



HSG 168 3rd Ed/ JCOPv10 – What's Changed

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HSG 168 3rd ed - Summary of Significant Changes



Overview of HSG 168

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Introduction Section



Changes to HSG 168

Introduction

Wates 

The definition of a complex site has been added

Insertion of a summary table to reinforce the relationship between Fire Safety and all duty holders under CDM – includes Duty holder, Responsibility and Actions to reinforce appendix 4

Part 1 – Fire Risk Assessment



Part 1 – Risk Assessment

Addition of Figure 1 - visual of five steps of a fire risk assessment.

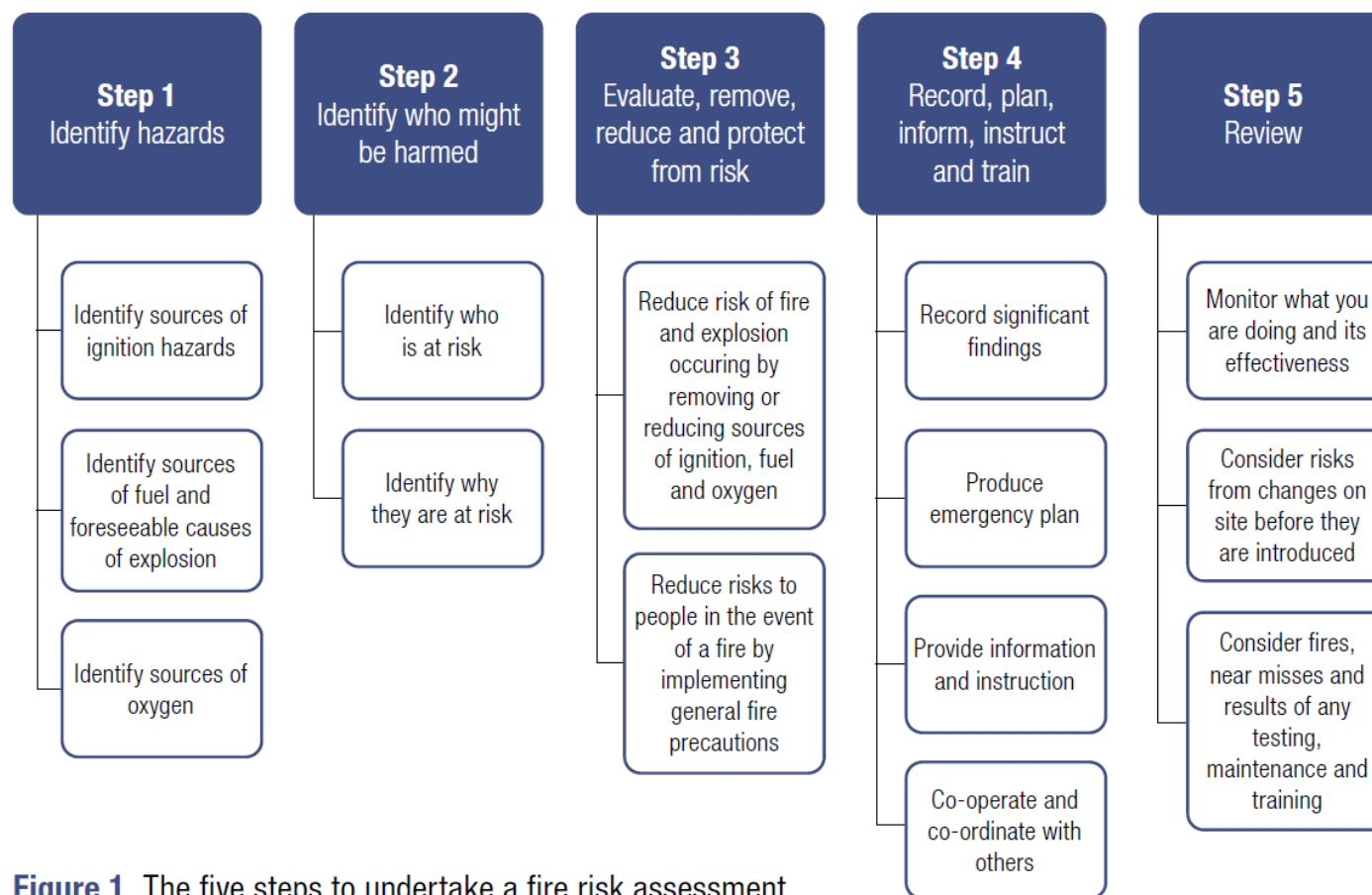


Figure 1 The five steps to undertake a fire risk assessment

Step Two - People at Risk

- There are situations where people will be at greater risk than normal because of specific circumstances, and some extra points for consideration have been included, for example:
- People wearing personal protective equipment which may affect their ability to hear any alarm or warning. (para. 43)
- People with a health condition or impairment. (para. 43)

Neighbouring Properties

- Identifying hazards on neighbouring properties (for example, whether a neighbouring property has flammable materials stored adjacent to the shared boundary. (para. 34)
- If there are structures outside the site boundary that may be affected by fire, the emergency plan must consider the occupants of the premises outside the construction area itself. (para. 83)
- On timber-frame buildings and engineered wood products: An off-site risk assessment must consider fire spread and the risk to people and property beyond the site boundary and outside of the control of the principal contractor.

Step Five – Review

Addition of New Section - Risk Assessment Checklist



Part 2 – Detailed Guidance on Fire Risk Assessment and Fire Precautions



Reducing Ignition Sources

Smoking - Fire point in immediate vicinity

Plant and equipment - New paragraphs discussing modern batteries and hydrogen equipment.

Hot works replaces “Use of oxy-fuel equipment” - Headlines include:

Hot works should be designed out where practicable. The need for hot works must be justified using a design stage risk assessment and information provided to others in PCI pack.

Provide and use combustible gas detectors and/or TI cameras.

Maintain fire watch in hot works area during breaks.

Continuous fire watch for one hour rather than checks at regular intervals and at least one more check two hours after the end of the hot works.

Reducing Potential Fuel Sources

New Section - Modern Batteries and Fuel Type - Discusses the use of hydrogen gas or lithium-ion batteries and DSEAR ACoP L138

Storage of More Volatile Flammable Material becomes Storage of Volatile and Flammable Materials and Gases Under pressure

Storage of Volatile and Flammable Materials and Gases Under pressure - Rehash of section

Precautions for All Uses of Gas Cylinders - Rehash of section

“Temporary Site Accommodation and Similar Areas” becomes “Precautions for Heating in Temporary Site Accommodation and Similar Areas” with requirement for formal end of day check.

Reducing Potential Fuel Sources - LPG

Precautions for all uses of LPG becomes Precautions for All Uses of Gas Cylinders

Precautions for Some Particular Uses of LPG/ Flammable Gases - Removed and dealt with as separate Sections

New Section - Precautions for Bitumen Boilers

Addition of direction to use manufactures recommendation for lighting up, remove the burner from under the boiler then replace it.

Hoses to be braided and at least 4m in length.

Pressure regulator of no more than 2 Bar is fitted to gas cylinder.

At least one fire extinguisher nearby (9 litre foam or dry powder), ideally include two boxes of sand.

Reference to the National Federation of Roofing Contractors publication “Safe To Torch”

Reducing Potential Fuel Sources

“Acetylene” is replaced with “Precautions for Oxy-fuel Cutting” and includes:

New section - Safety Precautions for Oxy-fuel Gas Cylinders

New Section - Safety Precautions Specifically for Acetylene Cylinders

Protective Coverings - Loss prevention standard LPS 1207 and equivalent such as Technical Standard 63 and CERTIFIRE product certification scheme

Scaffold Sheeting – Changes from where possible to Do not use sheeting to enclose scaffold stair towers

Demolition Section – Removed and broken down into underground gas services and, dismantling of tank Structures.

General Fire Precautions

General Fire Precautions - now includes fire detection

Means of Escape - Addition of “no flammable or combustible materials are temporarily or permanently stored in any means of escape.”

Travel distance – Table 1 updated to only reference enclosed structures

Emergency Lighting - Addition of requirement to test after any new components are added.

General Fire Precautions

Fire Alarms - Addition of:

- Consider the use of automatic fire detectors during construction work. These are only effective in more enclosed areas and options include smoke or heat detectors. It is not acceptable to cover or deactivate smoke detectors where work generates dust. Instead, dust should be minimised or extracted
- Must be tested after installation and when any additional components are added to the system by the competent person installing the system

Composite Building Panels

With composite panels, incorrect installation, such as poor joint detailing and inadequate support, can lead to exposed combustible material that is vulnerable to fire.

In the construction phase plan consider eliminating sources of ignition during the removal and installation of composite panels. This includes avoiding methods of cutting panels that create sparks; avoiding methods of fixing that involve flammable solvents; and minimising hot works as a means of drying the surface before the panel is fixed.

Manage any works on or near an installed composite building panel carefully to ensure the core of the panel is not left exposed and any gaps are filled. Avoid hot works that might come into contact with the exposed core of the panel.

Timber-Frame Buildings

- The sections relating to Timber-frame buildings and engineered wood products have been updated, largely mirroring the recommendations made within the Structural Timber Association's 16 steps to fire safety and Design guide during construction to separating distances for timber frame buildings. Again, the focus is on good planning and careful phasing of the construction programme.
- Neighbouring buildings are also of prime consideration and a specific off-site risk assessment must consider fire spread beyond the site boundary.

Process Fire Precautions for High Rise Bldgs

It is becoming more common for completed floors of new high-rise buildings to become occupied by the client while construction continues on the other levels, or for floors in existing buildings to be refurbished while the remainder of the building is occupied. Clients must make it clear from the design stage if they are considering partial occupation during the construction phase so that appropriate fire protection is planned. The fire protection must address how fire in occupied parts might affect construction workers and vice versa.

Any occupied floors must fully comply with Building Regulations and full compartmentation and fire safety measures must be in place, including in risers and other vertical shafts that run between occupied and construction areas of the building.

Part 3 – Legal and Enforcement Responsibilities



Part 3 Legal and Enforcement Responsibilities

Fire Safety Act 2021. This Act applies in England and Wales. It makes changes to the FSO, such as the definition of an external wall. Items fixed to said walls, such as scaffolding, form part of the premises.

The Fire Safety (England) Regulations 2022 (coming into force 23 January 2023). CDM duty holders must co-ordinate and co-operate on fire safety precautions with the responsible person(s) when construction work is taking place on an occupied high-rise residential building.

Dangerous substances can put people's safety at risk from fire and explosion. DSEAR puts duties on employers and the self-employed to protect people from risks to their safety from fires, explosions and similar events in the workplace; this includes members of the public who may be put at risk by work activity.

JCoP v10 - Summary of Significant Changes



Provision for Combustible Materials

- One of the changes in the 10th edition relates to the importance of addressing fire safety in the design phase. For example, consider the impacts of fire loading from insulation products and temporary materials, including the removal of existing (combustible) cladding and how and where it is stored and disposed of.

Impairment of Fire Systems

- A new section has been added to section 9.10, requiring the implementation of impairment management arrangements for fire systems. This includes systems such as fire alarms, emergency lights and sprinkler systems. If a system is removed or disconnected (in part or whole) the area must still be covered, and the system reinstated as soon as possible.
- “The impairment management arrangements should be supported by a suitable risk assessment undertaken by a competent person and seek as a minimum to:
 - a. Ensure effective supervision and the safe shutdown of the system(s);
 - b. Ensure that there is effective control of potential fire hazards during impairment;
 - c. Minimise the duration of the impairment by reinstating the protection system as soon as practicable and testing to ensure they are operational.
- “Detailed guidance on the temporary impairment of sprinkler systems is described in BS EN 12845 Annex J (ref 11).”

Temporary Protective Coverings

- Sections 10.1, 10.2 and 10.3 have been updated regarding the classification of boards used as temporary covering materials, and regarding applicable certification schemes.
- In particular, 10.1 now states that hard boards used as temporary covering materials must meet Class A2-s1, d0 or better as classified under BS EN 13501-1.

Portable Fire Extinguishers

- Section 11.8 has been updated regarding responsibility for fire extinguishers brought onto site by subcontractors: “Portable fire extinguishers brought onto site by subcontractors (such as to support hot work operations) must be registered with and clearly labelled for use by the principal contractor.”

Site Security Against Arson

- Sections 12.8 and 12.9 have been amended to require the use of licenced personnel/approved companies working in accordance with BS 7944, and updates to the use of VSS, in particular, relating to remotely monitored VSS” (Video surveillance systems).
- “On high fire risk sites, the use of detector activated remotely monitored video surveillance systems (VSS) and/or a permanent security presence should be considered

Temporary Bldgs and Accommodation

- Section 13 has been amended to include references to European standards, rather than just to British Standards. This doesn't mean immediate upgrading to all temporary buildings is required, but more along the lines of improving standards in the future.
- Section 13.11 has been updated to prohibit the use of deep fat fryers, and to encourage the use of safer canteen equipment.

Hot Works - General

- There have been new sections added (16.3 and 16.16) (with the remainder renumbered) and several updates to other sections. “All hot work procedures should only be carried out by trained personnel, using equipment which is in good condition and being used in accordance with the manufacturer's instructions. Frequent training should be provided to all relevant personnel to make them aware of the risks associated with hot work.” (Section 16.3)
- “Hot work permits must only cover specific, identified activities and locations and be signed off at the end of each work period. Similarly permits should not be issued for protracted periods. Fresh permits should be issued where, for example, work extends from morning to afternoon. ‘Blanket’ permits covering hot work activities over an extended period or several days must not be allowed. To identify and rectify any non-compliance issues, completed permits shall be inspected by a senior member of the project staff on a regular basis (maximum monthly). These inspections should be recorded.” (Section 16.5)

Hot Works – Extinguishers/ Screening

- Section 16.7 has been updated regarding the types of fire extinguishers required for hot work:
- “The types and size of extinguishers provided should be appropriate to the risks at hand, nature of the work being undertaken, equipment used and the local environment. Provision should include as a minimum at least one water based or foam unit with a minimum 13A rating.”
- Sections 16.8 and 16.9 update the guidance around screening of hot work areas: “Subject to a written suitable and sufficient risk assessment undertaken by a competent person, temporary protective covering materials as described in Section 10 may be used in circumstances where the use of non-combustible materials is not practicable.” (16.8)

Hot Works – Fire Watch

- Section 16.15 relates to the requirement for Fire Watch – this section has been fully rewritten:
- “The fire watch should be maintained during the period of works by a dedicated individual or individuals where a suitable and sufficient risk assessment indicates the potential for hot work impacts to be more widespread (for example, if the work area is particularly large, multi-level and/or congested; or an opening or thermally conductive assembly extends through a wall). The continuous fire watch should be maintained for at least one hour after work is completed.”
- “Additional checks must be made at regular intervals for a further one hour but may be needed for longer based on a risk assessment. In some cases, completing these checks for up to three hours, or more, might be appropriate. These further checks should be at intervals of no more than 20 minutes... the fire watch periods should be extended where determined necessary by a suitable and sufficient fire risk assessment.”

Hot Works – Close Out

- “Ideally photographs of the immediate vicinity, adjacent voids and vulnerable spaces should be taken... appended to the hot work permit and available for review as part of the sign off process.”
- “Thermographic cameras should be used routinely, before...during and after the work as part of the fire watch.”
- Section 16.16 is a new section also relating to the requirements of Fire Watch:
- “As described in 16.15 the minimum fire watch periods should be extended in circumstances where a suitable and sufficient fire risk assessment undertaken by a competent person has deemed it necessary.”

- A new section has been added specifically addressing the risks relating to cladding removal waste:
- “Combustible insulation materials removed from premises during works that are undertaken to reduce the fire hazard to the external façade should be removed from the site at regular frequent intervals, ideally daily, to prevent excessive amounts accumulating. Whilst awaiting removal they should be stored in a closed skip that is secure outside working hours.”
- “It is also important that combustible cladding/façades and insulation materials are removed away from the building as they are dismantled and must not be stored on scaffolding, roofs, inside the building...etc.
- Wherever possible, cutting panels to smaller lengths (either insitu or after removal) should be avoided. Otherwise this activity shall be performed in the open and not less than 10m from the building using cold cutting tools and in accordance with the hot work controls described in Section 16.” (18.3)

Electrical Vehicle Charging

- Electric vehicles have become a lot more popular since the 9th edition of JCoP in 2015, so a completely new section has been added to the guidance to address the risks these vehicles might pose on a construction site.
- “Storage of electric vehicles, including cars, vans, bikes and scooters, shall be prohibited within buildings under construction. If this cannot be avoided, essential electric vehicles shall be stored in a minimum 60-minutes fire-rated compartment, with addressable fire detection, subject to a written fire risk assessment undertaken by a competent person and provision of appropriate ventilation and fire suppression systems.” (20.1)

High Rise Construction Sites

- There is a small amendment in Section 23.5 to clarify that fire resistance of temporary fire stopping material includes both integrity and insulation to 60-minute fire resistance:
- Section 23.8 concerns the need for planning effective fire detection as works progress
- “Particular areas of consideration for installation of detection should include designated fire points and areas with increased temporary fire loads.
- Section 23.9 has been amended regarding installation of wet rising mains, to bring JCoP into line with Approved Document B.

Construction of Large Timber Frame

- Section 24 has been revised and retitled, mostly to clarify requirements, advise regarding temporary buildings close to timber frame construction, and to advise against the use of hot work on timber frame construction sites as far as reasonably practicable:
- Wherever temporary buildings have to be located closer than 20m to the structure, the safe distance and construction specification must be determined by a life and property fire risk assessment carried out by a competent person.” (24.12)

Summary

- Many changes to both document – Including a major update to hot works.
- These are headlines only – the devil is in the detail.
- Most insurance companies have circulated a gap analysis of JCOP and timeline for implementation – Use it
- Stay safe and fire free.

THANK YOU



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