

# CONTROLLING HOT WORK OPERATIONS

## RISK MANAGEMENT ADVICE NOTE

### Purpose

There have been numerous major fires caused by inadequate control of cutting and welding operations. These may be more appropriately titled "Hot Work" operations, as control needs to extend beyond cutting and welding operations to soldering, paint stripping, roof repair (bitumen boilers), grinding and similar operations, all of which may present a fire hazard due to the use of naked flame and/or production of sparks. A good Hot Work discipline should be established to reduce the risk to the minimum.

### Responsibility

Control of Hot Work operations is best achieved by means of a 'Permit to Work' system but prior to issue of a permit alternative methods of work should be considered such as removal of a component to a safe place for welding and cutting. The system should apply in respect of any Hot Work that is undertaken on the site outside a designated workshop area or welding bay.

Control of Hot Work should be delegated to a responsible person conversant with the hazards of the operation and of the premises. The company fire, safety officer or engineer, is probably the best choice but failing this or in addition, departmental managers may be considered as they will be fully aware of the hazards in their department, and may be made conversant with the hazards of Hot Work operations. It is equally important to ensure that persons proposing to carry out Hot Work operations are fully aware of the need to obtain a permit prior to commencement – this applies not only to your own staff but also to contractors, who should be advised of this requirement as part of their site induction process.

Contractors should also have adequate Public Liability Insurance.

### Procedure

Permits should be issued prior to commencement of work and should not extend beyond one shift, to ensure that good control is maintained throughout the operation. It is preferable for the permit to take the form of a stiff cardboard card or tag using a wording similar to that shown over the page – although the precautions listed need not be considered exhaustive as special risks may be present which require additional or different precautions. The permit card, duly completed, should be held by the person authorised to do the work.

Equipment should be in good repair – this applies particularly to contractors' equipment, which should be thoroughly checked. It should be in good condition and fitted with safety equipment e.g. flashback arrestors, non-return valves etc. in accordance with recognised standards. Gas cylinders should be secured in the upright position in storage and in use.

The need for a fire watch throughout the period of work is self evident – welders used to glare and concentrating on the job in hand cannot be expected to see where sparks are going. As sparks can create fires which do not show themselves immediately, the fire watch should continue for **at least** half an hour after the operation has ceased. After this period, the person who issued the permit should satisfy himself that there are no incipient fires before 'clearing' the permit, and ending the fire watch.

A suggested permit form is attached.

Permits should be filed for appropriate review and to show compliance with the requirements in the event of a fire.

N.B. Additional precautions need to be taken in relation to safe work on or near Foam Sandwich Panels – refer to separate QBE Advice Note '*Foam Sandwich Panel Work Permit*'.

### Disclaimer

The purpose of this Risk Management Advice Note is to assist you in minimising potential loss from exposures which need prompt consideration. The Advice Note does not imply that all other exposures were under control at the time of inspection.

The options contained in this Advice Note are not intended to be a substitute for appropriate professional advice in relation to any matter. In achieving compliance with these items, fire protection equipment and systems should be installed to comply with the requirements of the relevant local, and/or Government authority. Any equipment installed should also comply with the requirements of the relevant New Zealand Standards and Codes.

No responsibility is accepted by QBE Insurance (International) Limited for use of this Advice Note or for the information contained herein by any third party.

Should you require clarification, information or further advice in relation to this Advice Note, the options, or advice in general related to risk management issues, QBE Insurance (International) Limited is available to assist upon request.

# HOT WORK PERMIT

(Applicable to all operations involving welding, cutting or grinding equipment, other than work done in maintenance workshops)

Name:

Of:  (Dept or contracting co.)

is authorised/refused permission to carry out the following Hot Work

WELDING at

GAS CUTTING at

GRINDING at

between the hours of  am/pm and  am/pm On  /  /

subject to the following precautions being complied with.

**1. Fire Prevention Rules (check each item carefully)**

- Ensure operators are aware of Fire Exits and that the Fire Exits are not obstructed.
- Sprinkler and /or fire alarms are in service.

**2. Within 10 Metres of Work**

- There are no combustible liquids, vapours, gases or dusts.
- All combustible material has either been removed or suitably protected against heat and sparks.
- Combustibles moved away from other side of wall.
- All wall and floor openings covered.
- Covers suspended beneath work to collect sparks.
- Extinguisher/hose reel provided.

**3. Work on Enclosed Equipment (tanks, containers, ducts, dust collectors, etc.)**

- Equipment cleaned of all combustibles.
- Containers purged of all flammable vapours.

**DECLARATION BY APPROVING OFFICER** (Delete either (2) or (3))

- (1) I have examined the work site.
- (2) In my opinion, the work can be completed safely if the above precautions are complied with.
- (3) THE WORK CANNOT BE COMPLETED SAFELY (write "Refused" across permit form).

Signature of Authorising Officer:

Date:  /  /

A copy of this permit is to be carried by the hot worker and produced on request to site management or the approving officer.

**POST COMPLETION**

Work area and all adjacent areas to which sparks and heat might have spread were thoroughly inspected on completion of the operation and, 30 minutes later, no smouldering fires were discovered.

Signature of person responsible for the work:

Date:  /  /

After signing return the permit to the person who issued it.

