



**LEAFLET 64**

**HOT WORKING**

**AMENDMENT RECORD**

Amd No	Date	Text Affected	Authority

**REVISION NOTE:**

This leaflet follows a similar format to the Health and Safety Executive (HSE) Approved Code of Practice (ACoP) with guidance contained in boxes separating it from policy.

**HISTORICAL RECORD:**

First issued: June 2012

This policy has been equality and diversity impact assessed in accordance with Departmental policy. This resulted in a Part 1 screening only completed (no direct discrimination or adverse impact identified) This policy is due for review in June 2015

## **LEAFLET 64**

### **HOT WORKING**

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### **Foreword**

This JSP 375 leaflet is published under the authority of the Director of the Defence Safety & Environment Authority (DSEA) following consultation with departmental stakeholders and is to be applied across all areas of MOD and the Armed Forces to ensure compliance with UK and host nation legislation/standards and/or MOD policy.

## **1. SCOPE**

1.1 This Leaflet provides policy and guidance (not withstanding any additional/more stringent requirements as specified in other JSPs) for Commanding Officers/Heads of Establishment (CO/HoE), Line Managers and staff on the health and safety management of hot working activities undertaken by MOD staff (permanent or temporary) under their control and/or within their area of responsibility.

1.2 For the purposes of this leaflet hot working means any activity or process that generates flame, heat or an incensive spark and introduces (or presents) a foreseeable risk of fire or explosion through or source of ignition by means of tools or equipment either:

- intentionally arising from working methods (with or without the use of a naked flame) such as welding, flame-cutting, soldering, brazing; or
- the unintentional generation of heat or sparks, by the use of power/hand tools e.g. grinding and the use of disc-cutters.

1.3 This leaflet does not cover working in hot climates (information concerning working in hot climates is available in JSP 539 Chapter 2).

## 2. INTRODUCTION

2.1 Over the years hot working has resulted in many major fires and explosions which have caused a number of fatalities and serious injuries as well as property/asset losses. Where reasonably practicable the need for hot working should be eliminated by the use of other processes that do not involve the application or generation of heat or sparks.

2.2 Flammable liquids and vapours such as petrol, diesel, fuel oil, paints, solvents, glue, dusts etc are found in many places of work and under certain conditions (i.e. hot working) can explode violently (JSP 375, Volume 2, Leaflet 56 - DSEAR). Just a teaspoon of petrol in a drum can be enough to cause an explosion, when heated and turned into a vapour.

## 3. ROLES AND RESPONSIBILITIES

### 3.1 Commanding Officer /Head of Establishment CO/HoE

3.1.1 It is the responsibility of the CO/HoE to ensure that suitable systems are in place and that adequate resources are made available to develop and implement safe systems of work and where appropriate conducted under a Permit To Work (JSP 375, Volume 2, Leaflet 18)

#### GUIDANCE

Contractors employed to carry out any work (including hot work) on MOD establishments/vessels are managed in accordance with JSP 375, Volume 2, Leaflet 34 and Standard Fire Precautions for Contractors Engaged on Crown Works.

### 3.2 Line Managers

3.2.1 The LM (owner of the task) is responsible for ensuring that a risk assessment (JSP 375, Volume 2, Leaflet 39) for an activity undertaken by MOD staff involving hot working is conducted by a competent person having sufficient experience and training in all associated risks .

#### GUIDANCE

If the task cannot be conducted by an alternative technique (cold cutting, repairing, etc.), the risk assessment should consider:

- isolating/shielding plant/equipment from the effects of heat;
- the transference of heat to the surrounding work environment;
- the environment in which the activity is to be carried out (including what is above, below and in the immediate vicinity) and the possibility of explosive atmospheres;
- all other task related hazards (non-heat related).

3.2.2 A written safe system of work shall be developed and maintained for all hot working activities unless the risk assessment has identified that it is not necessary.

## GUIDANCE

When developing a safe system of work for hot working, the following should be considered (this list is not exhaustive):

- work equipment selected is suitable for the activity, is properly maintained and where appropriate, adequately secured;
- ensure equipment is visually inspected and is safe to use before commencing the work;
- all fixed services that may be affected by the activity (oil, gas, electricity, etc.) are located and protected (isolated, locked, vented, etc.);
- the need for all combustible/flammable material to be removed/protected;
- actions required to minimise the possibility of explosive atmospheres;
- area secured (access control, etc.);
- the need for appropriate fire prevention measures and fire fighting equipment;
- monitoring the work area to ensure that a fire does not start after the activity is complete;
- area adequately ventilated and/or personal and respiratory protective equipment (PPE & RPE) issued/used;
- precautions have been taken to minimise the release of sparks, hazardous emissions, etc;
- additional emergency procedures:
- there is no doubt as to who has overall control of the work.

3.2.3 Where the risk assessment has identified a significant risk a PTW shall be raised (in accordance with JSP 375, Volume 2, Leaflet 18) and communicated to all relevant staff and visitors. The LM shall ensure that all control measures have been implemented prior to commencement of the work.

## GUIDANCE

The information that should be contained in a PTW for hot working will depend on each activity but will normally include:

- the location and nature of the work;
- the proposed time and duration of the work;
- the limits of time for which the PTW is valid;
- the precautions to be taken before the work starts, during the work (if deemed necessary appointing of a competent and trained firewatcher), and on completion of the work (this may need to be monitored for several hours after the work is completed);
- the requirement for authorisation, acceptance, completion and cancellation signatures;
- the person in direct control of the work.

## GUIDANCE

For work conducted overseas care must be taken to ensure that safe systems of work/permits to work comply with relevant host nations' legislation/standards, and, as a minimum comply with UK standards.

3.2.4 The LM is responsible for ensuring hot working is only carried out by competent persons. They shall monitor the hot work activity to ensure the work is carried out in line with the safe system of work and on completion of the work the area has been left in a safe condition.

## GUIDANCE

Steps to ensure that an area is left safe following a hot working activity may include:

- the use of fire watchers (monitoring an area for a defined period of time for signs of smouldering materials or the onset of fire);
- accelerated cooling/damping down of the area/equipment;
- all safety systems reinstated (smoke detector covers removed etc);
- area is cleared of equipment/debris.

### 3.3 Staff

3.3.1. All Staff, both Service and civilians engaged in hot working shall comply with the required controls defined in the safe system of work/permit to work and cooperate with LM by undertaking appropriate instruction and training.

## 4. RECORDS

4.1 All documentation relating to hot working activities shall be kept in accordance with JSP 375, Volume 2, Leaflet 55.

## 5. RELATED DOCUMENTS

### JSP 375 Volume 2:

- Leaflet 5 - Management of Hazardous Substances
- Leaflet 8 - Work Equipment
- Leaflet 10 - Confined Spaces
- Leaflet 14 - Accident/Incident Reporting and Investigation
- Leaflet 18 - Permit to Work
- Leaflet 32 - Health & Safety on Multi-Occupier Sites
- Leaflet 34 - 4C System: The Management of Visiting Workers and Contractors
- Leaflet 39 - Risk Assessment
- Leaflet 55 - Retention of Records
- Leaflet 56 - DSEAR

**Other MOD Publications:**

- JSP 317 - Storage and Handling of Fuels and Lubricants
- JSP 375 - Volume 3
- JSP 426 - MOD Fire Risk Management
- JSP 482 - MOD Explosives Regulations
- JSP 539 - Climatic Injuries in the Armed Forces: Prevention and Treatment
- Standard Fire Precautions for Contractors Engaged on Crown Works

**Legislation and Guidance:**

- The Health and Safety at Work etc Act
- The Management of Health and Safety at Work Regulations
- The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR)
- Code of Safe Working Practices for Merchant Seamen – Chapter 23.
- HSE - L137 Approved Code of Practice – Safe Maintenance, repair and cleaning procedures
- HSE - INDG297 - Safety in Gas Welding, Cutting or Similar Processes
- HSE - INDG314 - Hot work on small tanks and drums