

Topic Sheet No. 7

Hot works



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SAFETY AND HEALTH TOPIC SHEET NO. 7: HOT WORKS

A safety and health 'topic sheet' aimed at raising awareness of hazards in the rope access industry. The series may be of use as a toolbox talk.

1 INTRODUCTION

- 1.1 'Hot work' is any process that can be a source of ignition when flammable material is present or can be a fire hazard regardless of the presence of flammable material in the workplace¹.
- 1.2 When combining hot works with work at height there are additional risks that need to be considered, as well the risks normally associated with both hazards.
- 1.3 It is common for the most obvious risks associated with hot works to be considered and controlled (e.g. fire, burns), but the risk assessment process must consider the potential impact of hot works on the work at height risk.

2 WHAT CAN GO WRONG ...

- 2.1 A 'hot work' incident may result in fire and injury. It may also damage equipment, in particular that made from textile material.

3 WHY THINGS CAN GO WRONG ...

- 3.1 There are things that can go wrong. Consider and discuss the following scenario. What additional considerations should have been made for this situation?

Scenario
Hot works incident: What may need to be considered?
<p>A technician is required to remove a cleat from a steel structure, via gas cutting. They must descend to the point of work, 15 metres below, undertake the work and then return via ascent. The technician is trained and certificated to undertake the task. There is no point of exit below. There are no sharp edges, although the technician needs to be able to move over some pipework and control the trailing hose.</p> <p>There is a 'top man'. The system is 'rigged for rescue'. There is no foreseeable risk of fire, but a high risk of heat being retained in the material and structure.</p> <p>During the task a piece of molten metal drops onto the technician's leg. It burns him severely, causing him to drop the torch. The technician faints and passes out.</p> <p>You have an unconscious technician, with a severe burn and hanging 15 metres below you, with a lit torch.</p>
Cont./...

¹ Source: https://en.wikipedia.org/wiki/Hot_work

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Cont./...

Examples of additional considerations for this situation include:

1. Can any tools be isolated?
 2. Can the technician be injured further through unconscious contact with the hot surface, or torch?
 3. Can the technician be hauled to safety easily?
 4. Is the unconscious technician likely to hit the hot surface or the pipes on the way up, doing more damage?
 5. What additional rescue and first aid requirements are required for 'hot works'?
 6. Has the technician secured himself to something for work positioning? (For instance, is a third team member required? If so, how will they be protected?)
 7. Are all ropes and rigging protected from the heat?
- (etc.)

- 3.2 This example highlights that with any 'hot work' at height you must consider both the risk from being 'at height' and the additional risks associated with 'hot work'.

4 WHY THINGS CAN GO WRONG ...

- 4.1 Things may go wrong with 'hot work' for many reasons, including:

- A lack of consideration for increased rescue times and complexity.
- The increased potential and severity of damage to equipment and rigging.
- Changes to first aid requirements, and the enhanced need for careful casualty management.
- The risk of fire and explosion, with a greater fire-fighting requirement.
- Increases the need for correct work positioning, e.g. additional points of attachment to minimise the potential for accidental movement or slipping.
- The requirement for personal protective equipment may increase, leading to greater difficulty in access and egress.
- Spaces may be confined, enclosed or restricted, affecting access, egress and rescue.
- Rigging and the selection of a back-up device, e.g. grinding, cutting or burning require minimal contact to cause damage.
- Incorrect choice of rope and poor rigging, e.g. flame retardant rope is available; rigging that has not taken into account the path of the ropes resulting in poor hazard protection.

5 WHAT YOU CAN DO AND HOW TO DO IT ...

- 5.1 You should:

- Undertake a thorough risk assessment;
- Consider the effect of 'hot' in all aspects of this assessment, e.g. take each task individually;
- Take into account how the hot work will impact on rigging, access and egress, task, rescue, flame retardant ropes, first aid, etc. - **all** elements of the job.

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- 5.2 Care should be taken by technicians to protect against potential personal injury while carrying out hot work, e.g. by sealing the gap between overalls and boots or sleeves and gloves to prevent hot material such as weld or grit entering.
- 5.3 For certain types of hot work, rope access equipment such as ropes and harnesses may need special protection, e.g. ropes could be protected in the immediate hot work area by attaching heat resistant protectors around them.

6 ADDITIONAL CONSIDERATIONS

- 6.1 It is important to ensure that you have the right level of skill and experience in your rope access team; both rope work, rescue and task-specific.
- 6.2 Utilise intrinsically safe equipment – so-called ‘spark protection’.

7 ACTION

- 7.1 Review your management system’s procedures for ‘hot works’.

8 REFERENCES

- 8.1 Further information can be found in:
- (a) IRATA International code of practice for industrial rope access (Third edition, September 2016)²:
 - Part 2, 2.2.4.3(i), Hazard identification
 - Annex M.5, Hot work
 - Annex P.2, Examples of hazards
- 8.2 For a list of current (and past) ‘safety communications’ by IRATA, see www.irata.org

9 RECORD FORM

- 9.1 An example *Safety and Health Topic Sheet: Record Form* is given below. Members may have their own procedure(s) for recording briefings to technicians and others.

10 FURTHER READING

Safety in gas welding, cutting and similar processes (HSE)³

Guidance about welding and other hot work⁴

JSP 375 Vol 1, Chapter 31 (V1.2), Hot Working⁶

² www.irata.org/downloads/2055
³ www.hse.gov.uk/pubns/indg297.pdf
⁴ www.dmp.wa.gov.au/Safety/Guidance-about-welding-and-other-6670.aspx
⁵ www.uclan.ac.uk/safety_health_environment/assets/Hot_WorkPDF.pdf
⁶ www.go.uk/governemnt_JSP375_Vol1_Chapter_31_V1.2_Hot_Working_FINAL.pdf

IRATA SAFETY AND HEALTH TOPIC SHEET – RECORD FORM			
Site:			
Date:			
Topic(s) for discussion:	Topic Sheet No. 7: Hot works		
Reason for talk:			
Start time:		Finish time:	
Attended by <i>Please sign to verify understanding of briefing</i>			
Print name:	Signature:		
<i>Continue overleaf (where necessary)</i>			
Matters raised by employees:	Action taken as a result:		
<i>Continue overleaf (where necessary)</i>			
Briefing leader <i>I confirm I have delivered this briefing and have questioned those attending on the topic discussed.</i>			
Print name:		Signature:	Date:
Comments:			