

# HOT WORK PROCEDURE

## Table of Contents

1	Purpose .....	2
2	Scope .....	2
3	Duties and Responsibilities .....	2
4	General Requirements .....	3
4.1	What is Hot Work? .....	3
4.2	General Hazards Associated with Hot Work .....	4
4.3	Hazard Areas Requiring Management .....	4
4.4	Documents Used to Manage Hot Work .....	4
4.5	Risk Assessment .....	5
4.6	Permit to Work Process .....	9
5	Definitions .....	9
6	Associated Documents .....	10
7	References .....	10
8	Monitoring, Evaluation and Review .....	10
9	Administration .....	10
	Attachment A – Permit Process Diagram .....	11

## 1 Purpose

The purpose of this Procedure is to outline the minimum requirements and provide guidance to ensure hot work activities conducted on any Mid West Ports Authority (**MWPA**) controlled land (or MWPA activity), is conducted in a safe and environmentally acceptable manner.

## 2 Scope

This Procedure:

- outlines the minimum requirements when conducting hot work to reduce the likelihood of harm to personnel and/or damage to infrastructure and the environment. These may include the assessment of hazards, responsibilities of personnel involved with the preparation and execution of hot work, and the emergency response arrangements in place prior to, during, and after the completion of works; and
- provides guidance to manage the hazards associated with specific hot work activities.

Should a Contractor's / third party or Port user's standard exceed the requirements outlined in this Procedure, then that standard should apply once a Risk Assessment (RA) has been undertaken and approved.

## 3 Duties and Responsibilities

Role	Responsibility
Permit Owner	MWPA person who is undertaking the hot work task and completes the initial permit request. Permit owners are responsible to ensure the permit requirements are adhered to during the work activity.
Permit Coordinator	MWPA person who coordinates the processing of permits. Ensuring that all permit criteria are met prior to final processing of the permit.
Permit Authoriser	MWPA person with relevant qualification or experience to review the activities described in the permit application and to review and approve the content or reject the application until further information is provided. Includes: <ul style="list-style-type: none"><li>• Maintenance Supervisor</li><li>• Operations Supervisor</li><li>• Project Engineer</li></ul>

Role	Responsibility
Hot Work Sentry	<ul style="list-style-type: none"> <li>Person responsible for monitoring the safety of all personnel when the potential for a fire may be present.</li> <li>A Hot Work Sentry <u>shall</u> be present whenever the hot work is conducted outside a Designated Hot Work Area and their duties include, but are not limited to: <ul style="list-style-type: none"> <li>ensuring the work area is clean, tidy, suitably prepared, and free from combustibles;</li> <li>ensuring that emergency response equipment is serviceable and available on location (for example, extinguishers, hoses, fire blankets);</li> <li>stopping the work and notifying the Permit Holder of any change in conditions or incompatible activities which may affect the work;</li> <li>preventing the taking of samples, venting, or opening of piping or equipment in the immediate area of the Hot Work where such action would release flammable dust, liquids or vapours; and</li> <li>undertaking an inspection of the work area 30 minutes after the hot work has been completed to ensure all potential heat sources have been extinguished.</li> </ul> </li> </ul>
Workers	<ul style="list-style-type: none"> <li>Personnel who perform hot work <u>shall</u> ensure they are suitably trained and competent for the activities undertaken, complete inspections of equipment prior to use and comply with the mandatory documented requirements.</li> </ul>
Work Health and Safety Advisors	<ul style="list-style-type: none"> <li>MWPA personnel who conduct health and safety inspection and audit services of hot work activities.</li> </ul>

## 4 General Requirements

### 4.1 WHAT IS HOT WORK?

Hot work is any activity that has the ability to produce heat or spark that has the potential to cause ignition.

It typically includes, but is not limited to, activities such as:

- welding;
- grinding;
- fires or naked flames;
- thermal or oxygen cutting or heating (for example, oxy/acetylene use);
- work on live electrical conductors and opening live electrical enclosures; and
- explosive tools such as nail guns.

**Note** – Items such as an electric soldering iron or electric hot air gun are not generally considered as a hot work activity within MWPA.

## 4.2 GENERAL HAZARDS ASSOCIATED WITH HOT WORK

General hazards associated with hot work activities include the potential for the following.

- Fire caused by heat, sparks, molten metal or direct contact with the flame. This may include flammable solids, liquids, gases or combustible dusts.
- Explosion when cutting up, repairing or working in the vicinity of drums, tanks, pipes, vessels, which contain or may have contained flammable materials, or flammable / oxidising gases.
- Physical injury in the form of burns from contact with the flame, explosions or hot surfaces, or crush or impact injuries resulting from explosion or when handling cylinders.
- Equipment and/or Environmental impact of fire and explosion.

## 4.3 HAZARD AREAS REQUIRING MANAGEMENT

There exist a number of specific hazards that require different levels of management including those related to the following.

- **General Work Areas** – The minimum requirement for these areas is covered in Section 4.5.
- **Designated Hot Work Areas** – Maintenance Workshop (refer to Section 4.5 for specific risk management requirements).
- **Total Fire Bans (TFB)** – During periods of TFB external notification by personnel conducting the work is required. Refer to Section 4.5 for specific risk management requirements.
- **Fuel Pipelines / Combustible Storage Areas** – Refer to Section 4.5 for specific risk management requirements including liaising with Licenced Pipeline Operators:
  - Berths 5 and 6 fuel facility including Marine Terrace and Port Way valve enclosure contact:
    - Shell 0428 115 068; and/or
    - BP 0418 211 288
  - FBH fuel facility – Contact Baileys Marine Fuels Australia.
- **Confined Spaces** – Refer to Confined Space procedure for more detail of specific requirements for hot work in confined space.

## 4.4 DOCUMENTS USED TO MANAGE HOT WORK

Mandatory documents that are required to manage hot work include the following.

Requirement	Document
Designated Hot Work Areas	<ul style="list-style-type: none"> <li>• Berth 1 Maintenance Fabrication workshop</li> <li>• Lease 51 Maintenance Fabrication workshop</li> <li>• Lease 36 Maintenance Fabrication workshop</li> </ul>

Requirement	Document
Hot Work in a Designated Hot Work Area	<p>The <u>mandatory</u> documents used to manage hot work include:</p> <ul style="list-style-type: none"> <li>• Job Safety and Environmental Analysis (JSEA).</li> </ul> <p><b>Note</b> – Designated Hot Work Areas have been risk assessed as suitable for hot work to be conducted in a safe manner without the need for a hot work permit. These areas are currently defined within the MWPA maintenance and operations workshops.</p>
Hot Work – General Work Areas	<p>The <u>mandatory</u> documents used to manage hot work include:</p> <ul style="list-style-type: none"> <li>• Job Safety and Environmental Analysis (JSEA) / Safe Work Method Statement (SWMS) where the work is defined as high risk construction work and involves hot work activities.</li> <li>• Permit to Work Procedure</li> <li>• Authority to Access</li> <li>• Application for Hot Work Permit</li> </ul>
Hot Work – Specific Hazard Areas	<p>The <u>mandatory</u> documents used to manage specific hot work include:</p> <ul style="list-style-type: none"> <li>• Job Safety and Environmental Analysis (JSEA) / Safe Work Method Statement (SWMS) – where the work is defined as high-risk construction work and involves hot work activities. See Section 4.5 for specific detail.</li> <li>• Permit to Work Procedure (additional permits may be required)</li> <li>• Authority to Access</li> <li>• Application for Hot Work Permit</li> <li>• Safe Work Procedure(s)</li> </ul>

## 4.5 RISK ASSESSMENT

A JSEA must be completed prior to conducting hot works.

Requirement	Topic
Minimum Written Requirements	<p>The minimum written requirements recorded <u>must</u> include the following.</p> <ul style="list-style-type: none"> <li>• Combustibles – The work area <u>shall</u> have been inspected and verified as free of combustibles. If combustibles that are present cannot be removed, then the potential for ignition <u>must</u> be mitigated by suitable control measures including, but not limited to, the following examples. <ul style="list-style-type: none"> <li>• Providing hot work habitats (for long duration works).</li> <li>• Providing screens / shields to containing sparks.</li> <li>• Covering of material with a non-combustible cover.</li> <li>• Wetting down the area.</li> <li>• Covering drains / valves / sample points.</li> <li>• Earthing of equipment to prevent static discharge.</li> </ul> </li> </ul>

Requirement	Topic
	<ul style="list-style-type: none"> <li>• <b>Environmental</b> – Environmental conditions such as ambient heat, wind and rain <u>must</u> be accounted for. If a total fire ban is in place, refer to Specific Considerations identified in this Section.</li> <li>• <b>Access</b> – What barricading / exclusion / signage is required to inform and restrict access to the hazardous area surrounding the work?</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Proximity</b> – The proximity of hazards such as nearby structures, plant, services and their effect on the hot work activities being undertaken <u>must</u> be listed.</li> <li>• <b>Other Work</b> – If other work is being undertaken in the area (for example, nearby / above / below), which could impact on the operation they <u>must</u> be identified, and controls implemented. Incompatible work <u>shall</u> not be conducted within 15m, in any direction, from a proposed Hot Work area.</li> <li>• <b>Equipment</b> – What specific equipment is required for the task? As a minimum, fire suppression equipment <u>must</u> be available including but not limited to the following examples. <ul style="list-style-type: none"> <li>• Task specific PPE.</li> <li>• Fire extinguishers / fire hoses / water spray units / fire retardant blankets or covers.</li> </ul> </li> <li>• <b>Emergency Procedures</b> – Emergency procedures <u>must</u> be identified in the JSEA or separate document and need to ensure they have adequately identified: <ul style="list-style-type: none"> <li>• local / job site emergency response, ensuring personnel are aware of immediate response requirements;</li> <li>• emergency contacts for notification and escalation; and</li> <li>• emergency equipment that is suitable for the nature and scale of the work (for example, fire-fighting equipment, first aid equipment).</li> </ul> </li> <li>• <b>Personnel and Training</b> – Identify and list the minimum number of Competent Person(s) required to safely complete the task including <u>mandatory</u> standby / fire watch personnel and the training and competence requirements that <u>must</u> be met.</li> </ul>

Requirement	Topic
Specific Considerations – Total Fire Ban Days	<ul style="list-style-type: none"> <li>The Department of Fire and Emergency Services (<b>DFES</b>) may declare a Total Fire Ban (<b>TFB</b>) on days when a fire is likely to spread rapidly or if widespread fires are already burning and firefighting resources are stretched.</li> <li>In order to conduct any of the activities listed below during a TFB, refer to the DFES website for specific conditions which need to be complied with. <ul style="list-style-type: none"> <li>Blasting (refers to explosive blasting not abrasive blasting)</li> <li>Gas flaring</li> <li>Hot work</li> <li>Road work (grading and bituminising)</li> <li>Off-road activity</li> <li>Catering activity</li> </ul> </li> <li>Before conducting any of the above activities during a TFB, it is the responsibility of the <u>person doing the work</u> to: <ul style="list-style-type: none"> <li>contact DFES and the relevant local government authority via an <b>Online Notification Form</b> at least 30 minutes prior to the activity commencing; and</li> <li>download a copy of the applicable checklist (hot work) from the DFES website and attach it with the permit submission or daily revalidation requirements.</li> </ul> </li> </ul>
Specific Considerations – Confined Space	<ul style="list-style-type: none"> <li>Specific considerations regarding hot works within a confined space are identified within AS2865:2009 – Confined spaces and includes the following that <u>must</u> be identified in the risk assessment. <ul style="list-style-type: none"> <li>The possibility of the hot work reducing the oxygen concentration of the atmosphere or the hot work itself releasing airborne contaminants.</li> <li>A hot work permit is mandatory.</li> </ul> </li> <li>If the confined space or structures associated with it such as pipework has previously contained a flammable or combustible contaminant (liquid or solid), it <u>must</u> be suitably cleaned / purged. In the case of flammable solids, if it cannot be removed, it <u>shall</u> be covered or suitably wetted to prevent the release of these contaminants / potential for combustion.</li> <li>If fixed fire-fighting equipment employing an extinguishing agent is installed in the confined space, it <u>shall</u> be positively isolated when the space is occupied regardless if the system is manually or automatically operated.</li> </ul>

Requirement	Topic
Specific Considerations – Fuel Pipelines / Combustible Storage Areas	<p>Specific requirements when conducting hot work near fuel pipelines or bulk fuel storage areas includes the following.</p> <ul style="list-style-type: none"> <li>• <b>High Risk Construction Work</b> – Construction work that is carried out on or near pressurised gas distribution mains or piping or near chemical, fuel or refrigerant lines <u>must</u> be identified as high risk construction work.</li> <li>• <b>Pipeline Operators</b> – All works including hot works, within 5m of a fuel facility or pipeline require the Permit Coordinator to discuss the application with the Licenced Pipeline Operator. Shell <a href="tel:0428115068">0428 115 068</a>, BP <a href="tel:0418211288">0418 211 288</a>, Baileys Marine Fuels Australia.</li> <li>• <b>Gas Testing</b> – Should be conducted prior to undertaking hot work to determine if a hazardous atmosphere exists. <ul style="list-style-type: none"> <li>• Gas test <u>shall</u> be conducted during hot work being undertaken in, on, or adjacent to potentially hazardous spaces including, but not limited to: <ul style="list-style-type: none"> <li>• within 5m of a fuel pipeline or bulk fuel storage area;</li> <li>• an enclosed or partially enclosed space;</li> <li>• a space that may contain residual flammable or toxic product; or</li> <li>• a space that has been purged with an inert gas, vapour or liquid prior to the work commencing.</li> </ul> </li> </ul> </li> </ul>
Hot Works – General Considerations	<p><u>General</u> considerations for any type of hot work include the following:</p> <ul style="list-style-type: none"> <li>• <b>Compressed Gas Cylinders</b> – Ensure the following requirements are met. <ul style="list-style-type: none"> <li>• Cylinders are clearly labelled.</li> <li>• Cylinders are secured in a suitable, compliant cage / trolley.</li> <li>• Flashback arrestors are in place at both the regulator and handpiece.</li> <li>• Manufacturer's instructions are followed as per inspection and operation.</li> <li>• Protective caps are in place to protect valve stems when regulators are not installed.</li> <li>• Cylinders are turned off when not in use.</li> <li>• Applicable warning signs <u>shall</u> be displayed where cylinders are stored or used.</li> </ul> </li> <li>• <b>Regulators / Hoses / Flashback Arrestors</b> – Ensure the manufacturer's instructions are followed as per inspection and operation.</li> </ul>



Requirement	Topic
	<ul style="list-style-type: none"> <li> <b>Welding Equipment</b> – Ensure the following requirements are met. <ul style="list-style-type: none"> <li>Manufacturer's instructions are followed as per inspection and operation particularly in regard to electrical safety.</li> <li>The location of the activity and if an assessment of airborne contaminants is required.</li> <li>The PPE supplied is suitable for the risks of the equipment / process / activity being undertaken.</li> </ul> </li> <li> <b>Grinding Equipment</b> – Ensure the following requirement are met. <ul style="list-style-type: none"> <li>Manufacturer's instructions are followed as per inspection and operation.</li> <li>Check that discs are the correct size, type and speed rating and are securely attached.</li> <li>The PPE supplied is suitable for the risks of the equipment / process / activity being undertaken.</li> </ul> </li> </ul>

## 4.6 PERMIT TO WORK PROCESS

Most hot work activities (other than those conducted in designated hot work areas – maintenance workshop) shall be managed by an Application for Hot Work Permit.

Refer to the Permit to Work Procedure for detailed information regarding hot work activities that may require additional permits such as work in or around Confined spaces, Bunkering and Fuel transfers and Explosive substances.

## 5 Definitions

Construction Work	Construction work means any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure.
Designated Hot Work Area	An area that has been risk assessed as suitable for hot work to be conducted in a safe manner without the need for a hot work permit. These areas are currently defined within the MWPA maintenance and operations workshops.
High Risk Construction Work	High risk construction work means construction work that is: (i) carried out on or near pressurised gas distribution mains or piping; or (j) is carried out on or near chemical, fuel or refrigerant lines. (Refer to <i>Work Health and Safety (General) Regulations 2022, r.291</i> )
JSEA	Job Safety and Environmental Analysis

## 6 Associated Documents

Document Title
Application for Hot Work Permit
Permit to Work Procedure
Risk Management Procedure

**Location** – Mid West Ports Intranet – [Document Centre](#)

## 7 References

Act or Regulation
<i>Work Health and Safety Act 2020</i>
<i>Work Health and Safety (General) Regulations 2022</i>

Location - Western Australian - <https://www.legislation.wa.gov.au> | Australian - <https://www.legislation.gov.au>

Authority	Resource
Department of Mines, Industry Regulation and Safety (DMIRS)	Hot work – Fire Safety Essentials
Welding Processes – Code of Practice (Safe Work Australia) 2016	

## 8 Monitoring, Evaluation and Review

This document is required to be reviewed every two years from the last scheduled review date.

Minor updates made within this two year period, will not be taken as a *full review*.

The Document Custodian is responsible for conducting the review in accordance with **Controlled Documents Review and Approval Process Work Instruction**.

## 9 Administration

Document Custodian:	Maintenance Supervisor
Document Approver:	Maintenance Services Manager
Approval Date:	20 April 2023
Document Review Period:	2 yrs

## Attachment A – Permit Process Diagram

