

## **Re: LEV guidance for suppliers (HSG 258)**

Thank you for giving me the opportunity of commenting on the draft of HSG 258. My views firstly as an occupational hygienist of 30 years experience and, secondly as Chairman of the British Occupational Hygiene Society Control SIG are set out below.

### **Introduction**

Local exhaust ventilation (LEV) is used in many industries from multi-nationals, large companies, to SME's to help minimise exposure to hazardous substances.

In my experience of visiting companies, both as a consultant and investigating claims of ill health, I am dismayed that over half of the LEV systems I encounter are ineffective. Many others are not used to best effect.

The result is that employees are unnecessarily breathing in dust, gases and vapours, which invariably impact on their health and are reflected in the occupational health statistics. I have personally seen numerous cases of occupational asthma where a prime reason has been ineffective LEV systems. In my view this is a national disgrace.

A key factor is lack of guidance and expertise in LEV design and testing, so it was with interest I was asked to comment on the new HSG258. In the time available I have not had the opportunity of studying the document in detail but I do have a number of points to make.

My overriding view is that the overall approach of the document is excellent. It explores numerous issues of which many people, including many of those involved in LEV design are ignorant.

In its final form I'm sure it will provide the basis for a substantial improvement in LEV design with a corresponding reduction in ill health in years to come. The team involved are to be congratulated.

However, in my view, there are various issues worthy of further consideration as follows:

### **Introduction**

Asthma is not the only problem associated with LEV - suggest expand to include cancer, pneumoconiosis and other diseases.

### **Chapter 2**

This section at present deals with roles, legal responsibilities and competency as well as an introduction to LEV. In my view, these two subjects do not sit well together. I would strongly recommend making two chapters,

- 1 Introduction to exposure control measures and local exhaust ventilation systems
- 2 Roles, legal responsibilities, competence.

### **Specification**

The specification is rightly covered in the commissioning of the LEV system but it needs to be dealt with in detail at the design stage.

[One of the most important reasons for LEV failing is that the design specification contains absolutely nothing about what the system is expected to achieve. This is a universal failing. Unless this is addressed with a requirement that designer of LEV systems actually provide a performance specification then there is little incentive on LEV designers and suppliers to make sure the system actually works in practice]

### **LEV Effectiveness .... Source Strength:**

A particularly important point, worthy of inclusion but I am not sure that the terminology or description would be understood by everyone. Some simplification of the concepts would help.

E.g. terms like 'what do you need the LEV to do' ...' how far do you need to go', 'required performance' may be easier for many engineers to understand.

Solder fume is one example but may be useful to use other examples as well with simpler arithmetic

e.g. the WEL for talc dust is  $1 \text{ mg/m}^3$ . In one area of a factory, exposure has been measured at  $2 \text{ mg/m}^3$  and in another area exposure is  $30 \text{ mg/m}^3$ .

The basic need in the first area is for exposure to be reduced by a factor of at least 2. In the second area a much greater performance, of at least at factor of 30, is required. This will impact substantially on the choice of hood type and LEV system.

Also the point needs to be made that LEV cannot be considered in isolation from other factors which might influence effectiveness, e.g. cleaning, work practice. e.g. even though the LEV system may have fantastic performance it may not reduce exposure as anticipated. Further explanation would help.

### **Chapter 10 - Estimating LEV Control Effectiveness**

This is linked directly to the above. An important section and deserves greater explanation.

### **Editing**

Much of the content is excellent although it will benefit from editing in a number of areas to simplify the wording and eliminate superfluous verbiage – I presume this will happen in any case. It's important that the central ideas and new requirements on designers, suppliers and advisors are not lost or scrambled in the editing process. If it would help I may be able to provide a member of the BOHS Control SIG or other BOHS member to look through the final version of HSG 258 and supply rapid comments.

### **Layout**

I like the way the document is set out with summaries, explanations and in particular the checklists.

### **Some Technical Issues**

I have not had the opportunity to go through the document with a fine toothcomb because of time pressure but I can offer some initial comments –as follows.

- Page 8: Figure for Multi-branch system needed? – YES
- Page 13: Recommend insert "***what employers should know***"

### **Processes and Sources:**

Good descriptions. I think the term "turbulence" might be used to good effect.

I trust this helps the process.

If you would like to discuss any of these points in further detail please do not hesitate to contact me.

Regards

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**Chairman**  
**BOHS CONTROL SIG**