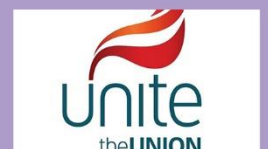


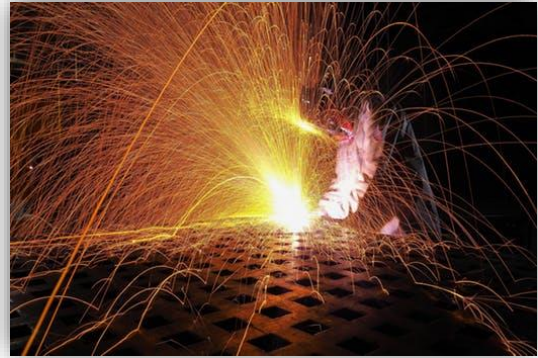
Scottish Hazards

Welding Fume - a fair work plan of action



Introduction

Every year the HSE produces figures on deaths at work, figures that for many organisations such as trade unions, Scottish Hazards and other campaigning organisations such as Families Against Corporate Killers (FACK) are not a true reflection of the pain and suffering many workers and their families have to endure as a result of the failure of employers to manage the risks of exposure of harm to health caused by work processes.



The HSE estimates that every year around 12000 workers lose their lives through lung cancers linked to past exposure at work and around 18000 cases of respiratory ill health caused or made worse by work are self-reported annuallyⁱ.

Often the harm caused is not immediately obvious but if adequate health surveillance is not put in place to measure primary and secondary exposure to work hazards such as welding fumes then the potential long-term effects on workers' health increases, and the opportunity for effective interventions decreases.

Evidence of the harm caused by welding fume is increasing and it is now one of the top ten industrial activities that have a causal effect on the incidence of cancer as well as other debilitating and potentially fatal health conditions such as chronic obstructive pulmonary disease, industrial asthma, pneumonia and welding fever.

We believe that there should be an urgent review of current practice in the welding industry and a programme of education rolled out to inform all industry practitioners of the serious health risks associated with welding. The aim would be to improve the health of thousands

of workers and the development of better safety practices across the industry.

Scottish Hazards is delighted to have been able to collaborate with BAE Systems trade unions, GMB and Unite as well as the company in preparing this report and commit to work with them to promote the *Breathe Freely in Manufacturing Campaign*ⁱⁱ to raise awareness of the risks to health arising from welding, how to manage that risk and ensure all workers are prevented from harmful effects of welding fume.

Who's at risk

Everyone who carries out welding as part of their job is potentially at risk of exposure to the harmful effects of welding fume. The impact that exposure is likely to have will depend on the amount of time spent on welding activity, some occupations such as shipbuilding and fabrication (e.g. emerging offshore and onshore windfarms) where the welder is involved in assembling pre-cut steel and components will involve far greater exposure to welding fume than workers who carry out preparation work on jobs in addition to welding and therefore less of their working day is spent on welding activity.

It is estimated that around 190000 individuals, employed and self-employed, carry out welding activity in the course of their work, it is also estimated that around 150 workers each year die as a result of exposure to welding fume.

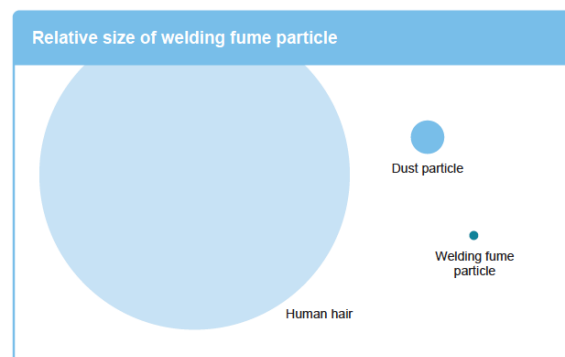
The work can be transient and precarious with workers having to take jobs for employers who, given the choice, they would rather not work for. On the other hand, many welders have reasonably more secure employment such as in BAE Systems in Govan and Scotstoun with well-developed health and safety systems rigorously applied by employers and trade union health and safety representatives.

Welders working in trade unionised workplaces may be exposed to the same levels of welding fume as others, but they are more likely to have access to health surveillance, occupational health provision, safer systems of work and access to appropriate personal protective equipment than those who are self-employed or working for smaller employers with no trade union recognition.

Clearly those most at risk are workers directly involved in welding activities, but employers should consider the health impacts of secondary exposure; i.e. those working in close vicinity where welding is being carried out and that presence is required for a substantial part of the working day or shift.

What are the Hazards?

While welding, fumes - minute solid particles suspended in air - are the most significant hazards for welders. Welding processes also expose workers to gases and UV radiation each carrying risk to health if proper control measures are not in place.



Welding fume – key risks include exposure to levels of manganese, used in manufacture of welding rods, known to attack the nervous system. Stainless steel welding processes produce highly toxic carcinogenic nickel and chromium VI oxides which can be inhaled and are also linked to occupational asthma.

Welding gases- symptoms from gases in welding fume include, dryness of the throat, tickling coughing or a tight throat all of which tend to be short lived and clear when the worker is no longer carrying out welding activity. Exposure to nitrous oxides generated during arc welding processes can produce similar symptoms. Gases

released during MIG and TIG welding operations, when carried out in enclosed spaces, carry a significant risk of asphyxiation.

UV radiation – welding produces UV light that can have both long and short-term effects on workers' health such as conjunctivitis and arc eye, skin burns, and in the most severe cases skin cancer.

In common with all workplace hazards exposure to welding fume and its harmful effects can be reduced and the risk of occupational ill health and disease can be prevented by introducing adequate control measures for each new welding operation.

The HSE webpages on Control of Substances Hazardous to Health (COSHH)ⁱⁱⁱ regulations provide information for managers and trade unions safety reps on steps that can be taken to prevent exposure across a wide range of welding activity.

What can be done?

The task of tackling occupational ill health and disease caused by welding is huge and not be underestimated, the impact on the health and wellbeing of workers involved in welding processes may well be underestimated as many people, including health professionals will not have made the link between underlying health conditions and disease and work histories.

The development of Breathe Freely in Manufacturing^{iv} by the BOHS, supported by employers - including BAE Systems - as well as trade unions, is a significant step forward. The Breathe Freely initiative provides employers and trade unions with the resources and opportunity to develop innovative approaches to making welding work fairer, healthier and safer for all. Such an approach would fit with the Scottish Government's vision of having a successful economy by 2025 with fair work as its foundation.

The challenge for Government, business and trade unions is how to ensure the Breathe Freely in Manufacturing is disseminated and promoted as the industry standard, particularly where welding work is being carried out in the delivery of publicly funded contracts.

The Scottish Government's commitment to fair work also provides the opportunity for socially responsible employers and their trade unions to work together to provide support and share best practice with others involved in welding, helping them review existing practices, identify risks and put in place adequate control measures to prevent causing long term ill health and disease to those at risk of primary and secondary exposure to welding fume.

Scottish Hazards following consultation with GMB and Unite representatives at BAE Systems at Govan are committed to supporting innovative initiatives to highlight the risks of welding fume exposure, to raise awareness of the issues with business and public policy makers and to ensure all possible measures are taken to ensure this does not become the asbestos scandal of the 21 century.

We believe a Breathe Freely Fair Work Charter should be developed to include the following;

1. Corporate commitments to developing Breathe Freely in Manufacturing strategies to raise awareness of welding fume and associated health risks within their workplaces and communities.
2. Such strategies should be developed in conjunction with trade unions; where trade unions are not present, employers should be able to demonstrate effective employee voice mechanisms are present in the workplace.
3. A commitment to providing access to occupational hygienists and other occupational health services and an assurance to prioritise job retention and rehabilitation for those affected by welding fume.

4. Employers to commit to providing time for trade union safety reps or representatives of employee safety to develop and deliver Breathe Freely training and to release staff to undergo such training
5. Companies wishing to secure public-sector contracts should be obliged to support the Breathe Freely in Manufacturing Charter and evidence preventative measures they have taken in respect of welding fume in public tendering exercises.
6. Large private sector companies involved in welding activity; those directly employing welders, using contractors or agency workers should commit to providing Breathe Freely ongoing training and awareness sessions on welding fume.
7. Where equipment is purchased but fabricated offsite, companies (e.g. drinks industry/ distillery VAT manufacture or repair) should use their supply chains to promote Breathe Freely and insist on this as being industry standard in their purchasing.
8. The Scottish Government should fund initiatives by trade unions and employers aimed at developing Breathe Freely as a fair work initiative.

ⁱ HSE Occupational Lung Disease in Great Britain 2017 <http://www.hse.gov.uk/statistics/causdis/respiratory-diseases.pdf>

ⁱⁱ <http://www.breathefreely.org.uk/breathefreelymanufacturing.html>

ⁱⁱⁱ HSE Welding Health and Safety; Task specific COSHH guidance for welding, cutting and allied jobs, <http://www.hse.gov.uk/welding/guidance/index.htm>

^{iv} <http://www.breathefreely.org.uk/breathefreelymanufacturing.html>