

# RIIMPO206D

## Conduct Bulk Water Truck Operations

### 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

# RIIMPO206D Conduct Bulk Water Truck Operations

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.

# Table of Contents

<b>1.1 Introduction .....</b>	<b>5</b>
1.1.1 What is a Water Truck?.....	5
1.1.2 Water Truck Components.....	6
<b>1.2 Site Policies and Procedures .....</b>	<b>7</b>
1.2.1 Mine Operational Systems.....	8
Review Questions.....	8
<b>1.3 Work Instructions .....</b>	<b>9</b>
1.3.1 Reading and Checking Your Work Instructions .....	10
1.3.2 Work Method Statements.....	10
1.3.3 Geological and Survey Data.....	11
1.3.3.1 Geological Data.....	11
1.3.3.2 Survey Data.....	11
Review Questions.....	12
<b>1.4 Emergency Procedures.....</b>	<b>13</b>
1.4.1 Emergency Shutdown of Equipment .....	13
1.4.2 Evacuation .....	13
1.4.3 First Aid .....	13
1.4.4 Fire Fighting Equipment.....	14
Review Questions.....	14
<b>1.5 Hazard Identification &amp; Control .....</b>	<b>15</b>
1.5.1 Identify Hazards .....	15
1.5.2 Control Hazards.....	17
1.5.2.1 Personal Protective Equipment (PPE).....	17
1.5.3 Environmental Protection Requirements.....	18
1.5.3.1 Dust Management.....	18
Review Questions.....	19
<b>2.1 Choose and Check Truck and Equipment.....</b>	<b>21</b>
2.1.1 Conduct Routine Checks .....	21
2.1.1.1 Pre-Start Checks .....	22
2.1.1.2 Start the Water Truck.....	22
2.1.1.3 Operational Checks .....	23
2.1.2 Recording and Reporting Faults.....	23
Review Questions.....	24
<b>2.2 Operate the Water Truck.....</b>	<b>25</b>
2.2.1 Assess Materials and Site Conditions.....	26
2.2.2 Safe Operating Techniques .....	27
2.2.2.1 Site Road Rules.....	27
2.2.3 Managing Power Efficiency and Gear Selection.....	28
2.2.3.1 Gear Selection and Transition .....	28
2.2.4 Bring the Water Truck to a Halt.....	28
Review Questions.....	29
<b>2.3 Load, Haul and Distribute Water.....</b>	<b>31</b>
2.3.1 Position the Water Truck.....	31
2.3.2 Load the Water Truck.....	31
2.3.2.1 Standpipe Systems.....	32
2.3.3 Haul Water.....	32
2.3.3.1 Minimising Movement and Relocating Safely .....	32
2.3.4 Discharge and Distribute Water .....	33
2.3.4.1 Discharging Water.....	34
2.3.4.2 Water Distribution.....	35
2.3.5 Monitor Discharge and Distribution Systems.....	35
Review Questions.....	35

<b>2.4 Adjust Techniques to Meet Changing Conditions .....</b>	<b>38</b>
2.4.1 Monitoring Systems and Alarms.....	39
Review Questions.....	40
<b>2.5 Monitor and Check for Hazards .....</b>	<b>40</b>
2.5.1 Reporting Hazards.....	41
Review Questions.....	42
<b>2.6 Completing Your Work .....</b>	<b>43</b>
Review Questions.....	43
<b>3.1 Park and Shut Down the Water Truck.....</b>	<b>44</b>
3.1.1 Parking the Water Truck .....	44
3.1.2 Shutting Down the Water Truck .....	44
Review Questions.....	45
<b>3.2 Post-Operational Checks .....</b>	<b>45</b>
3.2.1 Reporting Faults.....	46
Review Questions.....	46
<b>3.3 Clean the Water Truck and Carry Out Routine Maintenance.....</b>	<b>47</b>
3.3.1 Carry Out Maintenance Tasks.....	47
3.3.2 Vehicle Refuelling Procedures.....	48
3.3.3 Returning the Water Truck to Service .....	49
3.3.3.1 Removing Locks and Tags .....	49
3.3.4 Processing Maintenance Records .....	49
Review Questions.....	50
<b>3.4 Clean Up After Work.....</b>	<b>52</b>
3.4.1 Clearing the Work Area.....	52
Review Questions.....	52
<b>3.5 Process Written Records .....</b>	<b>53</b>
Review Questions.....	53
<b>Practical Assessment Instructions .....</b>	<b>54</b>
Conditions of Assessment .....	54
Personal Protective Equipment (PPE) Requirements.....	54
Grounds for Stopping the Assessment .....	54
Achieving a Satisfactory Outcome.....	54
Practical Assessments.....	55

# 1.1 Introduction



This course is based on the national unit of competency **RIIMPO206D Conduct Bulk Water Truck Operations.**

You will learn about:

- ◆ Planning and preparing for water truck operations.
- ◆ Conducting machine pre- and post-operational checks.
- ◆ Operating the water truck.
- ◆ Loading, hauling and distributing water.
- ◆ Carrying out driver maintenance tasks.
- ◆ Cleaning up and clearing the site.

## 1.1.1 What is a Water Truck?

A water truck is a purpose-built vehicle used to load, haul, discharge and distribute water in a controlled manner.

Water truck vehicles may be:

- Diesel-mechanical.
- Diesel-electric.
- Rigid.
- Articulated.

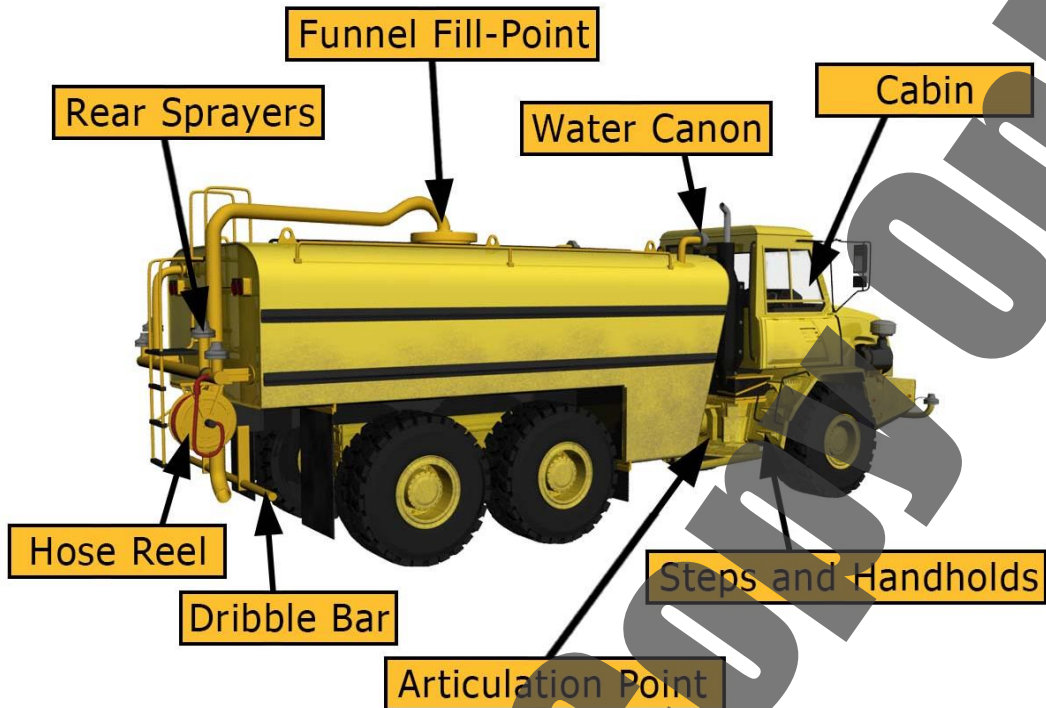
Water truck operations are undertaken on every mine site for a variety of reasons, including dust suppression. They often work in conjunction with other plant items to ensure successful operations on the site.

The operations will depend on the needs of your site, and will adhere to the project plans and environmental requirements.



## 1.1.2 Water Truck Components

The following diagram shows some of the main components of an articulated water truck:



Component	Description
<b>Cabin</b>	Part where operator controls the water truck from. Sprayer controls joysticks, buttons, timing controls and distance meters.
<b>Steps and Handholds</b>	Allows easy access to the water truck cabin. Most models will also have access to the top of the water tank for filling or maintenance.
<b>Articulation Point</b>	Steering and stability mechanism of the water truck. Allows for easier turning and mobility around haul routes.
<b>Dribble Bar</b>	Dribble bar at the back of the truck can be gravity or pressure controlled. Some can spray water in various patterns.
<b>Hose Reel</b>	Holds a length of hose that can be used by hand for watering smaller areas and putting out spot fires.
<b>Rear Sprayers</b>	Rear sprayers generally distribute water in multiple directions from the back of the truck. These can be high pressure or soft sprays.
<b>Funnel Fill-Point</b>	The main filling point for the water truck. The funnel helps to reduce spills and waste. This is often used underneath stand pipe systems.
<b>Water Cannon</b>	This is most often used for fire fighting on site or distributing water onto stockpiles. It can shoot a high pressure stream of water over long distances.



## 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 on your mine site. This will help you to do your work in the safest way and make sure all work is compliant.



Operations documentation includes:

### Site Details

The information and safety requirements of the workplace environment (where you will be working).

### Hazard Details

Any hazards in the work area or related to the work. This could also include instructions on how to handle dangerous or hazardous materials.

### Task Details

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.

### Faulty Equipment Procedures

Isolation procedures to follow or forms to fill out.

### Signage

Site signage tells you what equipment you need to have, or areas that are not safe to be in.

### Emergency Procedures

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.

### Equipment and Work Instructions

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.



## 1.2.1 Mine Operational Systems

On most mine sites you will find specific documentation and computer programs that outline the systems to be used during all operations on site.

These systems may outline the requirements for:

- ◆ The structure of management and personnel.
- ◆ Communicating with others.
- ◆ What to do in the event of an emergency.
- ◆ Who has the right of way on haul routes.

You need to make sure you are aware of and have access to the operational systems being used on your mine site. This is to ensure you know who you are required to communicate with, what is required of you on site and how you are required to complete tasks as safely as possible.



## Review Questions

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



2.

What 4 things do mine operational systems outline the requirements for?



1.

2.

3.

4.

## 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 the job you need to do? Where is it? How much water will you need?
- ◆ **Plant** – What type of plant will be used? How big is it? How much room does it 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.

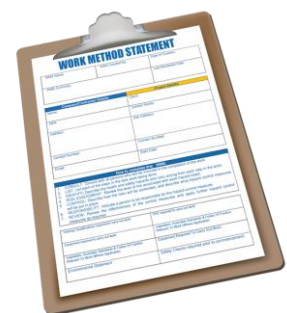
Your work instructions will tell you the safest way to do the job, and the equipment that you will need to use. It is a good idea to check your work instructions with your boss or supervisor to make sure you know exactly what you need to do.

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 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 what work you need to complete.

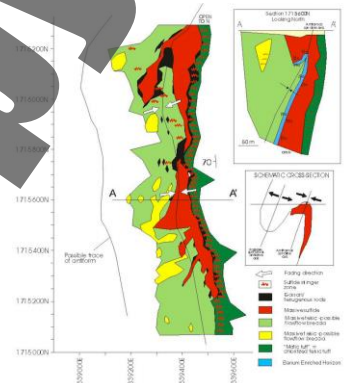


#### 1.3.3.1 Geological Data

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.



#### 1.3.3.2 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

3.

What details about the work area can you get from your work instructions?



4.

What will information on geological data help you to decide on?



## 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

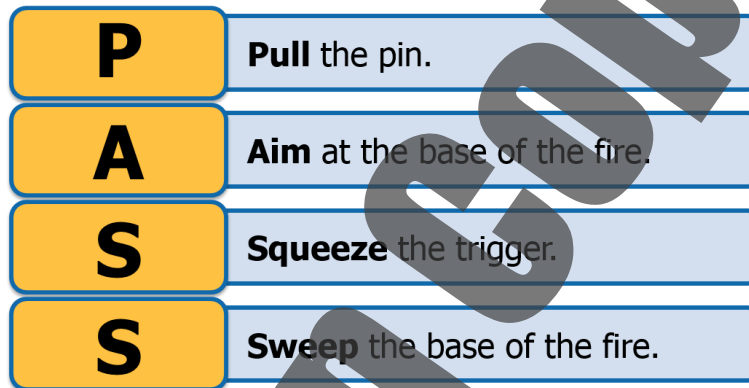


Fire fighting equipment on site could be anything from small fire extinguishers through to large water cannons. Different fire fighting equipment should be used for different types of fire. Always check the equipment for information on what type of fire it can be used on.

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 & 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.



The best way to control hazards is to use a simple problem-solving approach:

1. **Identify the problem** (What is the hazard?).
2. **Identify the cause of the problem** (What is causing the hazard?).
3. **Work out the different options that you have to solve the problem** (What can be done to eliminate or minimise the hazard as much as possible?)
4. **Choose the best option to solve the problem and apply it** (What is the best option to eliminate or minimise the hazard?)
5. **Check to see if the problem has been solved** (Has the hazard been eliminated or reduced to a safe level?). If not, you will need to use additional, or better options for fixing the problem (controlling the hazard).

### 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 a 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 and underground services.
- ◆ Uneven, soft, slippery or unstable terrain.
- ◆ Fires.
- ◆ Bridges.
- ◆ Excavations.
- ◆ Buildings.
- ◆ Traffic.
- ◆ Embankments.
- ◆ Water reservoirs and pumps
- ◆ Cuttings.
- ◆ Hazardous materials.
- ◆ Structures such as site offices and scaffolds.
- ◆ Confined space of the water tank.
- ◆ The weather and environment.
- ◆ Other workers or site visitors.
- ◆ Pedestrians and other public traffic.
- ◆ On site vehicles, plant, equipment and machinery.
- ◆ Poorly maintained or faulty equipment.
- ◆ Blocked or faulty jets, fans, spray bars, hoses.
- ◆ Hazards from components of the water truck.
- ◆ Water or fluid movement in the water tank.
- ◆ Handling characteristics of the water truck.
- ◆ Chemical hazards such as fuel, chemicals, contaminants, gases or dusts.