

WATCH COMMITTEE PAPER		WATCH/2010/2	
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WATCH COMMITTEE

Reducing the risk of ill health from Welding Fume

Issue

1. HSE is about to begin work with stakeholders to raise awareness of the potential adverse health effects of excessive inhalation exposure to welding fume and the controls available, with the aim of changing behaviour , increasing the use of appropriate controls, encouraging good practice and ultimately reducing the risk of ill health.

Timing Considerations

2. Routine

Recommendation

3. WATCH is invited to consider and comment on the issues raised in this paper.

Background

4. The Health and Safety Executive's (HSE) Strategy, launched in June 2009, acknowledges that, in order to reduce the incidence of work related ill-health, occupationally-related long latency diseases need to be targeted. The 2009/10 HSE Business Plan reflects this in stating, '*.....we are now planning further activity working in partnership with stakeholders and suppliers to embed messages and encourage a change in behaviour among workers in targeted industries. Priorities are those industries, activities and sectors where there are large numbers exposed to chemicals or substances we know can cause Long Latency Disease (LLD) or which present the highest incidence rate of LLD. Initial work has indentified construction workers, stonemasons, foundry workers, **welders** and quarry workers as particularly at risk.*'

5. This element of the Business Plan 2009/10 builds on the earlier work of the previous Disease Reduction Programme (DRP), part of the HSE's FIT 3 Programme, where work on long latency disease was one of the priority activities. HSE's Long Latency Health Risks Division (LLHRD) is managing a range of workstreams with stakeholders, aiming to reduce the risk of occupational disease by raising awareness of the long-term and potentially fatal consequences of excessive inhalation exposure to hazardous dust, fumes, chemicals, fibres, vapours, gases etc.; and influencing behaviour change to reduce exposure. The initiative will initially target five specific sectors of industry – welding being one. In developing messages on health issues, although the initiative is focusing on LLD, it is appropriate to include all key health effects, whether acute or long latency in onset.

Argument

6. As mentioned in paragraph 4, factors taken into account when considering welding as a priority activity were i) the size of the UK working population, ii) the potential for exposure to welding fume and iii) the adverse health effects which may be experienced if exposure control is insufficient.

Exposed Population

7. Using data from the Labour Force Survey for the UK, HSE has estimated that there are approximately 75,000 welders in the UK who have been employed in the industry for a period of between 3 months and 20 years, although the number of employees carrying out welding work or allied processes on an occasional basis is likely to be much larger. Welders are employed by engineering and metal working industries but also a lot of welding on an *ad hoc* basis occurs in smaller businesses, e.g. small garages and other SMEs, in which welding forms only part of the work of the company.

Potential for Exposure

8. A small survey of stainless steel welding, carried out in 2009 (HSL, 2010), suggests that there has been no increase in the use of exposure controls since the launch of COSHH Essentials guidance on welding; and a significant proportion of companies may not be controlling fume exposure adequately. In addition, HSE commissioned- research in 2008 (Annex 1) on the attitudes and behaviour of welders indicates a general lack of awareness of the potential health risks associated with fume and gas inhalation, with a consequent lack of emphasis on effective control. This indicates that workers may be at risk from inhalation of welding fume and supports the need to raise awareness and promote good control practice.

9. The need for better control of exposure to welding fume has the broad support of our stakeholders (two HSE-run workshops were held in early 2009) and the next challenge is to work in partnership with them to communicate with this hard-to-reach and disparate sector. There are a number of different controls available but the choice of these depends on the nature of the work; items welded may range from small articles indoors to large vessels in the open air. This, together with the above research indicates that the messages we develop and promote need to be appropriate to each particular welding 'group'.

10. The OES for welding fume was withdrawn in 2005. The COSHH Regulations 2004 (as amended) require that exposure is controlled in proportion to the risk and, for carcinogens and asthmagens, that exposure is reduced to as low as reasonably practicable (ALARP). In the absence of a specific occupational exposure limit, HSE has developed COSHH Essentials task sheets for welding which aim to guide SMEs on the control options for different welding tasks and scenarios. These are a useful resource but controls are only adequate if implemented effectively and used properly.

Potential Adverse Health Effects

11. In internal discussions HSE has identified what it considers to be the key potential health effects associated with inhaling welding fume; for efficiency and resource reasons a comprehensive and fundamental review of all possible evidence has not been undertaken. The attached draft 'Statement of Evidence' (Annex 2) summarises the apparent state of knowledge for what were considered the key potential health effects, based on the current collective HSE knowledge of key papers and statistical analyses. Members may also wish to refer to the most recent evaluation of welding fume by IARC (<http://monographs.iarc.fr/ENG/Monographs/vol49/volume49.pdf>) and a review of chronic bronchitis, emphysema and occupational exposure, commissioned by the Industrial Injuries Advisory Committee (Rushton, 2005) copy attached). A single table copy of these will be available for viewing at the February meeting.

12. Exposure to products from the decomposition of air and well-known physical effects such as arc eye were excluded. Similarly, effects generally considered benign (e.g. siderosis) or for which the Working Group decided there was no clear supporting evidence (e.g. Parkinsonism from manganese exposure) were not included.

13. HSE will be working with stakeholders to consider how the evidence presented and effects cited may be used to facilitate the development of a number of simple and readily accessible key messages. Clear statements regarding the potential health effects of excessive inhalation exposure to welding fume will feed into a number of activities and initiatives, to help us communicate effectively with our target audience.

14. The main objectives for the work are:

- By working with and through stakeholders, to reduce exposure to welding fumes by:
 - raising awareness and improving employers' and workers' knowledge of the potential risks arising from excessive exposure to welding fume.
 - changing the perceptions, attitudes and behaviours of those potentially at risk, with the aim of them adopting and maintaining good working practice.
 - using, where appropriate, interventions and communication initiatives, to reduce the risk of excessive exposure leading to ill health.

Link to HSE Strategy

15. As discussed in paragraph 5, this project falls within the remit of the HSE's Long Latency Health Risks Division and also the work of its Manufacturing Sector.

Consultation

16. There has been no consultation beyond HSE on this paper.

17. HSEs external stakeholders for welding have been identified and an initial meeting to begin to develop partnership working is scheduled for 5th March 2010.

European Context

18. There are no specific links to EU procedures or activities.

Action

19. WATCH Members' views and comments are welcomed.

Contact:

Jayne Wilder
WATCH Secretariat

References / Attachments

HSL (2010) A small survey of exposure to stainless steel welding fume.
Health and Safety Executive Research Report 770
<http://www.hse.gov.uk/research/rrhtm/rr770.htm>

Rushton, L (2005) Review of literature on chronic bronchitis and emphysema and occupational exposure. Institute for Environment and Health.

Annex 1 – COI HSE Research Report – Diagnostics Social & Market Research - Welders' Attitudes to Health and Safety Qualitative Research Report (2008).

Annex 2 – Draft Statement of Evidence – Health effects arising from inhalation exposure to welding fume (2009).