

Background

- Occupational exposure to fumes, chemicals and dusts may account for 4000 deaths each year.
- Lack of thorough examination and testing of Local Exhaust Ventilation (LEV) systems by organisations.
- Employers lack understanding of risk and guidance.
- Inspectors need to ensure LEV is well designed, properly installed, checked and maintained by duty holders.

Project objectives

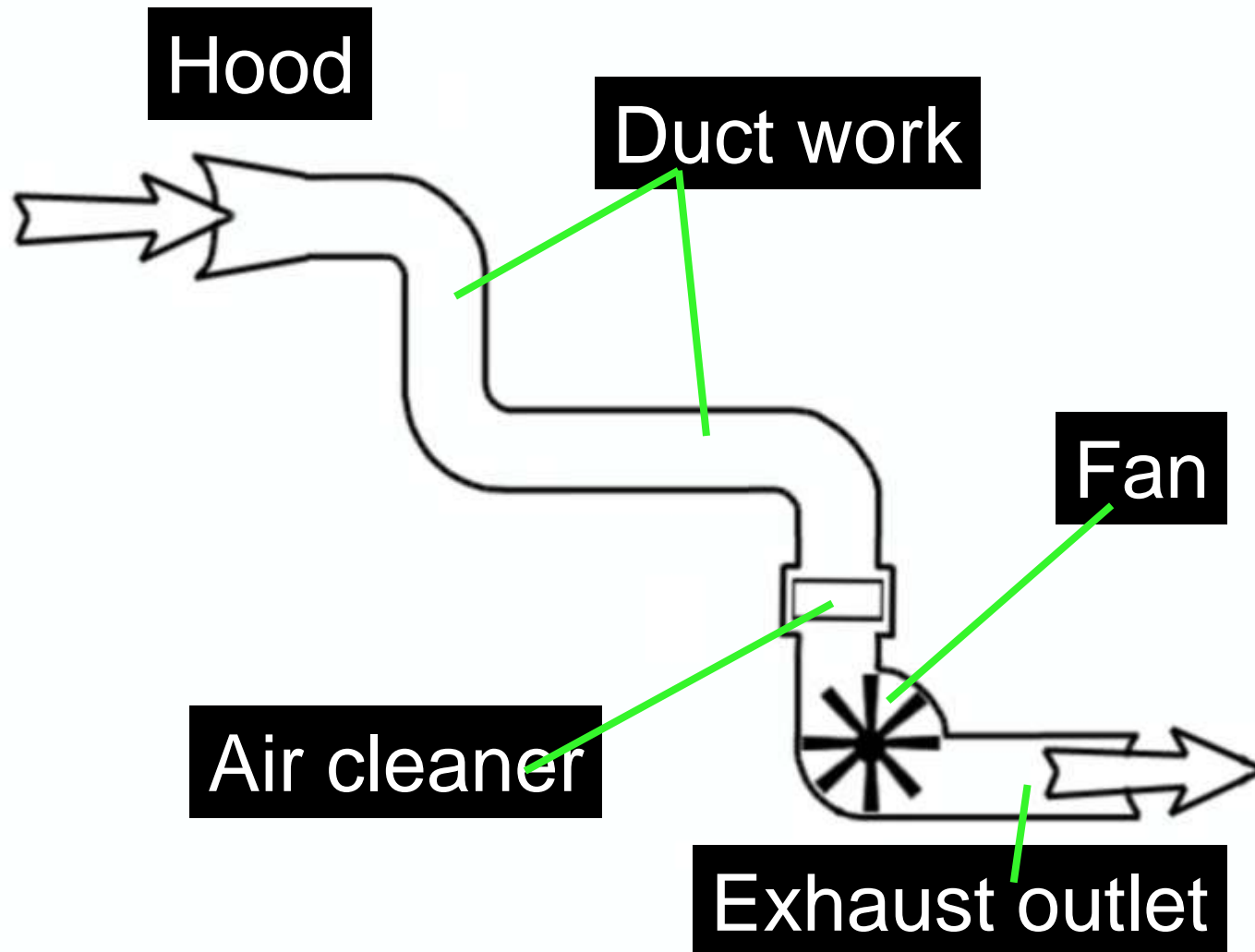
- “To bring about a significant and measurable improvement in the coverage and effectiveness of engineering exposure controls, particularly LEV, in Great Britain”.
- BY...
 - ...making stakeholders and duty holders aware of the new guidance and improving good practice.



An LEV system



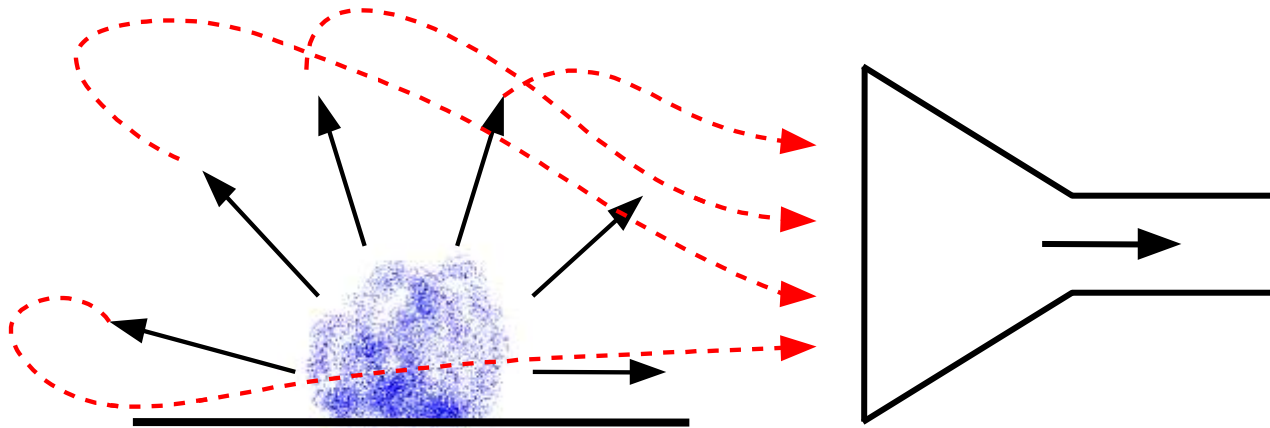
How it works



Why does LEV fail?



Knowing how it works



Importance of training



Aims of courses

- Inspector course:
 - Introduce inspectors to the new guidance, equipment and new approaches to on site inspection.
 - To improve Inspectors' knowledge and confidence in LEV inspection.
- Trainer Advisor Briefing Day (TABD):
 - disseminate LEV guidance consistently to a range of audiences and encourage two-way partnership working.

Inspector training course and TABD



- 1. Roles & responsibilities of employers and suppliers and the necessary competencies.**
- 2. Key changes to HSE guidance.**
- 3. Key LEV hood design and application issues.**
- 4. Checking and maintaining controls including LEV.**
- 5. Thorough examination and test including reports.**
- 6. Rehearse common enforcement scenarios.**
- 7. Assessing and inspecting LEV systems including use of simple test instruments.**
- 8. Inspection work in 08-09 including DRP and Cancer Programme priorities.**

Learning by doing!



Still learning by doing!



Seeing what to use to test



How to test, *cont.*



How to test, *cont.*



Method:

Inspector training course

- 37 one-day courses across 21 locations.
- Sample: HSE Inspectors responsible for monitoring duty holders with respect to LEV systems.
- Data collection: pre ($N = 317$) and post ($N = 341$) questionnaires (Warr, et al. 99).
- Data analysis: (SPSS) frequency and descriptive statistics.

Method: TABD

- Six one-day courses in 2 locations.
- Sample: trainers and suppliers.
- Data collection: post-training evaluation form & 8-month follow up questionnaire.
- Data analysis: (SPSS) frequency and descriptive analysis.

Results:

Inspector training course



- Confidence levels of inspectors increased, especially ability to:
 - identify the generic type of LEV system.
 - enforce the supplier.
 - check the competence of LEV designer.
- Increase in:
 - knowledge and understanding.
 - ability to inspect and assess LEV systems.
 - competence / confidence to ask questions and challenge duty holders.
- Practical demonstrations / syndicate exercises – most useful!

Results post-event: TABD



- Response rate: 96% (107 out of 112).
- Participants were satisfied with facilitators' knowledge, presentation style, ability to communicate and engage audience.
- Majority of participants considered the interactive elements most useful parts of the course.
- 93% said the course met its objectives.

Results: TABD 8-month follow-up



- Close to half of the participants ($n = 63$; 49%) completed the on-line questionnaire.
- Mainly, the trainers used course material to train employees in organisations.
- Material disseminated to more than 100 organisations and across sectors and sizes.
- Trainers continue to appreciate the use of the video material – helps create a powerful message with HSE brand ensuring credibility.

Conclusions

- Evidence that learning is predicted by trainees' confidence.
- Increase in number of improvement notices served suggests an increase in competence.
- Benefits of interactive elements.
- Improvement in inspector confidence due to course structure and content.

Implications for future training courses



- Design - interactive structure / approach, (Taylor, '94; Naylor and Briggs, '63).
- Focus on securing positive behaviour change.
- Importance of the trainer.
- Benefits of pre-training.
- Importance of setting the scene.

Implications for future training courses



- Importance of evaluation:
 - Tied to course objectives.
 - Careful preparation needed.
 - Long-term follow up to determine if training is used in practice, behaviour change has occurred.
 - Kirkpatrick's evaluation model ('59, '94): reaction (*satisfaction*), learning (*success*), behaviour (*transfer*), results (*outcome*).

Thank you for listening.

Any questions?

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