



Fire Person Duties Training Manual



The Fire Triangle

Developed By NMTC Pty Ltd
&
International Power Hazelwood Mine

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FIRE PERSON DUTIES TRAINING

COURSE OBJECTIVES

At the end of this short course successful trainees will have demonstrated their ability to assess a fire situation, select the correct equipment, and follow the appropriate procedures to extinguish a wide range of fire types in the mine.

ASSESSMENT

Trainees will be assessed for competency in two ways:

- ◆ Successfully completing a theory questionnaire; and
- ◆ Practical demonstration against a competency based checklist.

TRAINING STATEMENT

This training will provide you with the ability to assess fire situations and gain an understanding of the best methods of fire suppression using proven fire fighting techniques.

It must be remembered that fire-fighting skills are like all other skills, they can deteriorate if not used or refreshed on a regular basis.

1. INTRODUCTION

Fire within the mine and its surrounding environment is an ongoing risk due to the combustibility of coal. The equipment used, type of operation and the existence of inflammable material around the area (including oils and lubricants) also add to the risk of fire. Vehicle exhausts, sparks, lighted cigarette butts and friction can all be the cause of a fire. The disastrous consequences of a fire mean that EVERYONE must accept responsibility for being fire safety conscious while on the job.

Fire protection and fire fighting is the responsibility of all mine personnel. The instructions in this manual will raise awareness of your responsibilities in relation to fire prevention, reporting and fighting of fires.

It is also a mandatory requirement under the Hazelwood Power Mine fire policy for all mine personnel, including contractors, to undertake fire training.

Fire fighting involves the use of both the dewatering system, through fire hydrants and rotary sprays, and portable fire fighting equipment.

Successful completion of a fire-training course will help ensure that fire procedures are correctly followed and equipment is used correctly. This will, in turn, ensure the safety of personnel and plant, and reduce the risk of fire spreading.

Training will consist of:

- ◆ 30 minutes theory session covering fire awareness, roles and responsibilities and safe use of fire fighting equipment.
- ◆ As prescribed in Category's A & B
- ◆ ½ hour written assessment.

2. DUTY OF CARE

The Mines Act (1995) regulations impose a Duty of Care requirement on every person involved with the working of the mine. Duty of Care demands that all employers provide and maintain, so far as practical, a working environment that is safe and without risk.

As a member of **International Power Hazelwood Mine** you shall, while at work, take all the care which you are capable of, for your health and safety and for the health and safety of any other person who may be affected by your acts or omissions in the work place. The Duty of Care of both employer and employee involves all work practices associated with fire protection.

3. HAZARDS

All personnel operating fire protection equipment should be aware of the potential danger of working with high-pressure water hoses. All pipes are charged with water at a maximum of 115 metre head pressure, so hoses should not be turned on suddenly. Pressure alone makes them difficult to handle. There are techniques you should learn to ensure safe handling.

When under strong pressure, fire hydrants and rotary sprays have been known to break loose from their mountings and cause injury to personnel and damage plant. Always place yourself in a position where you are not standing directly over hydrants or spray units.

Water hoses can also be dangerous in electrical fires when a liquid that will conduct electricity, eg. water is directed in a continuous stream onto 'live' electrical equipment. An electrical current can be conducted back to the person holding a hose or extinguisher. This is why water is not used on electrical fires.

You should also be aware of the dangers when fighting fires in enclosed areas. Wires, plastic, and other combustible material may emit toxic fumes when burning. If toxic fumes are inhaled they may cause breathing difficulties. If fighting fires in enclosed spaces, work with another person or in a team and use breathing apparatus (BA) if in doubt. Seek medical assistance if you are affected by fumes.

Where possible always ensure you stand upwind of the fire to avoid inhaling smoke and being showered with ash and burning particles.

4. FIRE ALERT

During hot, dry or windy conditions, there is a high risk of fire rapidly spreading in the open cut. When such conditions are expected a Fire Alert will be declared.

A declaration of a Fire Alert will only be made after all environmental conditions have been identified and assessed. Generally the decision is made jointly by the **Mine Production Superintendent** and other management personnel.

A Fire Alert may or may not be declared on a **CFA** day of Total Fire Ban, depending on the severity of the weather conditions in the mine area. The duration of the Fire Alert will be confined to the period of severe conditions.

FIRE ALERT PROCEDURE

When a Fire Alert has been declared, the following communication procedure will be initiated to warn all personnel entering or working near the mine.

ACTION	RESPONSIBILITY
A prepared radio message will be broadcast on mine frequencies informing personnel of the declaration of a Fire Alert and action required.	Control Centre operator.
Flashing red lights will be turned on all dredgers and TS2 and at the Control Centre, Fire Service Office and No. 3 Transfer House.	Operators on each item of plant. Control Centre operator. Supervisor.
All non-operational personnel must leave the mine site.	Work group supervisors.
All non-essential maintenance activities must cease.	Work group supervisors.
All burning and welding must cease unless permission has been granted by the fire officer.	Work group supervisors.

*** Heavy mobile plant must be moved off the coal face.**

5. EMERGENCY RESPONSE PLAN

In the event of an emergency, the **International Power Hazelwood Mine's Emergency Response Plan** maybe initiated to handle the incident. All personnel have a responsibility to abide by the **Emergency Response Plan**. It is your responsibility to know your obligations under the **Emergency Response Plan**.

6. ACCIDENT PROCEDURE

- ◆ Attend to patient
- ◆ Dial telephone extension- or use radio system, and call operator using the MAYDAY call sign. If using a mobile phone dial
- ◆ When the call is answered give:
 - Your name
 - Location of accident, number of injured
 - Details of injured
 - What assistance is required
 - Wait with patient.

7. FIRE TRIANGLE

For a fire to start or to continue burning, it must have three ingredients, they are:

- ◆ Fuel
- ◆ Oxygen
- ◆ Heat.



7. FIRE TRIANGLE (Cont')

What is Fire?

Fire is a chemical reaction.

For fire to occur three elements are essential:

FUEL + AIR + HEAT

Remove any one of these elements and the fire will be extinguished

1. **Air** can be excluded by **SMOTHERING**
2. **Heat** can be removed by **COOLING**
3. **Fuel** can be limited by removal or **STARVATION**

If we can remove any one of the items below, the fire will not burn:

- ◆ **Starvation** - remove the fuel.
- ◆ **Smothering** - remove the oxygen
eg. cover the fire with non-combustible material.
- ◆ **Cooling** - lower the temperature below the point at which the fire will keep burning, eg. apply water.

8. TYPES OF FIRES ENCOUNTERED IN COAL MINES

Based on the fuel available, there are a number of different types of fires that you may encounter in the mine. These include:

- ◆ Coal
- ◆ Oil
- ◆ Electrical
- ◆ Lubricants/Fuel
- ◆ Rubbish
- ◆ Rubber.

9. SPECIAL CHARACTERISTICS OF BROWN COAL FIRES

Brown coal fires can:

- ◆ Spread very easily with wind. (eg sparks blown from one side of bucket wheel or conveyor to the other side)
- ◆ Float on water.
- ◆ Burn very hot and deep.
- ◆ Be spread by hitting with a heavy direct jet of water.(always use a fine spray of water on them)
- ◆ Smoulder away for hours (check for signs of smoke or pungent carbon smell/odour)

10. CAUSES OF FIRES

- ◆ Vehicles - Brakes/Exhausts
- ◆ Mobile Plant - Exhausts/Excess dust collection
- ◆ Conveyors - Idlers
- ◆ Electrical faults
- ◆ Belts running against frames
- ◆ Burning, Welding and Grinding
- ◆ Smoking
- ◆ Hot Spots.
- ◆ Fine PF Coal build up on plant, beams etc

11. FIRE PROCEDURE

In the **International Power Hazelwood Mine** all personnel are responsible for the fire protection of the mine. Fire instruction manuals are issued to all sections informing personnel of their responsibilities in relation to the prevention, reporting and fighting of fire in or near the mine.

In the event of a fire:

- ◆ Assess the type and size of the fire.
- ◆ With a small fire you should use the fire service equipment provided to extinguish the fire. You will need to make a decision on whether assistance is required or not. This assessment must be made quickly.
- ◆ If the fire is large call for assistance before starting to extinguish the fire with

the appropriate fire service equipment provided.

12. REPORTING PROCEDURE

During Day Shift:

Contact the **1x7 Services Group** –
Contact the **Mine Control Centre** –

After Hours:

Contact the **Mine Control Centre** –
Emergency number –

Giving all the relevant information regarding the type, size, location and type of assistance required to fight the fire. Also give details of any nearby plant in danger.

After the fire:

All used fire equipment must be reported to **Fire Support Group** for replacement.

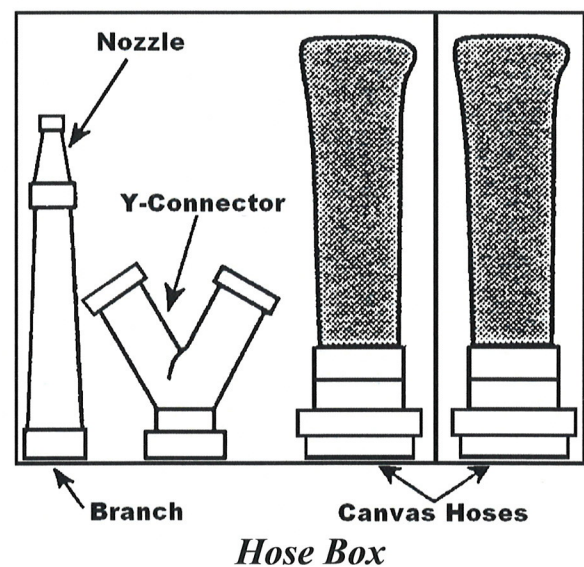
13. FIRE EQUIPMENT

The types of fire fighting equipment are either water or chemically based.

NOTE: Water is not to be used on electrical fires (See *Hazards Page 6*).

HOSE BOXES

Hose boxes with 2 x 30 metre lengths of canvas hose, 1 Y piece and 1 branch are located around the mine. These are for emergency use only.



HOSES

Hoses are a standard percolating canvas fire hose. They are available in lengths of 30 metres with diameters of 38mm, 64mm and 90mm. These hoses are fitted with standard 64mm male and female CFA couplings. When using hoses always ensure that you have a firm grip on the hose nozzle and that the coupling to the hydrant is secure. Water pressure should be increased gradually until pressure is at a controllable rate. The best procedure is to hold the hose between your legs for greater control because of the high water pressure.

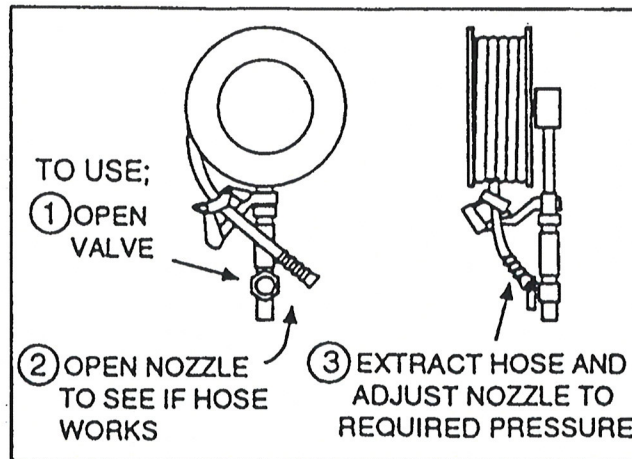
Be aware that booster pumps may activate at any time, which may increase the water pressure.



Fire Hose

HOSE REELS

Hose Reels are located on all Dredgers, Mobile Slews, Travelling Stacker and on Conveyor Head-Ends.



Hose Reel

HYDRANTS

Hydrants are 64mm diameter and have a CFA standard external thread for hose connections.



Hydrant

ROTARY SPRAYS

The two most common type of sprays used in the mine are Bauer and Lanzoni.

Birdsmouth sprays are installed along fixed conveyor systems and valves to operate these sprays are normally located at the Head End.



Bauer Spray



Lanzoni Spray



Birdsmouth Spray

Other fire fighting equipment available includes:

- **Two Road Tankers each carrying 16,000 litres of water**



Road Tanker

- **Three Slip on fire tanks 4,500 litres**



Slip-on Tanker - back view



Slip On Tanker - side view

- **Three Crane Mounted Monitors**



Crane Mounted Monitor

- **Four Trailer Mounted Monitors**



Trailer Mounted Monitor

- **Three Furphy's - 1,000 litres**



Furphy

- **Knapsacks**



- **Portable Sprays**



VEHICLE FIRE EQUIPMENT

Standard fire fighting equipment in each vehicle should include:

- ◆ 2 x 30 metre lengths of 38mm canvas hose
- ◆ 1 Branch
- ◆ 1 Spray Nozzle
- ◆ 1 Knapsack

FIRE EXTINGUISHERS

Fire extinguishers are located on all items of plant and a triangular symbol is located above the extinguisher to allow identification.














Identification of fire extinguishers is as follows:

- ◆ **CO₂ Fire Extinguishers** are red with a black band around the centre of the extinguisher. Used for all types of fires.
- ◆ **Dry Powder Fire Extinguishers** are red with a white band around the centre of the extinguisher. Used for all types of fires.
- ◆ **Foam Fire Extinguishers** are blue and are mainly used for oil fires but can be used for other types of fire. *Do not use on electrical fires.*

When you need to use an extinguisher follow these steps:

1. Select the correct type of extinguisher.
2. Remove locking pin from handle.
3. Position yourself up wind and at the appropriate distance from fire.
4. Aim nozzle at base of fire and squeeze extinguisher handle in controlled bursts.
5. If the need arises use another fire extinguisher following the above steps until the fire is extinguished.
6. Report the fire and use of fire extinguishers.

PORTABLE FIRE EXTINGUISHERS
Important: Read operating instructions on extinguishers

 Fire Protection Association Australia		Portable Fire Extinguisher Guide					Fire Protection Association Australia Website www.fpaa.com.au	
		CLASS A	CLASS B	CLASS C	CLASS E	CLASS F	CLASS D For fire involving combustible metals use special purpose extinguisher	
Two colour schemes for fire extinguishers exist		EXTINGUISHANT	Wood Paper Plastics	Flammable & Combustible Liquids	Flammable Gases	Electrically Energised Equipment	Cooking Oils and Fats	
PRE 1999	FROM 1999							
		WATER	YES	NO	NO	NO	NO	Dangerous if used on flammable liquid, energised electrical equipment and cooking oils/fat fires
		WET CHEMICAL	YES	NO	NO	NO	YES	Dangerous if used on energised electrical equipment
		FOAM	YES	YES	NO	NO	LIMITED	Dangerous if used on energised electrical equipment
		POWDER	YES <small>(ABE)</small>	YES <small>(ABE)</small>	YES <small>(ABE)</small>	YES <small>(ABE)</small>	NO <small>(ABE)</small>	Look carefully at the extinguisher to determine if it is a BE or ABE unit as the capability is different
		CARBON DIOXIDE	LIMITED	LIMITED	LIMITED	YES	LIMITED	Not suitable for outdoor use
		VAPORISING LIQUID	YES	LIMITED	LIMITED	YES	NO	Check the characteristics of the specific extinguishing agent

LIMITED indicates that the extinguishant is not the agent of choice for the class of fire, but that it may have a limited extinguishing capability.
 Solvents such as alcohol or acetone mix with water and therefore require special foam
 Green text indicates the class or classes in which agent is most effective

Fire Extinguishers

DREDGER FIRE PROTECTION

All Dredgers are fitted with a combination of the previously mentioned fire fighting equipment.

FIRE EXTINGUISHERS

There are two types of fire extinguishers in the dredgers - foam and CO₂ extinguishers are used for electrical fires. Extinguishers are grouped in banks and located strategically around the machines.

ROTARY SPRAYS

The primary function of the rotary spray is to wet down the area around the dredger to protect it against oncoming fire. In order to operate the sprays, hoses need to be connected from the fire service header and the “spray” connection points on the dredger.

BIRDSMOUTH SPRAYS

Birdsmouth sprays are located along the conveyor belts and are used to wet down the belts to prevent them catching fire. To supply the birdsmouth sprays a hose must be run from the fire service header to hose connection points labelled “Tank Filling” around the travel crawler area.

HOSE REELS

The primary function of the hose reels is to extinguish general fires (not electrical) on the machine. These can be supplied from the water tank or from the fire service main when connected via “Tank Filling” connection point. It is the dredger crews’ responsibility to ensure the water tank is full at all times.

WATER TANK

The Water Tank is used to supply the hose reels and birdsmouth sprays in an emergency. To do this **it is vital the water tank is full at all times.** To fill the water tank hose up to a “Tank Filling” connection point.

EMERGENCY HOSE BOX

This box contains hoses, Y branches and directions for use in an emergency. They are not to be used for general “hosing up” of the machines.

HOSING UP

Whenever a machine is to be left unattended for any length of time it should be “hosed up”. This involves connecting two hoses to the fire service main and then attaching the hose to the “tank filling” and “Spray” connection points. If and when needed the only requirement is to open the supply valves on the fire service main.

NOTE: More detailed information is available from the individual machine operational manuals.

14. ADVANTAGES AND DISADVANTAGES OF FIRE FIGHTING EQUIPMENT

WATER

ADVANTAGES

- ◆ In fighting small or large fires, water is the most suitable suppressant as no other fire fighting material is available in the quantity required for continuous use.
- ◆ For prevention, water is relatively cheap and effective. It can both reduce the general fire risk and prevent fires from spreading.

DISADVANTAGES

- ◆ Fire may be spread by:
 - a direct jet of water.
 - fine burning coal floating on water.
- ◆ **Not suitable for electrical fires.**

FIRE EXTINGUISHERS

ADVANTAGES

- ◆ Convenience - they are portable.
- ◆ As extinguishers are portable they are convenient to use.
- ◆ They are always ready for use and can be used on a fire immediately.
- ◆ They are simple to use and if used properly are very effective in extinguishing fires.
- ◆ There are special types of extinguishers that are designed to deal with specific types of fires, eg. electrical or oil fires.

DISADVANTAGES

- ◆ Time - most pressurised extinguishers will run continuously for approximately only 1-2 minutes. This is often insufficient time to extinguish a large fire.
- ◆ To keep extinguishers portable their size has to be limited to allow the average sized person to operate them effectively.
- ◆ Extinguishers can be affected by wind.

SUMMARY

Fire is an ever-present threat that can have devastating effects on a coal mining business. This could be in the form of production or plant loss, or injury to personnel. Employers and employees alike have a responsibility to ensure a safe working environment exists at all times and all employees are trained to deal with unforeseen events that will impact on the business.

When using fire equipment it is most important that it is used safely as the potential for injury, if not used properly, is high.

This training program has covered the theoretical aspects of fire suppression as well as a practical demonstration on how to use fire suppression equipment. Fire alert procedures are extremely important and have also been outlined. Safety aspects associated with the use of hoses, extinguishers and other equipment have also been covered and should be adhered to.

It is most important that you maintain the skill and knowledge of fire suppression as one day you may have to put it into practice.

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Fire Person Duties Burning And Welding

Category A

Fireman Training Mine & Bunker

Category B

Fireman Training Mine Only

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FIREPERSON DUTIES - BURNING AND WELDING

COURSE OBJECTIVES

At the end of this short course successful trainees will have demonstrated their ability to assess fire equipment and burning and welding procedures within the boundaries of the Hazelwood Power Open Cut Mine.

ASSESSMENT

Trainee will be assessed for competency in two ways:

- ◆ Successfully completing a theory questionnaire.
- ◆ Practical demonstration against a competency based checklist.

Random checks will be carried out on the work sites after training has been completed. These checks are carried out by the 1x7 Services Team Leader or their representative.

TRAINING STATEMENT

This training will provide you with the ability to assess fire situations and gain an understanding of the best methods of fire prevention when monitoring burning and welding activities.

INTRODUCTION

Fire within the Mine and surrounding environment is an ever-present risk due to the combustibility of coal. Burning and welding tasks have the potential to result in a major fire if carried out incorrectly. The disastrous consequences of a fire means that everyone must accept responsibility for being alert while monitoring burning and welding operations.

Fire prevention and fire fighting is the responsibility of all mine personnel.

Successful completion of this burning and welding course will help ensure that burning and welding procedures are correctly followed. This will, in turn, ensure the safety of personnel and plant, and reduce the risk of fire spreading.

The training will consist of:

- ◆ A theory & practical assessment

Category A: Fireman Training Mine & Hazelwood Slot Bunker

(1x7 Services personnel only)

4 days in Bunker – (minimum 32 hours)

3 days in Mine – (minimum 24 hours)

Category B: Fireman Training Mine Only

3 days in Mine – (minimum 16 hours Mine)

– (minimum 8 hours Bunker)

Note: Mine Fireman must spend 1 day in HSB as this is the worst case scenario and it will also prepare the for Fireman duties on dredges etc

Each Trainee shall maintain a diary detailing all work completed whilst under the supervision of a qualified Fire Person and shall have their training record verified with the completion of each job.

Pease refer to the following Category A and Category B Fire Person Duties Training Card for diary details recording Work Description, Work Location and Work Duration in Hours of the tasks undertaken during training in both the Mine and the Hazelwood Slot Bunker.

Fire Person Duties Training Card – Category A Mine & Bunker

4 Days Bunker Training Required - (minimum 32 hours) 3 Days Mine Training Required - (minimum 24 hours)

Trainee Name: _____ Location: _____

Work Description	Work Location	Hours Mine	Hours Bunker	Date	Verified by Qualified Fire Person
Total Hours					
Total Cumulated Hours					
<u>Signed Completion</u>					
1x7 Team Leader _____		(Print Name)	Trainee _____		(Print Name)
Signature _____		Signature _____			
Date _____		Date _____			

Fire Person Duties Training Card – Category B Mine Only

3 Days Training Required - (minimum 16 hours in Mine of minimum 8 hours in Bunker)

Trainee Name: _____

Location: _____

Work Description	Work Location	Hours Mine	Hours Bunker	Date	Verified by Qualified Fire Person
Total Hours					
Total Cumulated Hours					

Signed Completion

1x7 Team Leader _____ (Print Name)	Trainee _____ (Print Name)
Signature _____	Signature _____
Date _____	Date _____

FIREMAN DUTIES

As a fireman your duties are to protect personnel and plant from fire. This is undertaken by inspection of any burning and welding location both prior to and during the shift. On completion of the job all fire equipment must be returned the Fire Service store and any damaged equipment must be reported.

TYPES OF FIRES

There are a number of different types of fires that you may encounter in the Hazelwood Mine. These include:

- ◆ Coal
- ◆ Oil
- ◆ Electrical
- ◆ Lubricants/Fuel
- ◆ Rubbish
- ◆ Rubber

FIRE PERMITS

No burning, welding or grinding operations can commence without first obtaining an authorised burning and welding permit. There are two (2) categories of burning and welding permits. These permits are issued on a daily basis.

Category A:

This permit is issued for the **Hazelwood Slot Bunker**. To obtain this permit the fireman must first wash and prepare the job site. On completion of this task they will then contact the **1x7 Services Team Leader** or their representative who will then inspect the site and if found to be safe issue the burning and welding permit.

Category B:

This permit is issued from the **1x7 Services Planner or Team Leader** for all areas of the **Hazelwood Mine** boundaries excluding the **Hazelwood Slot Bunker**. This permit is only issued to a person who has successfully completed this fire training session.

Samples of each of these permits are on the following two pages.

HAZELWOOD MINE: CATEGORY A HOT WORK PERMIT – HAZELWOOD SLOT BUNKER

: Original to Work Site : Yellow to Shift Ops 2 x 12 : Pink remains in Book
For the HSB it is necessary to have a Fireman that is specifically IPR -GDF SUEZ trained & accredited for that area.

Consideration (Tick Yes or No)

- | | | |
|-----|--|----------------|
| 1. | Are there any other options that can be used instead of welding cutting or grinding? | Yes () No () |
| 2. | Is it necessary to remove combustibles or wet down the area to make it safe from fire? | Yes () No () |
| 3. | Is it necessary to contain sparks produced by hot work? | Yes () No () |
| 4. | Do any sections of plant need to be shut down or isolated to perform the hot work safe? | Yes () No () |
| 5. | Is there any need for additional ventilation? | Yes () No () |
| 6. | Are there any poisonous or flammable fumes present likely to be produced by the hot work? | Yes () No () |
| 7. | Does the area of work constitute a “confined space”? | Yes () No () |
| 8. | Is there any need for a dedicated firewatch person to be in attendance? | Yes () No () |
| 9. | Will the hot work impact on any other operation or work group’s activities? | Yes () No () |
| 10. | Is there any need for warning signs or does the work site need to be barricaded? | Yes () No () |
| 11. | Do members of the work group know the location of the nearest telephone and what number to call in case of fire? | Yes () No () |

Precautions to be taken (tick, fill in/or cross out)

- () A. An area of () Metres radius from the work site is to be cleared of all combustible material.
- () B. An area of () Metres radius from the work site is to be kept in a wetted down condition.
- () C. Fire blankets are to be used on all hot work tasks.
- () D. All combustible material for a radius of () Metres from the hot work to be shielded from the hot work sparks.
- () E. Sparks from hot work to be contained within immediate area of hot work.
- () F. An adequate length of ()mm fire hose to be laid out and charged ready for immediate use for the duration of the hot work and for () hours/minutes thereafter.
- () G. Hot work site not to be left unattended for the duration of the hot work and for () hours/mins thereafter.
- () H. () dedicated firewatch person/s shall be on hand for the duration of the hot work and for () hours/mins thereafter.
- () I. Work site is to be inspected for 2 hours after completion of hot work by the section supplying the Fireman

NOTE:

IT IS A MANDATORY REQUIREMENT FOR THE SECTION SUPPLYING THE FIREPERSON TO CARRY OUT FREQUENT JOB INSPECTIONS DURING THE JOB TASK, TO ENSURE THAT THE APPROPRIATE FIRE PROCEDURES ARE BEING MAINTAINED. ALL FIRES ARE TO BE REPORTED IMMEDIATELY TO MINE CONTROLCENTREON 3333 .

Description of work to be performed _____

ADDITIONAL PRECAUTIONS:

Work Site has been inspected by me Section And is safe to commence work

This Permit is valid fromHrs To Hrs Date / /

Permit issued by

Permit issued to

Trained Fireman is:

- (1) BEFORE CANCELLATION OF THIS PERMIT, HOT WORK SITE IS TO HAVE A FINAL INSPECTION FOR ANY SIGNS OF FIRE .
- (2) Hot Work Site inspected by..... SectionTime.....Date...../...../.....
- (3) Notify Shift Manager on completion of Work
- (4) Permit cancelled: By: Time.....

Hot Work Permit requirements for Cutting, Welding or Grinding in the Hazelwood Slot Bunker ;

Note:

For the HSB it is necessary to have a Fireman that is specifically IPR-GDF SUEZ trained and accredited for that area.

1. On the cleaning and permit list for the next day, planning section is to notify 1x 7 & 2 x 12 shift ops that a Hot works permit for welding, cutting or grinding on job is also required when requesting MMAP permit for that job
2. For Hot Works a numbered triplicate book is used , Category A is for the HSB. Category B for the Mine
3. A numbered hot works permit for the task is to be filled out by the 1x 7 Co-ordinator/supervisor in the HWP book, this book has three sheets in it:
 - The white sheet is the original and should be displayed on job with permit & JSA
 - The yellow sheet duplicate is to be taken to the 2X 12 OPS Mine Shift Manager at MCC. by maintenance
 - The pink sheet remains in the hot work permit book as a record of the permit
4. The Fireman assigned to the task is to ensure that all precautions on the HW Permit have been carried out.
5. On completion of work maintenance shall notify 2x 12 Mine Shift Manager that permit is cancelled (signed off) so that road runner etc can periodically check area where work was conducted.
6. Shift Manger to file his copy in TRIM folder under Hot Works Permit in Control Centre.

HAZELWOOD MINE: CATEGORY B HOT WORK PERMIT

: Original to Work Site : Yellow to Shift Ops 2 x 12 :Pink remains in Book

PERMIT TO WELD, BURN, GRIND, OR USE OPEN FLAME & PETROL DRIVEN MACHINES WITHIN THE OPEN CUT

PRECAUTIONS TO BE TAKEN BEFORE ANY HOT WORKS/ARE TO PROCEED (TICK FILL IN OR CROSS OUT BOXES)

- () Where ever possible, an area minimum of 5 metre radius, to be cleared of all combustible material around the job site
- () An area, minimum of 5 metres radius adjacent to work site is to be maintained in a wetted down condition.
- () Fire blankets are to be used on all hot work sites where there is a danger of damage/fire to assets or personnel
- () All combustible material for a minimum radius of 5 metres from job site is to be shielded from hot work sparks
- () Sparks from hot work are to be contained within the immediate work area where ever possible
- () Cut offs and electrode stubs are to be placed in a fire proof receptacle
- () An adequate length of approved fire hose is to be laid out and charged, ready for immediate use for the duration of the hot work job and an appropriate time thereafter for 1 hours.
- () A fire extinguisher must be available for immediate use. Foam or 2.2kg Dry Powder: **(Mandatory for petrol engines)**

NOTE: a knapsack spray is not permissible to be used by itself on hot work jobs

- () A trained fireperson is to be in attendance for the duration of the hot works job, and for 15min after work ceases prior to any breaks
- () Work site is to be inspected for 1 hour after completion of Hot Works by the section supplying the fireman
- () It is understood that recipients of permits be familiar with procedure relative to the use of welding/cutting or other flame within the open cut as per 4.2 of the Fire Instructions.
- () Petrol Driven Motor. Description:

PERIOD OF PERMIT FROM TO Date

TRAINED FIREMAN is:

SPECIFIC LOCATION/S & BRIEF DESCRIPTION OF WORK

.....
.....

Permit Received by: _____ Time _____ Date _____
Signature Print name

Permit issued by: _____ Time _____ Date _____
Signature Print name

Permit cancelled: By..... Time.....

NOTE: The person who is acting as the Fire man for the Hot Works task/s will be responsible to ensure the above precautions have been carried out Failure to do so will render the Hot Works Permit invalid.

ON DAYS OF FIRE ALERT THIS PERMIT IS SUBJECT TO CANCELLATION

Hot Work Permit requirements for Cutting, Welding or Grinding in the Mine;

1. On the cleaning and permit list for the next day, planning section is to notify 1x 7 & 2 x 12 shift ops that a Hot works permit for welding, cutting or grinding on job is also required when requesting MMAP permit for that job
2. For Hot Works a numbered triplicate book is used , Category A is for the HSB. Category B for the Mine
3. A numbered hot works permit for the task is to be filled out by the 1x 7 Co- ordinator/supervisor in the HWP book, this book has three sheets in it:
 - The white sheet is the original and should be displayed on job with permit & JSA
 - The yellow sheet duplicate is to be taken to the 2X 12 OPS Mine Shift Manager at MCC. by maintenance
 - The pink sheet remains in the hot work permit book as a record of the permit
4. The Fireman assigned to the task is to ensure that all precautions on the HW Permit have been carried out.
5. On completion of work maintenance shall notify 2x 12 Mine Shift Manager that permit is cancelled (signed off) so that road runner etc can periodically check area where work was conducted.
6. Shift Manger to file his copy in TRIM folder under Hot Works Permit in Control Centre.

IDENTIFICATION OF POTENTIAL HAZARDS

Sparks created during burning, welding and grinding operations have the potential to result in a fire. Firemen need to be aware that incorrect procedures and failure to recognise potential hazards may contribute to a major fire.

These potential hazards include:

- ◆ Area not washed down correctly
- ◆ Presence of inflammable material
- ◆ Incorrect use of fire blankets
- ◆ Incorrect angle of cutting torch
- ◆ Incorrect grinding procedure.
- ◆ Dry coal left inside pipes that have been cut.
- ◆ Not placing cut off's and welding rods in a fireproof container.
- ◆ Dredgers - Positioning bucket wheel and discharge conveyor too close to bottom side batter.
- ◆ Coal dust under grass cover.
- ◆ Build of PF dust on plant, beams etc

FIRE FIGHTING EQUIPMENT

PORTABLE FIRE EXTINGUISHERS

Fire extinguishers are located on all items of plant. (See page 16 for Portable Fire Extinguishers Guide).

WATER

Water is the most appropriate aid to fight coal fires with, as it is readily available and the most cost effective. *Do not use on electrical fires or when electrical apparatus is in the vicinity*

Water is available for fire prevention and fire fighting via the following means:

- ◆ Hoses.
- ◆ Rotary Sprays
- ◆ Birdsmouth Sprays
- ◆ Hose reels
- ◆ Knapsacks
- ◆ Furphy

NOTE: On all major outages on dredges where boiler making work is carried out a trailer mounted monitor should be placed, hosed up and ready for emergency use in the event of fire.

HOSES

Percolating canvas hoses, used within the mine are available in lengths of 30 metres with diameters of 38mm, 64mm and 90mm. These hoses are fitted with standard 64mm male and female CFA couplings. Percolating hoses sweat water, protecting them from fire.

90mm canvas hoses (used for hooking up to Dredgers and Plant).

19mm x 20meter Rubber (burning and welding).

BURNING AND WELDING PROCEDURES

PROCEDURE PRIOR TO COMMENCEMENT OF BURNING AND WELDING

Before the commencement of burning and welding activities it is the responsibility of the fireman allocated to the task to ensure that the following measures are carried out:

- ◆ Identify work to be done.
- ◆ Ascertain that a fire permit has been issued for the specific work location.
- ◆ Wherever possible an area of a minimum of 5 metres is to be:
 - Cleared of inflammable material
 - Washed down to remove all loose coal and dust.
- ◆ Ensure a fully charged hose is available at all times.
- ◆ Install fire blankets to contain the spread of hot materials and sparks.

RESPONSIBILITIES DURING BURNING AND WELDING

While burning and welding is in progress the fireman should monitor where sparks are falling and maintain water supply to the area to prevent fire.

The burning and welding location should be inspected at least once during lunch break.

Weather conditions should be constantly monitored and, if conditions become unsafe, burning and welding operations should cease. The 1x7 Services Team Leader must then be contacted for further instruction.

AT THE COMPLETION OF WORK:

A final inspection of the work site is undertaken to ensure that the area is safe and there are no further risks of fire.

After an inspection the fire permit (**Category A**) is then cancelled.

The burning and welding site is to be monitored for one hour after burning and welding has ceased unless directed by the 1x7 Services Team Leader.

If it is impractical for the work crew to stay at the site for one hour after the completion of hot work, the Control Centre Attendant is to be contacted to notify operations of the work crew leaving the worksite. Operations are then to inspect site before the end of the shift and twice on the following shift.

SUMMARY

Fire is an ever-present threat that could have devastating effects in the form of production loss, or injury to personnel. Fire is a major potential hazard associated with burning and welding activities. All employees have the responsibility to ensure a safe working environment exists at all times.

When burning and welding takes place it is most important that the job location is maintained in a clean and safe condition.

This training program has covered the theoretical aspects of a fireperson's role in burning and welding as well as a practical demonstration on how to prepare and monitor a burning and welding location.

PRACTICAL ASSESSMENT

THE TRAINEE MUST DEMONSTRATE THE FOLLOWING OPERATIONS:

- () Prepare a burning and welding site
- () Wherever possible an area of a minimum of 5 metres is to be:
 - () Cleared of inflammable material
 - () Washed down to remove all loose coal and dust
- () Ensure that a fully charged hose is available at all times
- () Install fire blankets to contain the spread of hot materials and sparks
- () Notify the 1x7 Services Team Leader or representative:
 - () Inspect work site
 - () Issue fire permit.

COMMENTS:
