

Do I Have to Install Indicators/Gauges on LEV Hoods?

OK – so for starters HSE’s LEV FAQ section of their website states *“there isn’t a specific legal requirement to have airflow indicators fitted to an extraction. But as an employer you do by law have to make sure that your LEV system keeps working properly”*.



On the one hand that statement appears to be saying there is no specific requirement but then goes on to say that you do by ‘law’ have to etc.

Maybe the first thing we should do is have a closer look at what exactly the law states ... Oh and have regard to what the CoSHH ACoP says on this subject ... and the Guidance to the CoSHH Regs – oh - and finally - what does HSG258 say.

Hood Indicators and the CoSHH Regulations 2002



Starting at **Regulation 7** – clearly (as we know) this requires employers to ensure that exposure to substances hazardous to health is either *“prevented”* or *“adequately controlled”*. It also says that:-

“control of that exposure shall only be treated as adequate if –

(a) the principles of good practice for the control of exposure to substances hazardous to health set out in Schedule 2A are applied;”

And of course Schedule 2A states that one of the guiding Principles of Good Practice for Control would be to: *“Check and review regularly all elements of control measures for their **continuing effectiveness.**”* [my underline and bold]

Could that be construed to mean continuous monitors for LEV hoods? Maybe, just maybe.

Next on the list is **Regulation 8**. But surely you might say – that is only referring to the Employers’ duties to ensure that LEV (and other controls such as systems of work, PPE etc) are actually followed and used by the Employees?

Well yes – but stick with me. Let’s look at Regulation 8 (2)(b) which requires the Employee (in relation to Control measures – such as LEV – that he uses) to *“if he discovers a defect therein, report it forthwith to his employer”*.

So if we have that right (which we have) – every Employee is under a legal obligation to report *“forthwith”* and defects which he discovers in his LEV (or any other control for that matter)!

Now we have to tackle “implicit” and “explicit”.

Does anywhere in the CoSHH Regulations *“explicitly”* state that hood indicators have to be fitted. To which the answer is a loud “NO!”

But I hear all the lawyers state (and all Judges in my experience) – if an Employee (in the normal course of his employment) is duty bound to do something in law – then it follows – “*res ipsa loquitur*” (I love Latin – don’t you – it means “the thing speaks for itself”) – so again – it follows that there is an “implicit” requirement under Regulation 8 for the Employer to provide the “means” by which the Employee can satisfy their obligation in law Yes – you’ve got it – we need hoods to continuously monitor the performance/efficiency of the control/LEV system so that the Employee can readily see defects and thereby comply with his obligation to report any defect “*forthwith*” to his Employer!



It would be a nonsense to give that responsibility in law to an Employee where he has no power to observe that which he is required to report? And Judges agree with that sentiment.

So – my opinion is that providing Indicators/Gauges and suchlike is an “implicit” requirement in Law! Still not convinced? OK let’s look at what the CoSHH ACoP might have to say?

Hood Indicators and CoSHH ACoP

At Regulation 8 the CoSHH ACoP has the following to say about what Employers must provide:- “*monitoring systems for the effectiveness of controls and prompt remedial action where necessary*”.

Could that mean Indicators on hoods you betcha!

Of course an ACoP is not legislation; not law in itself, but it (like all ACoPs) is considered by the Courts as “*persuasive in law*”. Get out of that one?

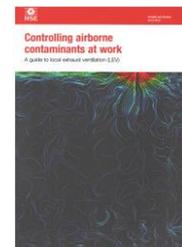


Hood Indicators and Guidance?

So – what about “Guidance” in the form of Guidance as in the CoSHH Regulations and other HSE “Guidance” such as HSG258?

How do they stand up in law?

Well as we know most legislation (CoSHH included) is peppered with the phrase to do (whatever) “*so far as is reasonably practicable*” (sfarp).



Not an easy term to define – past Case Law (Edwards v National Coal Board 1949 if you want to know) talks about weighing the risk on one hand against the cost (time, money and resources) to combat the risk on the other and that there has to be a ‘balance’.

Hmm – not an easy concept – however to make life a little easier it is generally accepted by the Courts that HSE and ACoP Guidance is “by definition” an explanation of what would be “*reasonably practicable*” in almost every case for an Employer to do.

But surely HSE would have to prove that what you had done was **Not Reasonably Practicable**?

Well no – because there is an interesting quirk to the law here. If you are accused of being a burglar – then you are presumed innocent until proven guilty (apparently one of the few things Richard III – he of Leicester Car Park fame – gave us before he was felled by that infamous arrow ☺).



OK – so you’ve guessed – when we consider in Court if something has been done “*so far as is reasonably practicable*” then it is the accused who must prove to the Court’s satisfaction that what he has done was reasonably practicable rather than the other way around!

And the Judge will be sitting there in the Court with a copy of the HSE and CoSHH Guidance before him or her, and, peering over his/her spectacles will enquire of you why you thought it was not reasonably practicable to comply? Over to you.

What Does Guidance Say about Hood Indicators?

Good point!



To make a start – the CoSHH ACoP (pretty tough document) – says – certainly for Examining and Testing (TEXT) LEV plant that the guidance set out in HSG258 has to be followed.

Then the Guidance in CoSHH at para 113 says quite a bit about the principles: - “*The effectiveness of control measures should be checked regularly. Which checks, and how often they are made, will depend on the particular control measures and the consequences if the measures fail or degrade significantly. Process changes are likely to be more stable and reliable than, say, LEV. In turn, LEV is likely to be more stable and reliable than controls that rely on routine human behaviour*”.

And finally – what does HSG258 Guidance say about indicators and suchlike on hoods? Well “Indicators” are mentioned throughout the document, eg:-

Employers (p7) – “*Employers also need to be aware of the need for airflow indicators and other instrumentation;*”

Design Specification (p22) should “*require indicators to be fitted to show that the system is working properly;*”

Designers Quotation (p23) should “*describe the indicators and alarms to be provided in the system*”.

Hood Design (p25) “*Good practice requires monitoring the performance of the hood, for example, by using an airflow indicator*”.

Control Effectiveness (p31) – quite a bit of detail: “**Airflow indicators** - *Employers need to ensure that LEV systems continue to work properly. There are several ways of checking this, such as using an anemometer, dust lamp or smoke tracer – with the work process running. But the simplest way is probably to use an airflow indicator. This will give the operator a simple indication that the hood is working properly. It becomes critical when the operator has to adjust a damper to get adequate airflow. The airflow indicator must indicate simply and clearly when the airflow is adequate. The simplest indicator is usually a manometer. (Also see ‘LEV instrumentation’ in Chapter 7.)*”.

LEV Instrumentation (p62) – again quite a bit of detail – “*Users of LEV systems, particularly the operators at LEV hoods, must be able to tell that the hood airflow is still adequate to control*

exposure. Good practice requires the periodic monitoring of performance for all hoods. The designer should therefore specify suitable monitors such as manometers or other airflow indicators”.

Airflow indicators (p62) - “Airflow indicators cover a wide range of equipment: a simple and reliable device such as a manometer connected to the hood duct. The static pressure is a direct indicator of the airflow rate; a complex device, eg a pressure switch to activate an alert if the flow drops below pre-set trigger levels (see BS EN 14175-2:2003 Fume cupboards. Safety and performance requirements)”.

LEV System Design Principles (p68) – “Provide airflow indicators, eg manometers, at hood ducts and at other necessary points”.

Oh you get the drift. Never in a month of Sundays are we going into Court – not having provided Airflow/Performance indicators and be confident that we can say either it wasn’t required – or that it was not “*reasonably practicable*” to fit/install them?

Oh – you are thinking of maybe having a ‘go’?

OK - And finally – some time ago HSE published on their website a document entitled “**LEV Topic Inspection Pack – A Guide to Inspecting & Assessing Local Exhaust Ventilating (LEV) Systems**”. The document was dated 2009 and is no longer available on HSE’s website as apparently they now do not have the resources to ensure that it is up to date. It was a document which, in effect, gave HSE Inspectors their guidance as to how to Assess and Inspect your abilities with respect to all aspects of LEV.

Page 7 has several “**Key Messages**” for Inspectors; such as:-

Buying LEV – “Make sure the LEV has airflow indicators (or equivalent)”

LEV Designer/Supplier – “Provide air-flow indicators (or equivalents)”

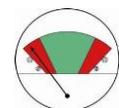
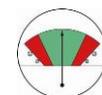
At Page 9 there is a statement to Inspectors “*There are some practical implementation issues to be ironed out with stakeholders and duty holders. These are being dealt with via Frequently Asked Questions (FAQs) on the LEV Website. and the fitting of air-flow indicators are covered*”.

LEV User/Supplier Good Practice (p12) states – “*It isn't possible for employees or supervisors, by 'feel' alone, to 'measure' or judge whether an LEV hood is drawing enough air. What's needed is a simple airflow indicator with a clear indication of adequate airflow (see Figure 2) or equivalent arrangements*”.

And the same document goes on and on about Indicators.

Really? In my opinion and experience (primarily in the Civil Courts) - there is not a hope that a Judge could be convinced that it was not accepted practice and ‘*reasonably practicable*’ for hood indicators to be fitted.

So what kind of hood “Indicators” are they talking about? Well much of the guidance talks about manometers, gauges and other instruments. Incidentally – when HSE talk about gauges – they mean something which an Employee would find to be easy to read such as the pictogram they provide – see opposite:



A more modern version is available from Monitair and their unit is very easy to calibrate and use. You would need to contact Monitair for details of costs etc but I have seen them fitted to Fume Cupboards, Welding Hoods etc and they seem to do the business (contact Graham at Monitair - 01225 667522; graham@monitair.co.uk)



I fully understand that some of the discussion in this “essay” could be a bit ‘controversial’ and I would welcome all and every feedback which may add to everyone’s understanding of this subject matter.

I am just astounded that you managed to make it to the end without ‘nodding off’ – well done there at the back!

Thank you for your attention.

Bill

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