RIIRIS202E

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

RIIRIS202E Respond to Site Based Spills

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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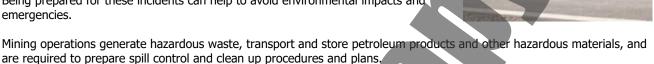
1.1 Introduction

This course is based on the unit of competency **RIIRIS202E Respond to Site Based Spills.**

You will learn about:

◆ Emergency and spill response plans.

◆ Types of chemicals.

◆ Identifying potential spill risks.

◆ How to respond to a spill on site.

◆ Documentation and reporting requirements.

During mining operations, accidental spills and release of hazardous materials is likely to occur at some point.

Being prepared for these incidents can help to avoid environmental impacts and emergencies.

Mining operations generate hazardous waste, transport and store petroleum products and other hazardous materials, and are required to prepare spill control and clean up procedures and plans.

1.2 Understand Work Requirements

It is important that you read and understand what is required to remain compliant with the policies and procedures of your workplace. These usually focus on safety in the workplace, minimising risk, responding to incidents and reporting and recording requirements.

Documents detailing work requirements can be compulsory or influenced by national and/or state and territory laws, regulations, and standards.

The information and documents you access to better understand your work requirements will help you to understand how your workplace expects you to behave and carry out work. You will also learn the broader expectations for other parties within the company. Doing this will enable you to control workplace risks in line with the processes and procedures of your workplace.

If you have any difficulties accessing or interpreting documentation about work requirements or you do not understand something, speak to your supervisor or manager.

1.2.1 Locate Relevant Documents

You can access workplace documents detailing work requirements through a range of procedures including:

- Asking your Health and Safety Representative.

- Speaking to management.

- Organisational intranet and internal databases.

- Organisational manuals, policies and procedures.

- Organisational libraries – hard copy or digital.

- Conducting an internet search.

You can usually source information and documents in digital form, however usually they are also be available as hard copies.

There can be particular processes and procedures for accessing and retrieving information that your organisation may have in place, make sure you follow these.

1.2.2 Key Documents

Certain documentation will provide a good amount of information on the specific policies and procedures within the organisation. You may use this information to better understand workplace procedures for managing risk.

Several documents you may find useful to access include:

Document	Description
Health and Safety Rules	These can be found in National, or State legislation, regulations, codes of practice and Australian standards. Every workplace must follow laws and rules to ensure they meet requirements for managing risk on site, including spills.
WHS and Risk Management Policies and Procedures	A collection of documents that explain how the workplace makes sure everyone on site is safe and compliant with the relevant legislation. Different parties in the workplace will have different responsibilities when it comes to keeping the workplace safe; these will be detailed in WHS policies and procedures.
Work Instructions	Documents that provide more specific instructions on how to safely perform your own work activities. These documents may also identify known hazards and risk controls relating to different tasks or pieces of plant or equipment you may use. Work activities in the resource and infrastructure industries can have higher levels of risk. If your work activities are considered high risk then there will be more detailed work instructions to ensure your safety.
Spill and Emergency Response Documentation	Includes instructions on how to raise the alarm, including contacting emergency services. Provides guidance on how workers should respond to an emergency to ensure the safety and health of all persons at the workplace and to minimise the risk of damage to property as well as the environment. Also details specific duties of prescribed persons such as fire wardens, emergency response or incident coordinators, rescue teams and first aid officers. These procedures will differ based on the size and type of the workplace, types and amounts of hazardous chemicals and the processes involved when these chemicals are used.

1.2.2.1 Emergency Response Plan

The objectives of the Emergency Response Plan (ERP) are to provide personnel with clear instructions on how to assess and respond to an emergency. It should contain instructions for:

◆ An effective response to different kinds of emergencies.

◆ Evacuation procedures.

◆ Notification procedures to advise emergency services organisations as soon as practicable.

◆ Medical treatment and assistance.

◆ Communication procedures between the person coordinating the emergency response and all persons at the workplace.

A comprehensive emergency plan should also include:

- A site map that indicates where hazardous chemicals, emergency response equipment and first aid supplies are stored.

- Roles and responsibilities of key personnel in managing emergencies.

- Situations that require the activation of the emergency response plan.

- Systems for raising the alarm.

- Identifying and classifying the severity of the emergency.

- Criteria for alerting emergency services.

- Isolation of the emergency area.

- Roles of on-site emergency response personnel.

- Methods for containing any spillage.

- When and how to disconnect the power supply.

- Strategies to prevent hazardous chemicals or contaminated material of any kind from entering drains or waterways.

- Maintenance of site security throughout the emergency.

- Guidance for dealing with the public and the media.

- Site rehabilitation requirements.

Copies of the ERP should be available from:

- Project/Site Office.

- WHS Office.

- Emergency Response Coordinator's Office.

- Environmental Manager's Office.

- First Aid room(s).

- Common areas and near telephones.

- Company corporate office.

1.2.2.2 Spill Response Plan

The purpose of the Spills Response Plan is to provide instructions for responding to spills to minimise:

- ◆ Danger to persons.

- ◆ Pollution of land and water.

- ◆ Size of the affected area.

- ◆ Degree of disturbance to plants and wildlife.

- ◆ Degree of disturbance during clean up.

The Spills Response Plan will contain specific actions for the different types of spills that can occur, including:

- ◆ Spills on land.

- ◆ Spills to water.

- ◆ Chemical spills.

- ◆ Cyanide release.

- ◆ Gas and vapour releases.

The plan will include procedures for clean up, containment, disposal, and monitoring, including details regarding equipment and personnel allocations.

The plan should be updated as required, to reflect changes in construction, operational procedures, regulations and guidelines.

1.2.3 Confirm Work Requirements

Before starting work, you will need to confirm your work requirements with the appropriate personnel. This may include:

- ◆ Supervisor.

- ◆ Health and Safety Representative (HSR).

- ◆ Industry groups.

Make sure that prior to doing this you are sure of the specific information you will be confirming.

This is also a good opportunity to discuss with the relevant personnel any information you found in the unclear in the documents you reviewed. They can explain how this information relates to your own work activities.

Confirming your work requirements will ensure that you know exactly what is expected of you, particularly when it comes to keeping the workplace safe for everyone on site.

Review Questions

1. What documents explain National, and State Health and Safety Rules?

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2. What are 3 things that procedures in Spill Response Plans aim to minimise?

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1.

2.

3.

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3. What should you do prior to confirming your work requirements with personnel such as your Supervisor, or Health and Safety Representative (HSR)?

☐

1.3 Communication Procedures

You need to establish communication systems to be used during spills so that you can coordinate activities with others. Personnel that you may need to communicate with include:

- Project/site manager/supervisor.

- WHS manager/supervisor.

- Emergency Response Coordinator.

- Environmental Manager.

- First Aid officer.

- The site safety officer.

- Team members.

- Supervisors.

- Others as designated by workplace management plans.

1.3.1 Communicating with Others

When communicating with others, make sure that you:

- Speak clearly and unambiguously – stick to the important details, don't waffle.

- Give instructions or directions so that they are easily understood.

- Provide complex information or explain issues to your listener in a way that ensures they understand. You could try breaking down the details, simplifying the information or referring to related examples.

- Listen carefully, answer questions and provide clarification as necessary. You can also ask questions to clarify understanding.

- Use all communications equipment appropriately, following the required procedures and protocols.

Communication equipment you might need to use includes:

- Two-way radios.

- Telephones.

- Written reports.

- Emails.

- Text messages.

- Other site-specific systems.

Make sure that you follow your site procedures and protocols for communicating spills. This may include using the correct communication processes in the event of an emergency or incident situation.

Review Questions

4.	What are four (4) types of communication equipment that you might need to use during spills?	☐

1.

2.

3.

4.

1.4 Spill Risks

Potential spill risks and hazards are impacted by site facilities and activities. These may include construction activities, energy supply, mining activities, materials transport, and waste water management.

1.4.1 Identify and Report Spill Risks

Potential risks and hazards need to be identified by considering the range of activities carried out and facilities present.

The below table details some examples of spill hazards that may be present on site and how they should be controlled to prevent environmental damage:

Hazard	Controls
Leaks of Oil, Fuel or Chemicals from Vehicles onto Construction Earthworks	1. Refuelling in designated areas fitted with spill containment. 2. Storage and handling in accordance with AS1940 Section 5.8. 3. Material used in construction will be correctly stored and handled to ensure containment. 4. Spill response procedures and training.
Leaks of Oil, Fuel or Chemicals from Vehicles during Site Operations	1. Major equipment maintenance to be conducted in dedicated facilities. 2. Refuelling in designated areas fitted with spill containment. 3. Storage and handling in accordance with AS1940 Section 5.8. 4. Material used in operations will be correctly stored and handled to ensure containment.
Chemical Release – Liquid from Leaks, Ruptures, Over-flows, Spillage or Pooling, Release to Atmosphere or Ground Systems	1. All storage and handling facilities designed and operated to relevant Australian Standards. 2. Clean storm water is directed away from potentially contaminated areas. 3. Site drainage system designed to allow retention of spills on site. 4. Hazard reviews conducted regularly. 5. Personnel trained in chemical storage and handling and incident response. 6. Monitoring of Sewage Treatment Plant (STP) to detect leaks or spills. 7. SDS available on site 8. Procedure for introduction of new chemicals 9. Appropriate personal protective equipment and spill response/incident response equipment. 10. Chemical incidents and spill response included in Emergency Response Plan. 11. Implementation of a preventative maintenance program.
Fuel Spill during Tanker Unloading	1. Regular equipment inspection and testing will be implemented to ensure reliable performance. 2. Operators will be trained in the safe operation of the system and emergency procedures in the event of fuel leakage. 3. Spill containment equipment is available at the unloading pad. 4. A sump will be provided to collect any spillage and allow recovery. 5. Ignition sources will be strictly controlled and limited to avoid a fire 6. Appropriate fire fighting equipment is available to suppress fires. 7. An approved fire protection system is installed around hydrocarbon storage areas. 8. Area is kept free of waste, dirt, dust or metal filings (these could react with spillages) or any combustible materials

1.4.2 Controlling Spill Risks

Once spill risks have been identified, risk control options need to be considered and applied, in line with your workplace's policies and procedures.

Risk control involves choosing from a range of hazard control options how you intend to reduce the risk level, and then implementing them.

The Hierarchy of Hazard Control is the name for a range of control methods used to eliminate or control hazards and risks in the workplace.

The Hierarchy has 6 levels shown here from most effective to least effective:

Hierarchy Level	Action
1. Elimination	This is the best kind of hazard control. Eliminating or removing the hazard completely removes any risk connected to it. An example of eliminating a hazard would be removing dangerous materials from the site, or repairing defective equipment.
2. Substitution	This is where you swap a dangerous work method or situation for one that is less dangerous. For example using a group of people to move an item instead of trying to move it on your own (where the item cannot be broken down into smaller loads).
3. Isolation	This is where you isolate the hazard. This might mean fencing off an area or restricting access to the hazard in some other way.
4. Engineering Controls	This is where you use an engineering or mechanical method of doing the job. Examples would be using a piece of equipment to move a load instead of moving it by hand, or installing ventilation.
5. Administrative Controls	This is where site rules and policies attempt to control a hazard. It can include setting specific break times and frequent rotations for repetitive work or using signage to warn of hazards.
6. Personal Protective Equipment (PPE)	This is the least effective option and should be used in conjunction with other hazard control methods. PPE includes any safety equipment or safety clothing worn on your body including masks, gloves, protective eyewear, and earmuffs. Workplaces often have mandatory PPE requirements for the site.

It is important to consider all the options available when deciding on the best course of action. Not all options will be available or realistic under all circumstances.

It may also be possible to use a range of risk controls to reduce the risk level to an acceptable level

Regulations and codes of practice for specific risks, such as chemical spills usually outline what type and level of risk is considered acceptable.

When deciding which types of control measure are appropriate, you should think about the severity of injury, illness or disease that could occur. If the severity is high (fatality, serious injury), a higher level of control (elimination, substitution or isolation) should be used.

You should always try to implement the highest possible level of hazard control to reduce the likelihood of the risk. Never depend on just using PPE unless you have worked out that all higher level controls are not practical or feasible.

Where the hazard or risk has the potential to cause high levels (consequences) of harm such as death, serious injury or serious illness, more emphasis should be given to those controls that eliminate or reduce the level of harm, than those that reduce likelihood.

The thing to remember is that the controls need to provide the highest level of protection possible, while still being realistic and practical.

Review Questions

5.	List three (3) possible spill hazards.	☐

1.

2.

3.

6.	What is the least effective control method in the hierarchy of hazard controls?	☐