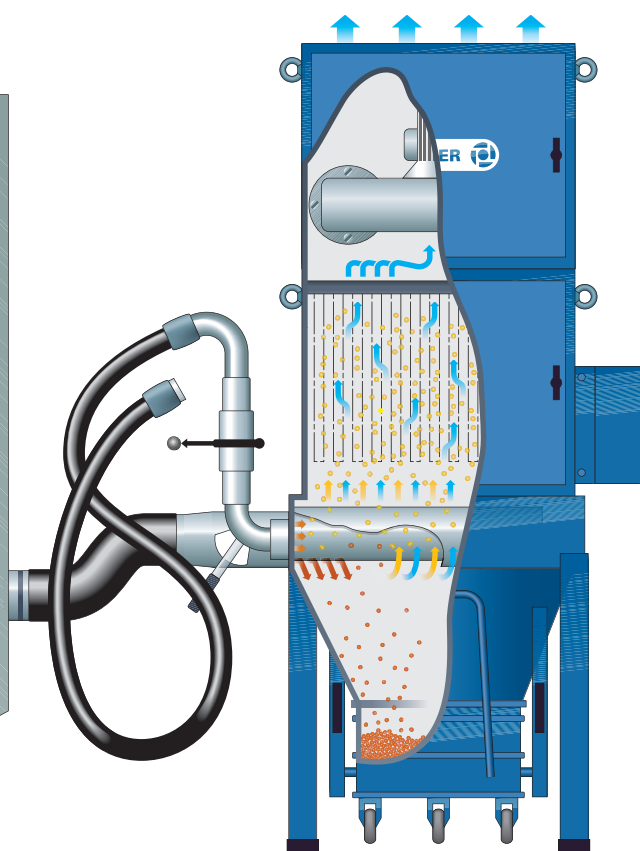
from defects or concerns. Of the remainder, 13.5% were in need of maintenance, 30% displayed 'timed' defects that required rectification before the next examination and, most alarmingly, 7.6% (1,220 systems) exhibited 'immediate' defects, where the contaminant was not being effectively controlled.

"I believe the statistics – which suggest that around 50% could do better – outline the potential of the problem," says Hulmes. And there is little doubt that these worrying figures offer a strong communiqué in support of HSE's new programme. In particular: effective LEV systems are essential to protect workers from occupational ill health; and periodic examinations (and rectification) are key to ensuring that these systems will continue to provide protection.

According to Hulmes, the biggest barrier to a safety culture is that failed or failing LEV does not have an immediate impact on worker health. There could be a 20-year lapse before asthma or lung problems develop. Thus, while the implication for ill health, resulting from poorly performing LEV, is clear, it seems that the consequence for an irresponsible LEV owner is somewhat blurred.

"The legal provision is that SAFed members inspect LEV and provide a report," says Hulmes. "If the report identifies defects, we expect them to be corrected. If, on a subsequent visit, the defect is





found to be unresolved, our member could walk away from the contract. All we can do is provide advice. Informing the HSE is not normally an option, as many clients have contractual confidentiality clauses. However, in our experience, most responsible clients want to rectify the situation, particularly as the chances of the HSE visiting at random are now quite high."

## Under the cosh

From a regulatory standpoint, the Control of Substances Hazardous to Health (COSHH) regulations require companies to ensure that LEV systems are maintained in efficient working order – although there is room for interpretation. As Peter Longstaff, national sales manager at Wheelabrator Plus UK, says: "Employers operating LEV are required by law to ensure that they are thoroughly examined and tested at least every 14 months. But, as LEV is not defined in COSHH, confusion may arise over what items of machinery are covered."

Longstaff, however, makes the point that the breakdown of any material into a dust has the potential to be harmful. "In practice, if a system controls, captures or contains emissions close to source by means of an air stream, and conveys the pollutant to a point where it can be safely collected or discharged, then it should be regarded as LEV."


At a time when the downturn makes cutting costs and improving efficiency vital, Wheelabrator is

offering machinery and maintenance services to ensure that all LEV complies with legislation such as COSHH. "Maintenance is more than just keeping a machine running," explains Longstaff. "Maintaining the correct performance helps to reduce waste and cut costs, while saving time and energy."

New technology can also help and there are many LEV innovations to tempt engineers. Fumex APS (from Flextraction), for example, is a rail system that can be supplied with automatic trolley return controls when used alongside automotive production lines to extract welding fumes.

Elsewhere, Ringler extraction equipment (supplied by M Buttkeleit) is aimed at continuous removal of dust and chip contaminants from production machining and process line operations, including both mobile and static equipment. With 99.997% filtration efficiency, Ringler reports very low carry-over of contaminants in exhaust air.

Meanwhile, from a system perspective, the new AutoAire gate, from K&B Duct, saves energy and equipment costs for any plant with a central collection system for dust, fumes or mists serving intermittently operated machines. It opens required duct branches only when a machine is activated – also closing unused branches. In fact, it utilises the pick-up power of a collection system by applying as much vacuum as possible, but only where needed, allowing a smaller fan – so a smaller energy bill – to handle a system with many branches.

Finally, what most large plants require is a full service, which is why Certex UK is now supplying a complete solutions package for ventilation systems. Operating from the company's Great Yarmouth office, its new division is offering a range of services, from product supply, installation, repair and maintenance, to inspection, testing and certification. It will also address clients' legal responsibilities by ensuring that equipment conforms to legislation, including COSHH. Certex says it has already received orders from several companies, including for a project with Thames Water to extract methane gas from plant in waste water sites. 

## Pointers

- Around 50% of LEV (local exhaust ventilation) plant is not performing properly, according to SAFed, and needs attention – some as a matter of urgency
- Failing LEV does not always immediately impact worker health, resulting in blurred responsibility
- LEV is not defined in COSHH, resulting in some debate over what is included
- HSG 258 provides HSE's guidance on the supply of new LEV plant

## HSG 258: Controlling airborne contaminants at work

Introduced in June 2008, HSG 258 provides guidance on the supply of new LEV (local exhaust ventilation) equipment. It describes the principles and good practice of deciding on, designing, commissioning and testing cost-effective LEV. The guidance is written for suppliers of LEV goods and services, and is helpful for employers and managers in medium-sized businesses, as well as trade union and employee safety representatives.

HSG 258 contains information about the roles and legal responsibilities of suppliers, and of their clients as employers. It also contains advice on competence, the principles of good design practice for effective LEV hoods and their classifications – as well as ducts, air movers and air cleaners. Additionally, there is a section on system documentation, covering checking and maintenance schedules, as well as the marking of defective equipment.