

Hot Work Policy

Frances Bay Mooring Basin

17 November 2016
Version 1.1

Document details		
Document title	Frances Bay Mooring Basin Hot Work Policy	
Contact details	Small Ship Scheduler smallship.scheduler@nt.gov.au	Wharf Supervisor wharf.supervisor@nt.gov.au
Date and version	17 November 2016 Version 1.1	
Approved by	Mark Meldrum	
Date approved	25/11/16	
Document review (for example, annually)	Annually	

Change history			
Version	Date	Author	Change details
1.1	17 November 2016	Ana McKay	Changed to new template

Acronyms	
The following acronyms are used in this document	
Acronyms	Full form
DIPL	Department of Infrastructure, Planning and Logistics
HWA	Hot Work Application
JSEA	Job Safety Environmental Analysis
LEL	Lower Explosive Limit
PCBU	Person Conducting a Business or Undertaking
PPE	Personal Protective Equipment

Contents

1	Title	4
2	Reference Documentation and Legislation	4
3	Scope	4
4	Aim	4
5	Definitions	5
6	Responsibility	6
7	Job Safety, Environmental Analysis (JSEA)	6
8	Mandatory minimum control measures and precautions	6
9	Minimum separation distance	7
10	Incompatible operations.....	8
11	Weather conditions.....	8
12	Hot work in a confined space.....	8
13	Fire watch	8
14	Atmospheric monitoring and testing.....	8
15	Protective guards and shields	9
16	Checks and precautions prior to commencement of hot work.....	9
17	Duration of a hot work permit	9
18	Hot work hazards and risks at Fisherman’s and Raptis wharves.....	10
19	Hot work hazards and risks at Hornibrooks wharf and pontoon.....	10
20	Hot work hazards and risk at Frances Bay Mooring Basin	10
21	Hot work application.....	10
22	Applying for a hot work permit	11
23	Completion of hot work	11
24	Other organisations hit work permit.....	11
25	Site checks by authorised officer or Frances Bay employee.....	12
26	Actions in the event of a fire	12
27	Policy review	12
	APPENDIX A.....	13

1 Title

Policy for the conduct of hot work at Frances Bay Mooring Basin Facilities

2 Reference Documentation and Legislation

- Port Management Act
- Work Health and Safety (National Uniform Legislation) Act
- AS 3846-2005 The Handling and Transport of Dangerous Cargoes in Port Areas
- AS 1674.1:2007 Safety in Welding and Allied Processes Part 1: Fire Precautions
- AS 1674.2:2007 Safety in Welding and Allied Processes Part 2: Electrical
- AS 2865: 1995 Safe Working in a Confined Space
- AS 2275.2-1979 Combustible Gas Detection Instruments for Use in Explosive Atmospheres – General Requirements for Explosion Protection of Electrical Apparatus and Systems
- AS 2275.2-1979 Combustible Gas Detection Instruments for Use in Explosive Atmospheres – Performance Requirement

3 Scope

This document applies to vessels at the following Frances Bay facilities:

- Fisherman's Wharf (FW)
- Raptis Wharf (RW)
- Hornibrooks Wharf
- Frances Bay Mooring Basin (FBMB)

4 Aim

The aim of this policy is to:

- provide the means by which the Frances Bay Operator can discharge his/her duties as a PCBU for those locations above;
- outline the process for applying for a Hot Work permit or authorisation; and
- outline the relevant control measures and precautions to be considered for hot work at the Frances Bay facilities.

5 Definitions

Agent is defined as the person or organisation responsible for the administrative details of a vessel during its visit to the Port of Darwin.

Authorised Frances Bay Employee means a worker employed by Frances Bay Operator.

Competent Person shall for the purpose of this policy be defined as a person who, through a combination of training, education and experience is able to correctly and safely perform a task or function assigned to them.

Confined Space is defined as an enclosed or partially enclosed space which is not intended or designed primarily for human occupancy.

Fire Watch is defined as a competent person who is solely tasked with monitoring for the outbreak of fire; monitoring the risk of fire; providing a first aid response to a fire; and being at the site of hot work for the duration of the work.

Frances Bay Mooring Basin Facilities are defined as Fisherman's Wharf, Raptis Wharf, Hornibrooks Wharf and Pontoon and the Frances Bay Mooring Basin (FBMB).

Frances Bay Operator is Department of Infrastructure, Planning and Logistics (DIPL).

Hazardous Area All areas within the Frances Bay Mooring Basin facilities shall be considered within the meaning of AS 1674.1 –1997.

Hot Work is defined as any operations or work where grinding, welding and thermal or oxygen cutting or heating and other related heat-producing or spark-producing operations are conducted and heat or sparks are produced, including but not limited to welding, gas cutting or heating where there is an increased risk of fire or explosion.

Hot Work Supervisor is defined as the person in control of, and who is responsible for, the safe conduct of the Hot Work.

Issuing Officer is the Wharf Supervisor/Staff or DIPL delegate.

Job Safety Environmental Analysis (JSEA) is a formal methodology that steps out the tasks in the job and determines the risk associated with each step. If the risk in a particular step can be reduced, then measures must be adopted and recorded to reduce the risk to a lower level.

Lower Explosive Limit (LEL) in relation to a flammable contaminant, the concentration of the contaminant in air below which the propagation of a flame does not occur on contact with an ignition source.

Person Conducting a Business or Undertaking (PCBU) A PCBU is the legal entity operating a business or undertaking. A PCBU may be an individual person or an organisation conducting a business or undertaking. Under the WHS Act, a PCBU must ensure that the health and safety of workers and other persons is not put at risk from work carried out as part of the conduct of the business or undertaking.

Risk of Fire is defined as a situation where the hot work poses a risk of ignition to material, debris or flammable gas or flammable vapour within the works area or immediately surrounding the works area.

Shall indicates a mandatory requirement.

Should indicates the usual requirement in routine circumstances.

6 Responsibility

A vessel's agent is responsible for advising the vessel Master that this policy is in effect and providing the Master with the appropriate documents and assistance to ensure compliance.

Where a vessel does not employ an agent the responsibility to comply with this policy rests with the Master.

The Master holds responsibility as a PCBU for his vessel and has overall responsibility for the identification of hazards, that adequate controls and precautions are put in place and that the work is conducted safely.

The Wharf Supervisor and Wharf Staff hold responsibility as a PCBU for the FBMB. Duties associated with this include:

- Knowledge of dangerous or potentially dangerous activities or undertaking within the facility; and
- Provision of a system by which mutually incompatible operations can be identified and conflicts resolved.

The Hot Work Supervisor shall be responsible for ensuring that:

- The risks and hazards in the surrounding area have been identified;
- A means of managing the risks and hazards is in place;
- Equipment used is suitable for the task, in good working order and complies with section 4 of the AS 1674.1-1997 Safety in Welding and Allied Processes;
- The equipment is located so that in the event of malfunction a fire or explosion hazard is not created;
- There is no inherent hazard due to the nature of the item on which the hot work is to be performed; and
- That a hot work permit has been completed truthfully and in full, submitted and approval gained prior to commencement of hot work.

7 Job Safety, Environmental Analysis (JSEA)

A JSEA is required for all work conducted at the FBMB, including Hot Work and Hot Work in a Confined Space.

8 Mandatory Minimum Control Measures and Precautions

The Hot Work Supervisor shall ensure all mandatory control measures are in place prior to submitting the Hot Work Permit. AS 1674.1 gives guidance on the required safety control measures and precaution. The minimum requirements are listed below;

- A Fire Watch;
- Sufficient firefighting equipment, appropriate to the risk, type, likelihood and consequence of fire;
- Minimum safety distances specified below are complied with;

- Work in a confined work space is to be certified gas free and regularly monitored by a suitable qualified person and hot work may only proceed in compliance with any special conditions that person may specify;
- Safe access to and from the work area;
- Regular checks of the atmosphere surrounding the area of work up to the safety distance boundary;
- All adjacent and surrounding compartments must be checked to ensure that their contents are protected from any heat transfer (radiated heat) through a bulkhead, deck head or deck;
- All electrical leads, power tools and equipment are to be tested and tagged;
- A residual current device for all portable equipment is mandatory; and
- Appropriate Protective Equipment (PPE) must be worn to the requirements of the task at hand.

9 Minimum Separation Distance

Hot work cannot take place if the following materials are stored or the following cargo operations are taking place:

- Within two times the separation distance of Dangerous Goods of Class 1 which is 12 meters (regardless of division);
- Within 25 meter of a ship loading or discharging bulk flammable liquids;
- Within 25 meter of a vessel bunkering;
- Within 15 meter of an unprotected or unshielded source of combustible materials (other than bulk fuel);
- Within 30 meter from the ULP bowers on Fisherman's Wharf (figure 1);
- Within 15 meter on Raptis Wharf (figure 1).

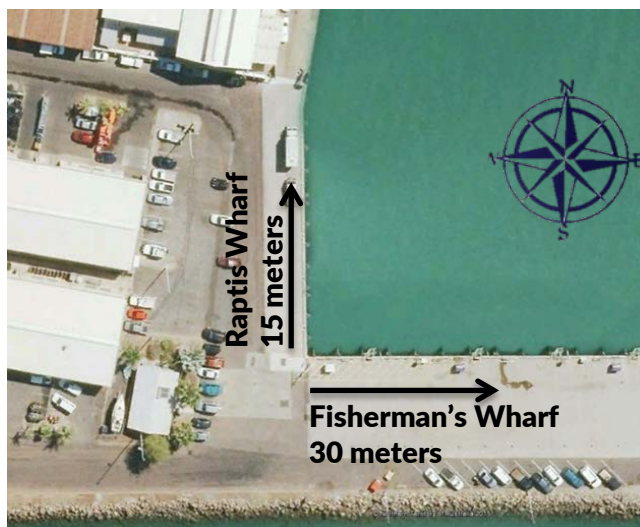


Figure 1

10 Incompatible Operations

The following cannot take place on the vessel or within the separation distances when hot work is being conducted:

- Bunkering; or
- Cargo operations involving Dangerous Goods.

11 Weather Conditions

If the hot work is to take place on a vessel's upper or exposed deck then the Hot Work Supervisor shall assess the prevailing and predicted weather conditions and the risk of fire. Conditions such as high winds may require additional measures such as guards, shields and greater firefighting measures. All additional measures must be noted on the Hot Work Application (HWA). The Hot Work Supervisor shall ensure that adequate measures are present to prevent a fire.

An assessment of the wharf and surrounding areas is to be made and appropriate precautions put in place.

12 Hot Work in a Confined Space

Where hot work is conducted in a confined space on a vessel it shall be managed within the requirements of the vessel's Safety Management System.

Where the vessel is not covered under a Safety Management System, or when the confined space is not a vessel, AS 2865 provides guidance on the conduct of hot work in a confined space.

13 Fire Watch

A person performing fire watch must not perform any other tasks or functions and must be alert and vigilant through their period of duty. The fire watch shall be briefed of the hazards associated with the hot work and be provided with the correct Personal Protective Equipment (PPE).

The fire watch shall be competent in the use of the supplied firefighting appliances and, where possible, check surrounding compartments for radiated or transferred heat. Where this is not possible an additional fire watch shall be considered for adjacent compartments.

14 Atmospheric Monitoring and Testing

The following requirements for atmospheric testing shall be followed:

- The gas detector shall comply with AS 2275.1 and AS 2275.2;
- The operator shall be familiar with operating the gas detector, aware of its limitations and maintenance;
- The testing shall continue until every potential source has been tested;

- The testing shall take place immediately prior to commencement of hot work. Maximum of 30 minutes prior to commencing hot work; and
- Testing shall be conducted at regular intervals whilst hot work is being conducted.

15 Protective Guards and Shields

Protective guards and shields shall be made of a suitable fire resistant material, be stable, of ample size and arranged so as to prevent sparks, slag and hot metal particles from rolling beneath them or penetrating openings. No machinery, hand tool or other equipment is to be used without effective guards.

16 Checks and Precautions Prior to Commencement of Hot Work

The Hot Work Supervisor and responsible parties shall, prior to the commencement of hot work, check the following precautions:

- Identify and control fire hazards (including the presence of flammable or combustible liquids, gases, vapours, dusts, fibers or substances) within the required separation distance;
- Consider relevant hazards that may exist outside the area above but in close proximity to the work site;
- Consider the possibility of changing circumstances during the progress of the hot work and whether they may render the area unsafe for the work to continue;
- Properly ventilate the hot work area;
- Suitably locate the equipment, including emergency firefighting equipment;
- Isolate the area where hot work is to be performed;
- Provide a safe entry to and exit from the hot work area in confined space;
- Test for the presence of any flammable gas or flammable vapour, in accordance with the guidance below and AS 1674.1, in the work area and the area immediately surrounding the work area. Specific attention should be paid to any pipe, drum, tank, vessel or piece of equipment adjacent to or within the work area or involved with in hot work;
- Ensure the concentration of any flammable gas or flammable vapour, as determined by the testing required by an item above is less than 5 percent of its Lower Explosive Limit (LEL); and
- A hot work application has been completed and authorised.

17 Duration of a Hot Work Permit

A hot work permit shall be issued for a period of the work not exceeding 9 hours, unless the Issuing Officer has authorised otherwise. The Issuing Officer will determine the appropriateness of the duration the permit is valid for through consultation with the vessel Master and movement of other vessels or work within the area.

It is the responsibility of the Master to ensure that the necessary checks and precautions are in place for each shift. Each Hot Work Supervisor is responsible for ensuring the necessary checks, control measures and conditions annotated on the form are adhered to.

18 Hot Work Hazards and Risks at Fisherman's and Raptis Wharves

Fisherman's and Raptis Wharves present a complex risk environment for hot work. The southern side of Fisherman's Wharf near the rock wall has car parks for the general public and is a popular area for fishing.

There are bunker bowsers every 25 meters along the wharf deck providing diesel and, at the landward bowser, unleaded petrol. The bunker bowsers are connected by unshielded lines running under the wharf deck. Except in exceptional circumstances and prior approval, hot work cannot be undertaken on Fisherman's or Raptis Wharves.

19 Hot Work Hazards and Risks at Hornibrooks Wharf and Pontoon

Hornibrooks Wharf is available for hot works to be conducted. However, access is restricted to FBMB clients only. Additional care is required for hot work on this wharf to ensure that adequate shielding and guards are in place so that the general public are protected from sparks and debris.

20 Hot Work Hazards and Risk at Frances Bay Mooring Basin

FBMB is open to the public and additional care is required for hot work in the basin to ensure that adequate shielding, guards or separation are in place so that the general public are protected from sparks and debris.

FBMB risk environment for hot work is complicated by the number and diversity of vessels moored in the basin and the need for increased vigilance for incompatible operations. Consequently, where hot work has been authorised for a vessel berthed in FBMB, the Hot Work Supervisor is to contact the Issuing Officer prior to commencing and on completion of hot work.

21 Hot Work Application

The Hot Work Application document is available at Appendix A.

Alternatively, an organisation may submit a copy of their Hot Work Permit in accordance with the requirements at paragraph 24.

The form should be submitted a minimum of one working day prior to commencing work to the Frances Bay Wharf Supervisor/Staff or email Smallships.scheduler@nt.gov.au

Work should not commence until approval has been granted.

22 Applying for a Hot Work Permit

When applying for a hot work permit, the Hot Work Supervisor must describe the work in sufficient detail that the Issuing Officer can assess the risks and hazards and confirm that the control measures are adequate for the work. The minimum information to be provided is:

- The location (i.e. the wharf or anchorage) of hot work;
- The name of the vessel;
- The location on the vessel where the hot work will be conducted;
- Intended start and finish time and date;
- The type of hot work being conducted;
- Equipment being used;
- The control measures in place (or to be used);
- The type and number of firefighting appliances immediately available; and
- The name and contact number of the Hot Work Supervisor.

23 Completion of Hot Work

The immediate area around the work zone shall be checked for smouldering embers or hot spots and they must be cooled or extinguished and the area kept under continuous surveillance for a minimum of 30 minutes after the hot work is completed.

24 Other Organisations Hot Work Permit

Where an organisation has a Safety Management System that includes a Permit to Work system and procedures for hot work that complies with regulatory requirements, they may apply, in writing, to the Frances Bay Wharf Supervisor for a HWA. The application should be accompanied by copies of policies, procedures and permits relating to hot work and submitted to the Issuing Officer. The Issuing Officer will evaluate these and when in doubt, in consultation with NT Work Safe, determine whether a Hot Work Authorisation can be issued.

For organisations with a Hot Work Authorisation, submitting their on - occurrence hot work permit to DIPL will allow the Wharf Supervisor and staff to discharge its duties as a PCBU.

25 Site Checks by Authorised Officer or Frances Bay Employee

An Authorised Frances Bay Employee will check the site prior to commencement, during hot work and after the completion of hot work. An Authorised Frances Bay Employee shall be provided with a copy of the hot work permit upon request.

Where the control measures annotated on the form are not in place or the control measures are deemed inadequate by the Authorised Frances Bay Employee, hot work shall cease until the safety requirements are met and a new hot work permit raised by the Hot Work Supervisor.

At any time, an Authorised Frances Bay Employee can request that work cease immediately.

26 Actions in the Event of a Fire

Where the hot work results in a fire that requires the use of a portable or fixed firefighting appliance, hot work shall stop and not resume until authorised. The Hot Work Supervisor shall inform the Wharf Supervisor as soon as practicable and no further hot work can take place until the cause of the fire is established, additional control measures are put in place to remove the risk of fire and the JSEA has been reviewed.

The Hot Work Supervisor shall submit an Incident Report to the Wharf Supervisor or Wharf Staff within 24 hours of the incident.

27 Policy Review

The DIPL will review this policy annually.

APPENDIX A

REQUEST TO CONDUCT HOT WORK

Frances Bay Mooring Basin Hot Work Application

This form is for the purpose of obtaining permission from DIPL to conduct hot work and does not remove the requirement for users to complete their own safe systems of work. Hot work means any construction, demolition, alteration, repair or maintenance work involving burning, cutting, welding, grinding, drilling or any other heat, flame or spark producing operation. If a contractor is undertaking the hot work on the vessel then the contractor will apply for the hot work permit.

A RESIDUAL CURRENT DEVICE FOR PORTABLE EQUIPMENT IS MANDATORY

AGENT OR MASTER TO COMPLETE				
Vessel Name:				
Berth Facilities:				
Vessel Contact Name:				
Vessel Contact Number:				
Detailed Description of Hot Works, Equipment to be used and Specific Location on Vessel:				
Name and contact number of responsible person carrying out hot works:				
Agent or Master's Name:				
Agent or Master's Contact Number:				
Has the vessel Master read and understood the Frances Bay Hot Work Policy?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Validity period of the permit shall not be exceeded beyond 9 hours				
Permit valid from:		Permit valid to:		
Permit time from:		Permit time to:		
List type of firefighting equipment, portable fire extinguishers and other equipment available for use:				
The following questions are derived from the <i>Frances Bay Hot Work Policy</i>. Please read the Policy before proceeding any further with the completion of this form.				
			Wharf Staff to Check	
Has the Hot Work Supervisor been notified?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Has a Job Safety Environmental Analysis been provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Are the mandatory minimum control measures in place?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Has the minimum separation distances been observed?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Can you conduct hot work safely as there are no incompatible operations such as Bunkering or Transfer of Dangerous Goods being undertaken concurrently?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Have weather conditions been taken into account?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Are the protective guards and shields appropriate for the work?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Is the vessel free of Class 1 Dangerous Goods?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Do you have a permit to work system for hot work that may be carried out in a confined space/enclosed space on the vessel?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	
Has the Fire Watch person been appointed and understands their duties?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>	

Hot Work Policy Frances Bay Mooring Basin

Have all checks and precautions as per the <i>Frances Bay Hot Work Policy</i> been undertaken to commence Hot Works?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>
NOTE: Where indicated <i>No</i> please explain :			
I acknowledge that it is my responsibility to ensure that all persons engaged in this work, whether employed directly or on sub contract are suitably qualified and execute their duties in a safe manner in accordance with the requirements of this Application			
Name & Signature of the vessel Master/Contractor			Date
Email to: smallships.scheduler@nt.gov.au			

ISSUING OFFICER TO COMPLETE BEFORE WORK COMMENCE				
<p>The following questions apply to: All hazardous work not involving naked flame or continuous spark production, and would include use of electrical equipment, use of air driven rotary equipment, sand or grit blasting, hammering and mechanical chipping and movement of equipment or materials over or near to machinery that is operating. All Hot Work involving high temperatures, open flame, electric arc or continuous source of sparks. This type of work includes but is not limited to welding, burning and grinding. If required, tests for combustible gas should be carried out immediately before hot work commences and at frequent intervals while the work is in progress</p>				
Has the Hot Work area been checked with a combustible gas indicator for hydrocarbon? What time?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Time:	Date:
Has the surrounding area been made safe?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Time:	Date:
Has the equipment or pipeline been gas freed?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Has the equipment or pipeline been blanked?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the equipment or pipeline free of liquid?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the equipment isolated electrically?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is additional fire protection available?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
Special conditions/precautions?			Yes <input type="checkbox"/>	No <input type="checkbox"/>
NOTE: Where indicated <i>No</i> , please explain:				
ISSUING OFFICER				
<p>I am satisfied that the applicant/contractor information provided to me is sufficient to show that the Master/Agent has a safety system in place to fulfill their legal obligations to conduct works in a safe manner. Hot work is allowed to be conducted from the period of time specified on the application UNLESS notes have stipulated further guidance or instruction</p>				
Printed Name & Signature of the Issuing Officer				Date