

# RIISAM204E

## Operate Small Plant and Equipment

### 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

# RIISAM204E Operate Small Plant and Equipment

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.

Evaluation Copy Only

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# 1.1 Introduction

This course is based on the unit of competency **RIISAM204E Operate Small Plant and Equipment**.

This unit covers the operating of a range of small plant and equipment in the resources and infrastructure industries.

You will learn about:

- ◆ Planning and preparing to work with small plant and equipment.
- ◆ Choosing and checking the equipment before you use it.
- ◆ Using small plant and equipment safely.
- ◆ Maintain the equipment.
- ◆ Cleaning up after work.



# 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 operations documentation for the job. This will help you to do your work in the safest way and make sure all work is compliant.

Operations documentation includes:

<b>Site Details</b>	The information and safety requirements of the workplace environment (where you will be working).
<b>Hazard Details</b>	Any hazards in the work area or related to the work. This could also include instructions on how to handle dangerous or hazardous materials.
<b>Task Details</b>	Instructions of what the work is or what you will be doing (this can include diagrams or plans). Also instructions on how to safely do the job.
<b>Faulty Equipment Procedures</b>	Isolation procedures to follow or forms to fill out.
<b>Signage</b>	Site signage tells you what equipment you need to have, or areas that are not safe to be in.
<b>Emergency Procedures</b>	Instructions on what to do in emergency situations, for example if there is a fire, accident or emergency where evacuation or first aid is needed.
<b>Equipment and Work Instructions</b>	Details of how to operate plant and equipment and the sequence of work to be done.



Your worksite will also have instructions for working safely including:

- ◆ Emergency procedures, including using fire fighting equipment, first aid and evacuation.
- ◆ Handling hazardous materials.
- ◆ Safe operating procedures.
- ◆ Personal protective clothing and equipment.
- ◆ Safe use of tools and equipment.

## Review Questions

1.	List 3 things that may be included in 'operations documentation'.	<input type="checkbox"/>
1.		
2.		
3.		

## 1.3 Work Instructions

You need to be clear about what work you will be doing. Make sure you have everything about the job written down before you start. This includes what you will be doing, how you will be doing it and what equipment you will be using.

Make sure you have all of the details about where you will be working. For example:

- ◆ **The Site** – Is there clear access for all equipment? Are there buildings, structures, facilities or trees in the way? What are the ground conditions like?
- ◆ **The Weather** – Is there wind, rain or other bad weather? Is it too dark?
- ◆ **Facilities and Services** – Are there power lines or other overhead or underground services to think about?
- ◆ **Traffic** – Are there people, vehicles or other equipment in the area that you need to think about? Do you need to get them moved out of the area? Do you need to set up barriers or signs?
- ◆ **Hazards** – Are there dangerous materials to work around or think about? Will you be working close to power lines or other people?



You also need to make sure you have all of the details about the kind of work you will be doing:

- ◆ **The Task** – What is being done? How long will it take? Who will be helping you?
- ◆ **Plant and Equipment** – What items will be used? How much room do they need?
- ◆ **Communications** – How are you going to communicate with other workers?
- ◆ **Procedures and Rules** – Do you need any special permits or licences? Are there site rules that affect the way you will do the work?



### 1.3.1 Reading and Checking Your Work Instructions

All work needs to follow worksite, environment and company safety procedures.

Procedures help to make sure that all work is done in a safe way, without damaging equipment or putting people in unsafe situations. They also help to make sure that work is done in the correct order and doesn't interrupt or get in the way of other work that is happening on the site.

Your work instructions will tell you the safest way to do the job, and the equipment that you will need to use. It is a good idea to check your work instructions with your boss or supervisor to make sure you know exactly what you need to do.

If you don't know where to get your instructions or you can't understand them, you can ask your boss or supervisor. They will tell you where to find your work instructions and explain what they mean.



### 1.3.2 Work Method Statements

Many worksites require a work method statement before any work can start. A work method statement is a list of steps that outlines how a job will be done. It also includes any hazards that occur at each step, and what you need to do about them.

These statements can also be known as Safe Work Method Statement (SWMS), Job Safety Analysis (JSA) or Safe Operating Procedure (SOP).



### 1.3.3 Safety Data Sheets

A Safety Data Sheet (SDS) is a detailed document outlining the risks and hazards associated with handling chemicals and other materials.

The SDS will contain details that can help you to identify:

<b>Basic Details of the Chemical or Material</b>	Name, type and identification number.
<b>Hazards Associated with use of the Material</b>	Whether it is flammable or corrosive.
<b>Safe Handling and Storage Procedures</b>	PPE to use, sealed containers or storage temperatures.
<b>Emergency Procedures</b>	What to do if the chemical or material gets out of hand.
<b>Disposal Procedures</b>	Suggestions for removing the chemical or material from the site.

It will be issued by the manufacturer and may or may not include material handling methods.

Talk to your WHS representative or supervisor if you have any questions about legislative requirements relating to your work.

### Review Questions

<b>2.</b>	What details about the work area can you get from your work instructions?	<input type="checkbox"/>



**3.**

What is a 'Work Method Statement'?

**4.**

What is a 'Safety Data Sheet'?

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## 1.4 Emergency Procedures

Emergency procedures will vary depending upon the worksite. These procedures could include:



- ◆ Emergency shutdown.
- ◆ Evacuation.
- ◆ First aid.
- ◆ Fire fighting.

### 1.4.1 Emergency Shutdown of Equipment

If there is a fire, emergency or accident you might need to use the emergency stop on the equipment you are using. This will turn the equipment off immediately. You can also use the emergency stop if the equipment stops working properly or you lose control of the equipment.



### 1.4.2 Evacuation



Things to remember are:

1. Keep calm.
2. Move away from the danger to a designated evacuation point, sometimes called an emergency assembly area.
3. Do not let other people into the area.
4. Call emergency services in accordance with workplace procedures and policies.

### 1.4.3 First Aid

First Aid is the quick care given to an injured or ill person. Every site will have a First Aid Officer. If somebody needs first aid you must tell your supervisor or First Aid Officer. Do not try to give first aid if you have not been trained.



## 1.4.4 Fire Fighting Equipment

Fire fighting equipment on site could be anything from small fire extinguishers through to large water cannons

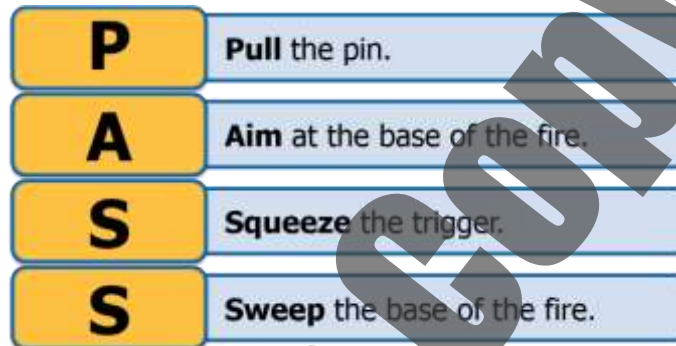


Different fire fighting equipment should be used for different types of fire. Always check the equipment for information on what type of fire it can be used on.

Steps for using a fire extinguisher:

1. Evacuate the area.
2. Isolate the area.
3. Call emergency services or other designated on site procedure.
4. If it is safe to do so, use an extinguisher to attempt to control the fire using the PASS system.

The **PASS** system:



Contact your site emergency management team as soon as possible and call the fire brigade on 000.

### Review Questions

<b>5.</b>	What emergency situations are generally outlined in site emergency procedures?	<input type="checkbox"/>

# 1.5 Hazard Identification and Control

Before you start work, 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 any work.

A **hazard** is the thing or situation with the potential to cause 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).



Some hazards you should check for in the work area:



- ◆ Overhead power lines.
- ◆ Underground services.
- ◆ Obstructions.
- ◆ Trees.
- ◆ Scaffolding.
- ◆ Cranes.
- ◆ Other workers.
- ◆ Equipment.
- ◆ Machines.
- ◆ Hazardous materials.
- ◆ Structures.
- ◆ Surface condition.
- ◆ Spills.
- ◆ Debris.
- ◆ Ground weight bearing ability.

## 1.5.2 Working Near Power Lines

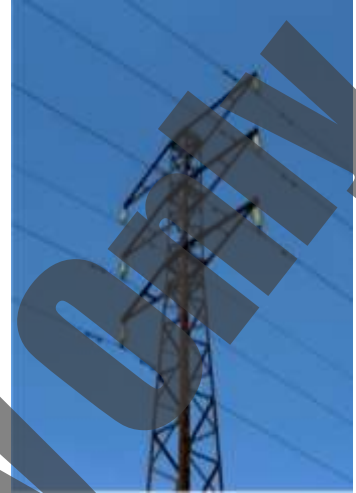
Working near power lines can be really dangerous if you are not careful.

It is very important that you know the safe operating distances for different types of power lines and the steps you must take if your job needs you to work closer than the safe distances.

Generally, if you need to work closer than the safe work distance you must:

- ◆ Contact the local electrical authority for permission to work closer (this is called an exemption).
- ◆ Have the power lines shut off. If this is not possible then have the power lines insulated.
- ◆ Use a spotter (depending on local laws and rules).

Distances are different depending on the voltage of the power lines. You should check with the local electrical authority for information and advice to find out the voltage of power lines in your work area.



### QLD

The Queensland Electrical Safety Regulation breaks down the distances in detail. Exclusion zones are broken down not only by size of electric/power line but also by the competency level of the operator. This means that the requirements should be clarified with the electrical authority before work commences even if the distance appears to be outside the zones.

The following minimum distances are provided as guidance:

Electric/Power Line Type	Distance
Up to 132kV	3.0m
132kV up to 330kV	6.0m
330kV and above	8.0m

### NSW

In New South Wales, for anyone who is not accredited, equipment operation may not be any closer than the following distances to electric/power lines:

Electric/Power Line Type	Distance
Up to and including 132kV	3.0m
Above 132kV up to and including 330kV	6.0m
Above 330kV	8.0m

To work closer than these distances requires authority from the relevant electrical authority and adherence to cl.64(2)(e) of the regulations.

## ACT

In the ACT mobile plant operators and persons erecting or working from scaffolding must maintain a safe minimum distance to power lines as outlined in the table below:

Electric/Power Line Type	Distance
Less than 33kv	4.0m
33kV or more (transmission lines)	5.0m

## VIC

In Victoria the Framework for Undertaking Work Near Overhead and Underground Assets states that equipment must not be closer than the following distances to electric/power lines:

Electric/Power Line Type	Distance
Distribution lines up to and including 66kV (power poles)	6.4m (or 3.0m with a qualified spotter)
Transmission lines greater than 66kV (towers)	10m (or 8m with a qualified spotter)

## TAS

In Tasmania equipment must not be closer than the following distances to electric/power lines:

Electric/Power Line Type	Distance
Up to and including 133kV (poles)	6.4m (or 3m with a safety observer)
Greater than 133kV (towers)	10m (or 8m with a safety observer)

## SA

In South Australia mobile plant operators and persons erecting or working from scaffolding must maintain a safe minimum distance to power lines as outlined in the table below:

Electric/Power Line Type	Distance
Up to 132kv (including 132kv poles)	6.4m (or 3.0m with a spotter)
132kv or more (including 132kv towers)	10.0m (or 8.0m with a spotter)

## WA

In Western Australia this falls under Regulation 3.64 from the OSH Regulations and states the following as the minimum distances:

Electric/Power Line Type	Distance
Up to 1kV (insulated)	0.5m
Up to 1kV (uninsulated)	1.0m
Above 1kV and up to 33kV	3.0m
Above 33kV	6.0m

## NT

In the Northern Territory equipment must not be closer than the following distances to electric/power lines:

Electric/Power Line Type	Distance
Up to and including 132kV (distribution lines)	6.4m (or 3m with a spotter)
Greater than 132kV (transmission lines)	10m (or 8m with a spotter)

### 1.5.2.1 Tiger Tails



Tiger tails are used to show where overhead power lines are. They are bright coloured and easier to spot overhead than the standard wire on its own.

Just because power lines have tiger tails doesn't mean they are safe to hit. The tiger tails do not stop the flow of power. Even with tiger tails in sight you still must keep to the safe distances for the state you are working in.

### 1.5.3 Control Hazards

After you have found hazards or dangers you need to work out how bad they are:



1. What is the chance that the hazard will hurt someone or cause damage?
2. If it does happen, how bad will the injury or damage be?

Thinking about these things will help you to choose how to control the hazards. Hazards controls need to follow:

- ◆ Legislation (laws).
- ◆ Australian Standards.
- ◆ Codes of Practice.
- ◆ Manufacturers' specifications.
- ◆ Industry standards.

