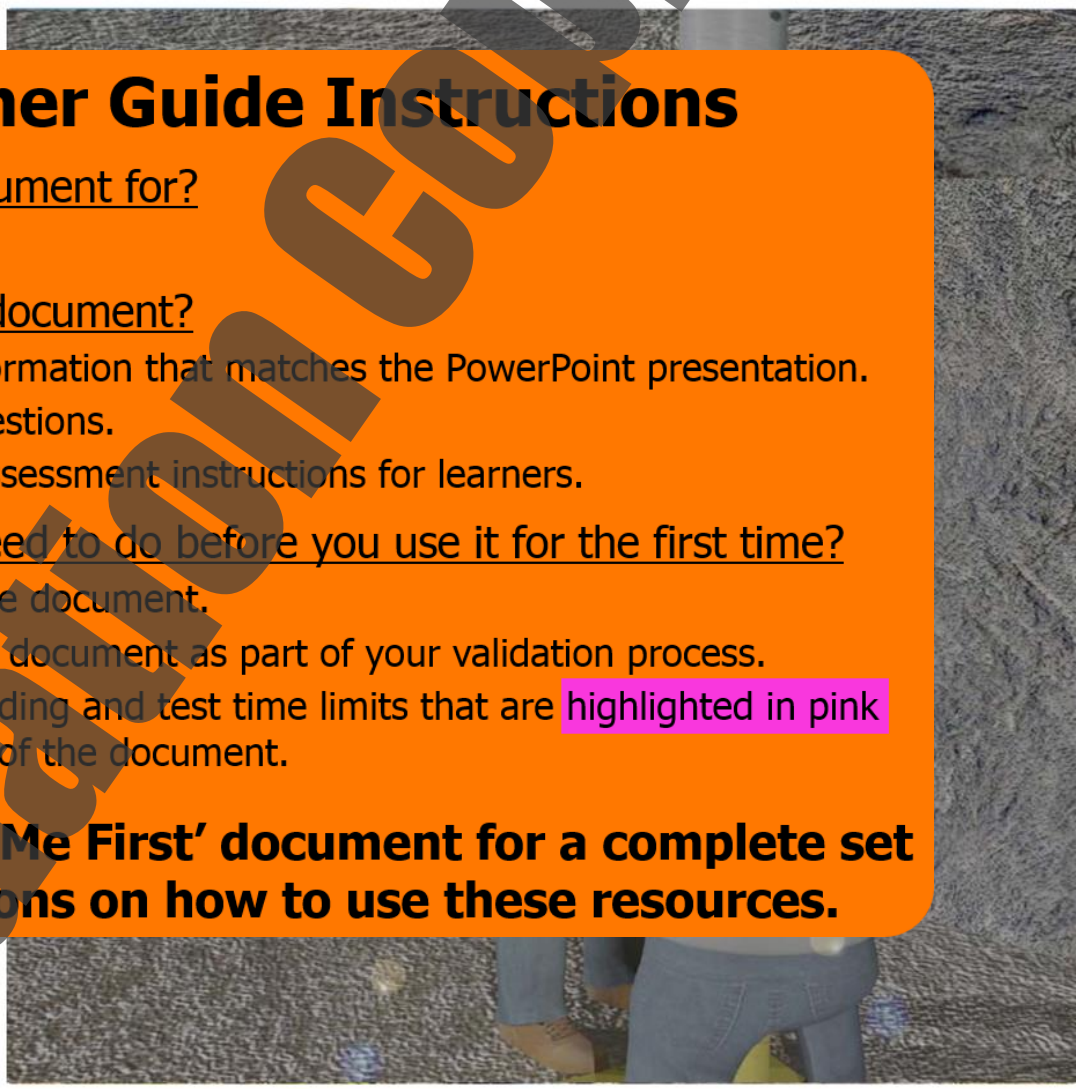
RIIERR203E

Escape from Hazardous Situations Unaided



Learner Guide Instructions

Who is this document for?

The learner.

What is in this document?

- Course information that matches the PowerPoint presentation.
- Review questions.
- Practical assessment instructions for learners.

What do you need to do before you use it for the first time?

1. Rebrand the document.
2. Review the document as part of your validation process.
3. Set the reading and test time limits that are highlighted in pink at the end of the document.

See the 'Read Me First' document for a complete set of instructions on how to use these resources.

LEARNER GUIDE

RIIERR203E Escape from Hazardous Situations Unaided

Learner Name:	
Learner ID:	
Learner Contact Number:	
Learner Email Address:	
Date Training Commenced:	

This Book Contains:

- ☐ Course Information.
- ☐ Review Questions.
- ☐ Practical Assessment overview and instructions.

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1.1 Introduction

These materials are based on the unit of competency **RIIERR203E Escape from Hazardous Situations Unaided**.

Mining underground is a hazardous occupation. It is vital that you know how to best deal with situations that you may encounter.

You will learn about:

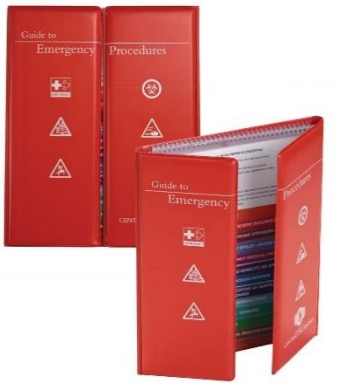
- Planning and preparing for escape.
- Assessing and withdrawing from the situation.
- Evacuating to fresh air and safety.
- Reporting and debriefing.

1.2 Site Policies and Procedures

You must follow all safety rules and instructions when performing any work. If you are not sure about what you should do, ask your boss or supervisor. They will tell you what you need to do and how to do it in a safe way.

Before starting your work you need to make sure you have access to all hazardous situation operations documentation for the job. This will help you to do your work in the safest way and make sure all work is compliant.

Hazardous Situation Operations documentation includes:



- **Site details** – the information and safety requirements of the worksite environment, including the site layout and various landmarks.
- **Hazard details** – any known hazards in the area that you should be aware of. This could also include instructions on how to handle dangerous or hazardous materials.
- **Situation details** – instructions on what a hazardous situation is, and what you should be doing initially to respond to a hazardous situation (this can include diagrams or plans). Also, instructions on how to keep yourself and other workers safe.
- **Emergency procedures** – specific instructions on what to do in emergency situations, for example where evacuation or first aid is needed.

Your worksite will also have instructions for working safely including:

- Handling hazardous materials.
- Safe operating procedures.
- Personal protective clothing and equipment.
- Safe use of tools and equipment.

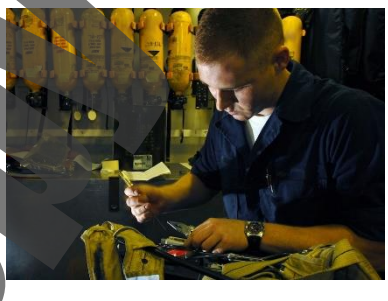
1.2.1 Applying Requirements and Procedures

As these requirements can vary from state to state, company to company, and job to job, you are required to familiarise yourself with the documentation that applies to your work area and situation.

Working safely and effectively is your responsibility and ensuring those around you are aware of the requirements is another way of increasing your own safety level.

The procedures for your work should be applied from the planning level all the way through to the completion of the work.

In a hazardous environment such as a mine, you should also ensure:



- All materials, tools and equipment are properly maintained.
- All emergency access points are kept clear.
- Procedures and equipment are known and usable.
- Regular familiarisation is carried out for contingencies and emergencies.

To apply any of the requirements from any level (Acts, Regulations etc.) you must understand them. You need to be able to apply what is written relevantly to your work.

If you have any problems, difficulty or issues doing this, make sure you ask for assistance from appropriate personnel.

1.2.2 How to Keep Everyone Safe

WHS law says that all companies and workers need to keep themselves and other people safe while they work. This is called a duty of care.

To keep yourself and other workers safe you need to:

- Follow your instructions.
- Follow all workplace rules.
- Make sure all equipment is safe to use.

All personnel have a legal responsibility under duty of care to do everything reasonably practicable to protect others from harm by complying with safe work practices.

Review Questions

1.	What 4 details can Hazardous Situation Operations documentation include?	☐

1.

2.

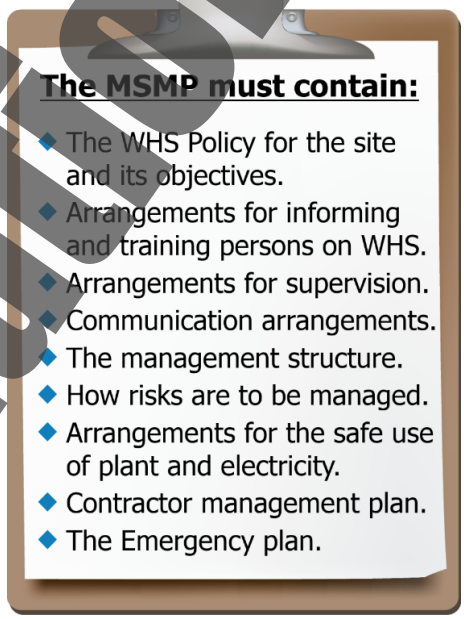
3.

4.

1.3 The Mine Safety Management Plan

The **Mine Safety Management Plan** (MSMP) is a requirement for all mines. Regulations specifically state what must and should be in the MSMP. The MSMP details all the factors that should improve safety and reduce risk for the mine operations.

All personnel and visitors on the mine site should be aware of the provisions of the MSMP.



The MSMP must provide for:

- Exchanging information between shifts regarding hazards.
- Systems to communicate in the event of imminent risk.

In addition, underground mines will require:

- A system to record:
  - The name of persons underground.
  - Their probable location.
- A voice communication system from surface to critical parts underground.

The MSMP should provide detail on:

- The site safety rules and arrangements.
- How every person that comes to the site will be informed of these rules.
- Arrangements for the control of documents and keeping of records.

The MSMP should state what arrangements are in place to:

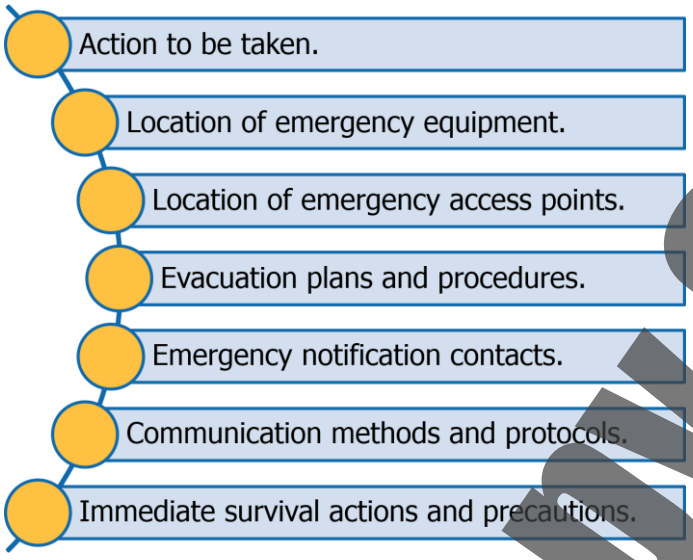
- Use, distribute and control documents.
- Instruct persons in the use, distribution and control of documents.

The MSMP is to contain summaries of and references to each of the following:

- Mine health and safety regulations.
- Any WHS systems, policies, programs, plans and procedures.
- Any codes, standards or guidelines that apply.

1.3.1 Site Emergency Plans

Site emergency plans will cover a variety of scenarios and hazards and detail:

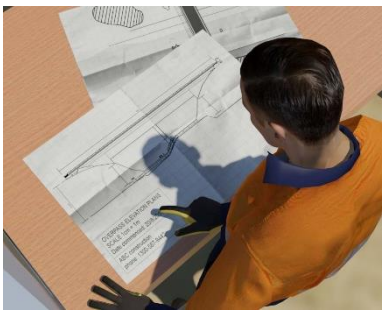


1.3.2 Geological and Survey Data

Geological and survey data is used to guide you through a job. It tells you what the area is like, what things you will need to think about and where you will find hazardous formations.

1.3.2.1 Geological Data

Geological data gives you information about:



- Rock or material types and characteristics.
- Wet and dry areas.
- Water tables or other sources of water.
- Broken ground, faults or joints.
- Compaction levels.

All of this information will help you to decide on what equipment you need to use, where and how you should travel with equipment and areas to avoid.

1.3.2.2 Survey Data

Survey data covers information about job outcomes including:

- Bench heights and widths.
- Floor heights.
- Floor, ramp and bench grades.
- Underground working and voids.

Survey data can also be used to mark out:

- Work circuits.
- Pick up areas.
- Dump areas.
- Spill zones.
- Routes or traffic ways.

Review Questions

2.	What factors does the Mine Safety Management Plan (MSMP) detail?	☐

3.	List 3 things that Site Emergency Plans will detail.	☐

1.

2.

3.

4.	List 3 pieces of information you can get from geological data.	☐

1.

2.

3.

1.4 Communications

As soon as possible you must talk to the outside and/or other areas of the mine.

People have to know:

- What has occurred.
- What has been done.
- What you are doing/planning to do.
- How many people survived.
- Where the survivors are.
- What equipment is available.
- What supplies are available.
- The current status of survivors.
- What the current environment is.

You need to understand how to use all communication systems available in the mine. Knowing correct protocols and how to access equipment can save lives.

In some instances there may be no normal methods for communication and you will need to rely solely on everybody knowing and performing their roles as per the emergency procedures.

1.4.1 Site Communication Systems

The Safety Management Plan will outline the equipment that will be required on site.

You may need to refer to your workplace policies and procedures for the appropriate communication systems that need to be used. For example the work site may use hand signals or code words to communicate important information.

Communication equipment can include:

- Two-way radio.
- Telephone.
- Mobile phone.
- Hand signals.
- Computer.
- Verbal instructions.
- Lights.

Fixed frequency two-way radios are a system that stops other radios using a selected frequency.

Review Questions

5.	Why do you need to understand how to use all communication systems available in the mine?	☐

1.5 Hazard Identification and Control

You need to check for any hazards or dangers in the area. If you find a hazard or danger you need to do something to control it. This will help to make the workplace safer.

1.5.1 Identify Hazards

Part of your job is to look around to see if you can find any hazards before you start.

A **hazard** is the thing or situation that causes injury, harm or damage.

When you start checking for hazards, make sure you look everywhere. A good way to do this is to check:

- **Up high** above your head.
- All around you **at eye level**.
- **Down low** on the ground (and also think about what is under the ground).

You need to consider all forms of hazards, including:

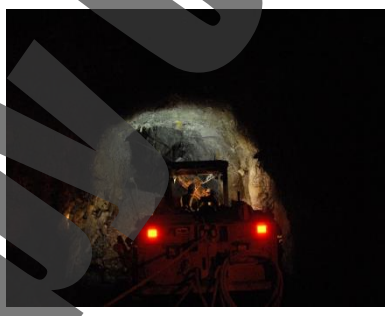
- The environment.
- Condition of the work face.
- Structure and content of material being worked.
- Personnel, the public and visitors.
- On site machinery.
- Poorly maintained or faulty equipment.
- Hydraulics and other pressure containers.
- Other site traffic.
- Structures.

Once a hazard is identified, you will need to inform relevant personnel, and attempt to identify the causes and severity. This is where your knowledge of risk management is vital.

1.5.2 Possible Causes of Hazards

In general, hazards can be caused in an underground mine site by:

- Explosion.
- Fire.
- Roof fall.
- External flooding.
- Hazchem.
- Explosives.
- Vehicle accidents.
- Wall collapse.
- Environmental incidents.
- Hot and humid atmospheres.
- Excessive dust.
- Strata.
- Inrush.
- Irrespirable atmosphere.
- Ignition.
- Rock burst/outburst.
- Spontaneous combustion.
- Wind blast.



These hazards are different to normal aboveground work. Some are simply unique to mining while others are exaggerated by the enclosed work area in mining.

1.5.2.1 Inrush

An inrush hazard involves the existence of significant quantities of water or other fluid material, any material that flows when wet or flammable or noxious gases, all possibly under pressure that can swiftly flow or release into or within an underground area.

An inrush can arise from 4 sources:

- The seam being mined.
- Other seams or strata.
- The surface.
- Non-mining, man-made structures.

1.5.2.2 Outburst

An outburst is the sudden release of gas and material from the working place that can vary in magnitude and intensity.

1.5.2.3 Strata

Strata can be a hazard simply because each layer can have very different characteristics. A compression-resistant layer may be holding up a friable rock that collapses as soon as the support is gone.

1.5.2.4 Irrespirable Atmospheres

Air quality is a hazard not found in many occupations and in mining it is one that can come from work activity but can also be present where poisonous or non-breathable air collects in low areas.