

## NEWS FROM AROUND THE INDUSTRY...

### Chartered Institute of Building Services Engineers

We would like to give a warm welcome to Kathryn King, the new Head of Networks and Engagement at CIBSE. Kathryn comes with a wealth of experience in volunteer support and management in the third sector and is very much looking forward to working with ILEVE.

### British Occupational Hygiene Society

The BOHS have been very busy this quarter including a recent visit to Scottish Parliament to highlight the increase in workplace ill health. The report can be found [here](#).

### Building Engineering Services Association

The BESA website has been updated to explain the details of the Building Safety Act. The [BESA Building Safety Act Hub](#) is now live on the BESA website. It can be found by either searching Building Safety Act in the search toolbar or via the navigation bar - The BESA - Representation & Advocacy - Building Safety Act.

### Safety Assessment Federation

SAFed Technical Committee 8 on LEV met on the 19th of September both in person in their London offices and online

Dean Greer gave the update on what ILEVE have been up to since the last SAFed meeting in February

Jane Bastow had been working with Caroline Hamilton of SAFed on CSCS cards and a press release update has been issued.

Discussions ensued on testing of high velocity, low volume (HVLV) LEV equipment as to how many points should be open in the absence of a commissioning report and it was opined that this is the responsibility of the Duty Holder and they should give the LEV Commissioning Engineer the information as to usage of the system. *Continued on page 8*

## ILEVE News

A letter from the editor:

As we hit our 8th edition of this newsletter (2 years in production) it is wonderful to be able to see that the LEV industry is still progressing. There are lots of exciting things happening at the moment with ever changing HSE initiatives, ILEVE now focusing on producing more Good Practice guides and a number of potential opportunities for you our members to get more involved in promoting good practice and methodology to the wider world!

I hope you enjoy this latest newsletter and if you would like to provide any content for the next edition or just give us some feedback please feel free to email in to [ileve@cibse.org](mailto:ileve@cibse.org)



## IOHA Dublin 2024

[A date for the diary!](#)

The Occupational Hygiene Society of Ireland (OHSI) and the British Occupational Hygiene Society (BOHS) are jointly hosting the 13th IOHA International Scientific Conference. The conference theme has been confirmed as - 'Protecting workers from health hazards: Advancing in this changing world'.

**Read more now.**

## Secondary Exposure the unseen hazard?



**It** is very easy to look at the obvious dust and fume evolution points in a manufacturing or production area, but how often does the assessment look at and consider secondary sources of the pollutant? Even the presence of a well designed and effective LEV system that controls the dust or fumes at source will struggle to effectively control some of the secondary releases around the workplace unless specifically designed to do so. Surfaces of raw materials can often be contaminated with dusts created during their manufacture, packaging, or have contamination deposited on them during transportation, storage or handling. These can easily be released into the working area even before the materials reach the machinery or process, whereby contaminating surfaces of equipment, the floor, or even operators clothing.

DSEAR requires you to consider in depth the potential sources of dust or fumes that could generate an explosive atmosphere, and therefore are commonly taken into account where secondary evolution of dust or fumes could occur.

In non-explosive atmospheres, this may be overlooked, and therefore result in potential hazards from the secondary pollutant release.

From the arrival of raw materials on site up to the release of the finished product. There are any number of stages within the manufacturing process where secondary issues need to be considered.

If we look at a typical initial handling process, such as the acceptance and handling of large flat products as seen in the timber industry, handling sheeting, or other similar materials could readily release dust into the working area. Even though these may be cleaned as part of the initial production, the action of withdrawing individual panels from a stack can easily result in the friction between the two surfaces, generating and releasing secondary dust before the material reaches any machinery with LEV or dust control. This dust when evolved is then free to settle on any surfaces or be drawn into any operators breathing zones. These can be further exasperated by passage of vehicles or handling equipment that can convert the coarse materials on the floor into a finer hazardous dust that could form dust clouds. Regular floor clearing and ensuring minimal contamination on the surface of raw materials can reduce this but we must be aware of the risk and try to mitigate these with suitable control measures and education / training of the work force on minimising dust release.

The ever present, multifunctional, dust, displacement tool, commonly referred to, as the airline is too readily employed, to remove these dusts from both clothing, machinery and other surfaces, as well as the floor in an easy action.



However, in the age old adage of “ what comes up, must come down” the displacement of these materials from the surfaces ultimately, still ends up with the contaminant resettling on surfaces, if not respired in the meantime. The proprietary blower systems that are commonly employed to clean down contaminated clothing, have a similar effect of dispersing dust clouds into the working environment , if not employed within a suitable containment or downdraught enclosure is likely to result in a significant secondary exposure risk to all those in the vicinity.

Similarly, the prevention of use of brooms for cleaning the floor has been instigated to prevent the secondary dust issues; replacing these by the utilisation of either vacuum cleaners, or in other areas, wet sweeping, whereby dust or other materials on the floor are wetted with water sprays, and collected and removed with scrapers or squeegees.

Secondary issues are not limited to Dust. It may be easy to consider the evolution of fumes and vapours from liquid handling at source and control them using LEV, but the secondary issues potentially created by spillage, leakage or container handling/storage need to be considered. Many materials such as acid, solvents, and strong caustic could potentially evolve hazardous clouds as a result of spillage or leakage. Other materials produced by chemical reaction could involve hazardous gases, or in combination with other potential gases or vapours produce a serious hazard. E.g., the presence of cyanide powders in conjunction with acid gases could produce hydrogen cyanide gas. Collection of the hazard itself needs to be considered to ensure no secondary problem is created.

The collection of dust within bins may require these bins to be emptied, either into a secondary receptacle or skip. Also consider if wiping up or collecting chemicals what is to be done with

the contaminated wipes as these could still continue to evolve fumes after disposal in a suitable container meaning a potential hazard when the container is opened or disposed of.

The evolution of a dust cloud as a result of the transfer of collected dust needs to be considered from both a respirable and explosive viewpoint. This could be both at source and further down the process chain where products are further processed. In many instances in the past, it was acceptable to discharge collected loose dust directly in to a skip. However, the issues created, when tipping a skip at either a landfill or transfer point does create a secondary problem . As a consequence in many newer processes dust will be discharged directly into collection bags so these can be disposed of safely.

Regular good house keeping with vacuums and other control measures are important but not just at floor level , consider the build up at high levels on building structures and machinery especially if flammable as when this dust is disrupted in the instance of an explosion it often generates a much more severe secondary explosion.

Consider the secondary issues from start to finish possible , think about the following and add to the list where needed

*Inspect incoming materials for potential hazards or coverings*

*Raw materials handling and storage*

*Dealing with used , empty packaging*

*Spills of solids and liquids - handling , containment , cleanup , disposal*

*Storage – contaminated containers , leaks, degradation or reaction.*

*Safe handling of produced goods – consider ongoing drying / curing of materials , cleaning contaminated surfaces , transfer of materials ,*

*House keeping – cleaning surfaces / clothes / floors / building structure*

*Disposal – bin / skip emptying , tipping / transferring collected materials*

*Surface cleaning- remove air line / brooms / blowers*

So when considering the dust issues or fume release tissues on site, consider the secondary problems that may be created by the materials and process. LEV will control the dust and fume issues local to source but will have limited capability to control those subsequent releases. Please always consider the process from start to finish within the manufacturing facility, but also the ongoing handling of the materials. Always look at the suitability of any secondary controls and ensure that these protect both the operator and those around them.

*Ian Marshall—ILEVE Steering Committee*

## UKLA Metalworking Fluids

The UKLA in collaboration with the HSE have released a number of very informative short videos providing a Good Practice Guide on Safe Handling and Disposal of Metal Working Fluids. The full library can be found [here](#).

## ILEVE EGM

Due to unforeseen circumstances the EGM has had to be postponed once again. Unfortunately due to a technical error the notice of postponement was emailed out significantly later than originally intended. We apologise for any inconvenience caused. The EGM will be rearranged and all members will be notified in due course.

## Grading Committee Members

The Grading Committee have now short listed all the applicants and selected two new members to join the panel.

With the addition of Melvyn Sargent and Carl Latham, the grading process will now be more efficient than previous. If you wish to be graded and join ILEVE as a corporate member you'll find the forms [here](#).



World Ventil8 Day aims to raise awareness of the importance of ventilation as a crucial part of enabling health and wellbeing of people. Read more now.

**Looking to take the next step towards becoming competent in LEV?**

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**Industry recognised LEV courses in design, commissioning, and testing**

The industry recognised BOHS LEV modules provide in-depth knowledge and skills in the design, commissioning, testing, and servicing of LEV systems. They will provide you with theoretical and practical skills. Delivered in an engaging manner by our trainer Adrian Sims, courses can be attended either in person or online.

**As part of our promotion of best practice, all CIBSE ILEVE members are entitled to a 10% discount**

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## Water Incorporating Local Exhaust Ventilation systems, a gentle reminder:

As we are well and truly into autumn now, we are starting to see the start of the colder mornings, and in some instances, frosts appearing. Typically, a rush period for plumbers as boilers and central heating systems are switched on again and commonly fail through lack of preventative maintenance. This poses a question as in the same way how many of us are experiencing similar problems as our customers progress from Summer to Winter conditions?

As air return systems on Dust Control plants are being switched on, they often bring unforeseen problems of their own. Burner systems previously only used for consuming the byproducts of the process may now be utilised for heating the factory again instead of venting to atmosphere and may bring problems that were not visible when venting the hot air to atmosphere.

Many plants also incorporate water systems either as a scrubbing medium or wash system to clean the air, if any of these plants are sited external to the building or in colder areas of the factory these need protection to prevent damage or other problems caused by freezing water. Water feed systems, as well as drainage should be lagged and/or trace heated to prevent damage as well as considering the units themselves. These larger vessels, though containing a large mass of water may require some protection when static either overnight or for weekend periods.

Don't forget any recirculation pipework if the units are external to the building as this very often will be exposed and standing proud especially in tall, vertical column plants. This pipework will be exposed to the elements and suffer from windchill as well as the low external temperatures. Water level systems, flow meters, and other liquid condition maintenance systems, including probes, and float devices may need to be protected as these can be critical to safe operation. Although these may need to be visible, they still need some means of protection to prevent freezing.

Immersion heaters, limpet heaters, trace heating, and even static lagging or other means of protection will need to be checked and ensured operational before temperatures start to drop dramatically. Remember to check temperature settings on any thermostats to ensure that these have not been altered or adjusted throughout the year. Their function should also be tested to ensure they will operate any protection measures when required. Unfortunately, some other processes might entail, unusual means to prevent freezing, including gas burners, hot air

blowers, steam systems et cetera, all of which should be checked to ensure they are operational.

On some scrubbing systems, the passage of air through the plant may be sufficient to transfer sufficient heat into the water body to prevent freezing, but when inoperable, this heat is soon lost. Some gas scrubbers are dosed with various chemicals to act as a reagent, but as a by product of the chemical processes accumulation of these soluble salts within the water can cause these chemicals to precipitate out. This can reduce water flow within the units and at low temperatures encourage freezing within the body of the unit. By maintaining correct pH and salt balance within the scrubbers this will also prevent blockages and potential problems at low temperatures.

To prevent any potential release of contaminant, given the onset of freezing temperatures and the potential to crack and distort any civil bunds or bonded structures, now would be a good time to check their integrity, remember to inspect both internal (where possible) and external. Ingress of external water can also cause damage to the structure in use.

Although many wet systems are designed to remove any droplets or tears from the air stream before discharging to atmosphere, some may potentially generate carryover that will fall and accumulate in the general area. Ensuring that the systems are working effectively to prevent carryover and potential water build up around the units would prevent any ice on floors and surfaces, itself potentially generating a secondary problem. Inspection and cleaning of the droplet elimination systems or other capture devices in the unit would be worth considering.

Although not, specifically, LEV, cooling towers may be an integral part of the system and a similar set of checks should be considered for these pieces of equipment. Carrying out the preventative maintenance at this time would certainly remove the potential for any problems as the temperatures drop, as well as making this maintenance work easier as no one would find it desirable to have to carry out emergency maintenance repair on wet systems in freezing temperatures!

In Conclusion:

- Lag or Trace Heat any vulnerable pipework or fixings.
- Ensure the correct and safe operation of heating elements.
- Inspect and Test temperature controls to ensure they're correctly set.
- If using external equipment (hot air blowers, burners etc) ensure they are inspected by a competent person prior to operation.
- Take additional care when plant is not in constant operation.
- Inspect integrity of containment structures
- Ensure the LEV system is not discharging liquid atmosphere.

## Ventilation engineer crushed between a scissor lift and beam

A 26 year old Ventilation Engineer was involved in a fatal accident on August 14th 2023 whilst using a scissor lift on the site of the new Everton Football ground.

Another operator noticed the machine has stopped and went to assist. The 26 year old was found with severe head injuries.

Our thoughts go out to the family of those involved.

The full story can be read [here](#)

It is a terrible day in industry when anyone is injured. It is especially sobering when one of our extended ventilation family is involved in a tragic incident like this. To try and prevent this type of incident from occurring the Construction Industry Plant Safety Group have released a good practice guide in the prevention of crushing injuries. The document can be downloaded via this [webpage](#)

## Health and Safety Executive Actions

At the ILEVE conference this year, for those of you that were unable to attend we were privileged to have the first hand HSE account of some of the actions that have been taken and the prosecutions that were carried out. One of which is in relation to Airtech Filtration Ltd. The HSE press release excerpt is below:

*"A company that tests ventilation systems has been fined for putting hundreds of workers at risk of serious lung diseases.*

*Airtec Filtration Ltd was used by businesses across the UK to test extract ventilation systems, which reduce exposures to airborne contaminants in a workplace.*

*An investigation by the Health and Safety Executive (HSE) found the firm, which is based in St Helens, Merseyside provided its customers with inaccurate test results, potentially leaving staff in those businesses unaware of the risks they faced.*

*In one incident, when assessing a car manufacturing business, the Airtec engineer failed to identify the presence of rubber fumes, which are carcinogenic and can lead to cancer.*

*In another, a baking company used flour and other respiratory allergens, which the engineer identified inadequately as food dusts. The Airtec engineer failed to provide any other information to highlight the presence of asthmagens, which can lead to occupational asthma.*

*Between 2018 and 2019 Airtec Filtration Ltd were providing Through Examination and Tests (TExT) of local exhaust ventilation (LEV) systems, which are designed to control substances dangerous to health."*

<https://press.hse.gov.uk/2022/11/07/ventilation-testing-company-fined-for-putting-hundreds-at-risk/>

We thank the HSE for all the hard work they put into their investigations and for keeping the industry held to the high standards we have all grown to expect.



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## From a LEV testing company to a Duty Holder that fell below the required standard.

“A joinery firm in South East London has been fined £20,000 for failing to control its employees’ exposure to wood dust.

F&E Joinery Limited, in Herne Hill, was inspected in May 2022 as part of a Health and Safety Executive (HSE) campaign targeting woodworking businesses due to the significant health risks associated with exposure to wood dust, including the risk of developing occupational asthma. During the visit the inspector identified multiple failings related to control of exposure to wood dust, including excessive levels of settled dust around the site..

The inspection was carried out in May 2022. The inspection found some of the company’s machines had been disconnected from the local exhaust ventilation (LEV) system, which is used to extract wood dust at source during machining of wood. There was no way to connect other machines to the system. LEV significantly reduces the amount of wood dust that becomes airborne and inhaled when machined. There was also no evidence that settled wood dust was being cleaned up.

The company had been served with an enforcement notice relating to their control of wood dust on two previous occasions spanning over ten years. On 21 April 2023, at Westminster Magistrates’ Court, F & E Joinery Limited pleaded guilty to breaching Regulation 7(1) of the Control of Substances Hazardous to Health (as amended) Regulations 2002 and was fined £20,000 and ordered to pay costs of £1,500.

The firm had already been served two enforcement notices over a ten-year period

HSE inspector Marcus Pope said: “This case sends out a clear message to the industry that HSE will prosecute when inspectors find serious health and safety failings, particularly when previous enforcement and advice has been provided.

“Exposure to wood dust causes various occupational lung diseases which can significantly affect the quality of people’s lives, and in some cases result in premature death. HSE continues to target the woodworking industry and

strongly urges businesses to consult its website for further information to ensure that control of exposure is managed, and their statutory duties are complied with.”

<https://press.hse.gov.uk/2023/04/21/london-joinery-firm-fined-20000-for-failing-to-control-wood-dust/>

## Metalworking inspections start in October

From October until March 2024, HSE will be inspecting manufacturing businesses that use metalworking fluids or coolants in their machining processes.

Inspectors will be focused on how employers are ensuring workers are protected from exposure to fluid or mist generated by computer numerical control (CNC) machines and that regular health checks are in place.

There are 3 areas where manufacturing companies, particularly smaller companies, commonly fall down on compliance:

- not having Local Exhaust Ventilation (LEV)
- not completing regular fluid quality checks
- not providing regular health checks for lung and skin conditions.

### Be prepared for inspection

Metalworking fluid is a hazardous substance that comes under COSHH regulations (Control of Substances Hazardous to Health Regulations 2002).

Exposure to metalworking fluids can cause harm to lungs and skin through inhalation or direct contact with unprotected skin; particularly hands, forearms and face. Breathing in the mist generated by machining can lead to lung diseases such as occupational asthma and occupational hypersensitivity pneumonitis.

To reduce exposure, you need control measures in place. LEV should be fitted on CNC machines to carry away any harmful metalworking fluid mist, which is difficult to see in normal lighting.

Fluid quality should be regularly checked, focusing on concentration, pH, bacteria and contaminants. Fluid systems can become highly contaminated with harmful bacteria.

Where there is exposure to fluid or mist, it is a legal requirement to carry out health surveillance even when preventative controls are in place. You will need to involve an occupational health professional and workers should be encouraged to report any health symptoms that occur.

### Find out more

- See our [campaign website](#) for more details.

## Technical Committee Updates

### TC01 TExT & Commissioning Reports

An update for TC01 is due January 2024

### TC02 ILEVE Partnership Scheme

We have had some queries on the Partnership Scheme but, as yet there have been no others coming forward to align their Business with ILEVE. With competence of us all being looked at like never before the Partnership Scheme is one which will assist our Members' Businesses in showing accreditation of their competence.

### TC03 Recirculating Filters

The HSE have gathered information from literature and stakeholders, including representations of ILEVE, and the final report is in draft. We will up-date once there is more information.

### TC04 On torch extraction

The committee for on torch extraction has now been allocated to a new chair, an email requesting interested parties will be circulated shortly. If you wish to register your interest please email in.

### TC05 BOHS BESA Qualifications

Awaiting further information from BESA with regards to the skill cards.

### TC06 Direct Reading Instruments

The committee on direct reading instruments is on hold at present until such time as sufficient resource can be put into the subject.

### TC07 Stack Design

Actively recruiting for a new chair of the technical committee. If stack design is your passion let us know.

### TC08 LEV Guidance Document

Following a meeting with CIBSE on 22<sup>nd</sup> May, CIBSE are reviewing the best format in which to publish the guidance. CIBSE are looking to move away from paper and PDF publications and are wanting to have an easier updateable format, along the lines of 'Wikipedia for Building Services' and in our case 'LEV'. Unfortunately this has not been done before and, frustratingly, we are likely to experience a delay whilst this is looked into.

### Fume cupboard competency matrix

Good news! After many months of work, this document is now live and available for members to peruse and use as they see fit.

It will be used to form the basis of new competencies on the ILEVE Competency Card and has highlighted gaps in the market for training requirements and guidance. The document can be viewed on the ILEVE website or by clicking on this link. Please send any feedback or comments to [ileve@CIBSE.org](mailto:ileve@CIBSE.org)

### Continuation of SAFed update

Jane Bastow raised the use of dust lamps in testing of LEV Systems particularly around the background lighting and the safety of the operators if lighting was dark enough to see the contaminant cloud but too dark for the operators to carry out their role.

As reported in our previous newsletter UKAS Document RG4 on LEV was reviewed earlier this year and, following contributions from ILEVE Members and others this was issued in May and this was the subject of some discussion. Apparently this RG4 document is now in direct contradiction with the UKAS Document RG 0, Guidelines of Competence of inspections and this was being taken up with UKAS. We, at ILEVE, will be watching this carefully and would hope, in these days of accreditation of competence, that the RG0 document is reviewed to remove any contradiction.



## Positions vacant!

The ILEVE Steering committee has several positions vacant which we are keen to fill.

Like all positions on the ILEVE committees they are all voluntary roles and apart from the reimbursement of the occasional travelling expenses from CIBSE, we do this to help develop the industry and to promote best practice in all matters relating to LEV.

We are looking to fill the following positions...

### Events Organiser

Working with the marketing committee, we are looking for an individual who would be able to organise and run our events.

Typically, we organise three events each year including:

- o LEV Conference (joint with BOHS)
- o Annual General Meeting (on-line)
- o Technical Training Day

We also see potential in organising one-day training seminars on specific topics or short webinars.

The organiser will be responsible for organising content, booking venues and promotion of the events.

### ILEVE Business Plan Co-ordinator

As ILEVE grows over the coming years, we are looking for someone to join the committee to develop a business plan for the next 1, 3 & 5 year periods, to develop our interaction with our industry partners and to develop our offer for our members.

Once the plan is in place we would then look for guidance

and management of the plan along with updates and

amendments.

You will be working with members of the Steering Committee and reporting back on a quarterly basis via TEAMS meetings.

If you think you have what it takes to carry out any of the above roles and have a few precious hours to give each month, then please contact us at [ileve@cibse.org](mailto:ileve@cibse.org)

### Conference Committee Members

ILEVE are currently looking to on-board a number of proactive people to look at and plan future conferences in the interest of furthering ILEVE's presence within the industry.

The role would consist of monthly teams meetings with a view to identifying and managing any potential new conferences.