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## WELDING FUME UPDATE



# Proactive Inspection Programme 2019/20

## Welding Changes

# Proactive Inspection Programme - 2019/20



Manufacturing Workplan 2019/20 now published on website:

<http://www.hse.gov.uk/foi/internalops/og/og-00109.pdf>

- Operational Guidance covers 11 key sectors
- OLDs – Asthmagens, Carcinogens and RCS
- MEC and MPMC
- Prevention of Catastrophic Events

# Change to Enforcement Expectations for Welding of Mild Steel

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## Background

- Change in welding enforcement expectation based on IARC Research concluded in July 2018.
- Aluminium was included in the scope of the research on cancer undertaken by IARC but this part was not agreed with by HSE and therefore the changes identified in the Safety Alert are based on those carrying out mild-steel welding.

# Change to Enforcement Expectations for Welding of Mild Steel

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- Evidence shows cause of lung cancer and limited evidence for kidney cancer
- HSE Enforcement Expectations changed to reflect this evidence

# Change to Enforcement Expectations for Welding of Mild Steel



## Action Taken

- HSE took the IARC evidence to WHEC for independent opinion – who agreed with IARC
- Presented a paper to the Regulatory Policy Committee based on proposed changes to enforcement expectations
- Full agreement of proposal - enforcement change required with immediate effect

# Change to Enforcement Expectations for Welding of Mild Steel

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## Action Taken

- Safety Alert issued – on webpages, shared amongst Industry contacts and Trade Associations
- Alert shared via eBulletins, LinkedIn, Trade Press
- In the process of updating HSE webpages to reflect changes



# Change to Enforcement Expectations for Mild Steel Welding



## Key Changes

- Exposure control required for all types of mild steel welding activity
- Follow the Principles of Good Control Practice Sch2A
- RPE required where there is visible residual fume (or ozone smell with TIG)
- RPE required for welding outdoors

# Change to Enforcement Expectations for Mild Steel Welding

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## Key Changes

- Controls required irrelevant of duration – we do not know at what level harm can be caused
- Also risks from exposure to manganese – linked to neurological effects similar to Parkinsons'

# Change to Enforcement Expectations for Mild Steel Welding

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## Action required

- Make sure exposure to any welding fume released is adequately controlled using engineering controls (typically LEV) where reasonably practicable.
- Make sure suitable controls are provided for all welding activities, irrelevant of duration. This includes welding outdoors.

# Change to Enforcement Expectations for Mild Steel Welding

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## Action required

- Make sure all engineering controls are correctly used, suitably maintained and are subject to thorough examination and test where required.

# Change to Enforcement Expectations for Mild Steel Welding



Acceptable forms of LEV will usually be:

- Flexible Arm
- Dowlndraught Bench
- Extracted Booth (if possible)
- On-Torch

The choice should be based on a suitable risk assessment

# Change to Enforcement Expectations for Mild Steel Welding



- Where engineering controls alone cannot control exposure, then adequate and suitable RPE should be provided to control risk from any residual fume.
- Make sure any RPE is subject to an RPE programme. An RPE programme encapsulates all the elements of RPE use you need to ensure that your RPE is effective in protecting the wearer.

# Change to Enforcement Expectations for Mild Steel Welding



Suitable RPE will consist of:

- A disposable mask rated FFP3
- A half-mask rated P3
- Air-fed respirator with a minimum rating of APF20

# Change to Enforcement Expectations for Mild Steel Welding

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- No WEL for welding fume, removed in c.2005
- WELs for constituent metals components
  - Chromium
  - Nickel
  - Manganese etc.



# Change to Enforcement Expectations for Mild Steel Welding



## Cutting Activities

- IARC research specifically relates to welding and therefore so does HSE's change in enforcement expectations
- Assess and control as appropriate
  - Similar fume produced
  - Often higher volumes
- Has been discussion with Construction colleagues

# Change to Enforcement Expectations for Mild Steel Welding

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More information available in the Safety Alert

<http://www.hse.gov.uk/safetybulletins/mild-steel-welding-fume.htm>

# Other Welding....



- Enforcement change purely for Mild Steel Welding
- Should have been in place for other metals anyway
  - Stainless, Galvanised, Exotic metals.....
- Still need to follow basic requirements of COSHH
  - Assess risk
  - Control Exposure where you can't eliminate
- If you produce a fume hazardous to health through your process you need to control the risk from exposure

# Any Questions?

Sarah Palfreyman

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