

CPCCLRG4001

Licence to Perform Rigging Advanced Level

Learner Guide Instructions

Who is this document for?

The learner.

What is in this document?

- Course training content (this matches the PowerPoint Presentation).
- Review questions.

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.

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



LEARNER GUIDE

CPCCLRG4001 Licence to Perform Rigging Advanced Level

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

This Book Contains:

- Course Information.
- Review Questions.

Table of Contents

1.1 Introduction	6
1.1.1 When is a Risk Licence Needed?	6
1.1.2 What Types of Work Can You Do with a Rigging Advanced Level Licence?	6
1.1.3 High Risk Work and WHS Legislation	7
1.2 Plan Job	8
1.2.1 Work Health and Safety Requirements	8
1.2.2 Duty of Care	8
1.2.3 Task and Equipment Instructions	9
1.2.4 Work Method Statements	10
1.2.5 Assess the Task	10
1.2.6 Gather Site Information	11
Review Questions	12
1.3 Identify and Control Hazards	13
1.3.1 Consultation and Communicating with Others	14
1.3.2 Risk/Hazard Identification	14
1.3.2.1 Working Near Power Lines	16
1.3.3 Risk Assessment	18
1.3.4 Risk Treatment	20
1.3.4.1 Personal Protective Equipment Used During Rigging Work	21
Review Questions	22
1.4 Identify Equipment Requirements	25
1.4.1 Rigging Equipment, Plant and Tools	25
1.4.2 Safety Equipment	27
1.4.2.1 Safety Harnesses	27
1.4.2.2 Lanyards and Energy Absorbers	28
1.4.2.3 Inertia Reels	28
1.4.2.4 Static Safety Lines	28
1.4.2.5 Safety Nets	29
Review Questions	29
1.5 Identify Communication Methods	30
1.5.1 Workplace Communications	31
Review Questions	31
2.1 Select and Inspect Equipment	32
2.1.1 Selection of Rigging Equipment	32
2.1.2 Select Associated Plant and Equipment	35
2.1.2.1 Load Shifting Equipment	36
2.1.2.2 Materials Handling Equipment	38
2.1.2.3 Work Positioning Equipment	38
2.1.3 Inspection of Associated Plant and Equipment	39
Review Questions	40
2.2 Inspect Safety Equipment	42
2.2.1 Inspect Fall-Arrest Harness	42
2.2.2 Inspect Inertia Reel	43
Review Questions	44
2.3 Identify Faulty Equipment	45
2.3.1 Report All Defects and Isolate Faulty Equipment	45
Review Questions	45
2.4 Communications	46
2.4.1 Establish and Maintain Communications	46
2.4.2 Select and Check Communication Equipment	46
2.4.2.1 Conventional Radio	47
2.4.2.2 Fixed Channel Radio	47
Review Questions	47

3.1 Set Up for the Task	49
3.1.1 Apply Hazard Control Measures	49
3.1.2 Check Ground Suitability	50
3.1.3 Review Site Information.....	51
3.1.4 Assess Structure for Suitability.....	52
3.1.5 Determine Forces and Loads	52
3.1.6 Fit Safety Equipment	53
3.1.7 Position Plant and Equipment	53
3.1.8 Advanced Rigging Temporary Connections.....	54
3.1.8.1 Alpine Hitch	54
3.1.8.2 Bosun Chair Hitch.....	55
3.1.8.3 Prusik Hitch	56
3.1.8.4 Figure Eight Knot	56
Review Questions	57
3.2 Erect Associated Plant	61
3.2.1 Maintain Communication	61
3.2.2 Flying Foxes and Cable Ways (Span Ropes)	61
3.2.2.1 Flying Foxes.....	62
3.2.2.2 Cable Ways/Span Ropes.....	63
3.2.2.3 Calculations for Flying Foxes and Cable Ways.....	63
3.2.3 Gin Poles	64
3.2.3.1 Lifting a Load with a Gin Pole	66
3.2.4 Guy Derricks	67
3.2.5 Shear Legs.....	69
3.2.6 Tripods.....	70
3.2.7 Suspended Scaffolds.....	71
3.2.7.1 Swing Stages	72
3.2.7.2 Bosun Chair	76
3.2.7.3 Calculations for Suspended Scaffolds.....	77
3.2.8 Fabricated Hung Scaffolds.....	78
3.2.8.1 Hung Scaffold Structure Requirements	79
3.2.9 General Scaffold Safety Requirements	80
Review Questions	80
3.3 Inspect and Complete the Job	94
3.3.1 Inspecting the Completed Work.....	94
3.3.2 Inspection of Scaffolds.....	94
3.3.2.1 Modifying or Inspecting a Scaffold	95
3.3.2.2 Completing a Handover Certificate	96
3.3.3 Tidy the Work Area.....	96
Review Questions	97
3.4 Incidents and Emergency Response	98
3.4.1 What is an Incident?.....	99
3.4.1.1 Responding to an Incident	99
3.4.2 Workplace Emergencies	99
3.4.2.1 General Emergency Response.....	100
3.4.2.2 General First Aid.....	100
3.4.3 Incidents Relating to the Use of Fall-Arrest Systems	100
3.4.3.1 Suspension Trauma	100
3.4.3.2 Preventing Suspension Trauma.....	101
3.4.3.3 First Aid for Suspension Trauma	101
3.4.4 Report All Hazards, Incidents and Injuries	102
Review Questions	102
3.5 Dismantle Plant and Structures	103
3.5.1 Disassembling Equipment.....	103
Review Questions	103

3.6 Conclude Rigging Operations	104
3.6.1 Inspect and Store All Rigging Equipment after Use	104
3.6.2 Remove Hazard Control Measures	105
Review Questions	105
Appendix A – Work Method Statement	107
Appendix B – Harness Inspection Checklist	113
Appendix C – Handover Certificate	114

Evaluation Copy Only

1.1 Introduction

This training course is based on the National High Risk Licence Unit of Competence **CPCCLRG4001 Licence to Perform Rigging Advanced Level.**

You will learn about:

- ◆ Planning out your work.
- ◆ Selecting and inspecting equipment.
- ◆ Setting up for the rigging task.
- ◆ Erecting and dismantling structures and plant.

Before completing this course you must have already finished CPCCLRG3002 Licence to Perform Rigging Intermediate Level. This course builds on those skills and knowledge.



1.1.1 When is a Risk Licence Needed?

A high risk work licence allows you to lawfully work with certain high risk equipment and plant such as forklifts, cranes, hoists, elevating work platforms, scaffolding, rigging and pressure equipment.



There are 3 levels of rigging class under a high risk licence. This course covers the work associated with the Advanced Rigging (RA) class of high risk work licence involving the use of mechanical load shifting equipment and associated gear to move, place or secure loads, including plant, equipment or members of a building or structure, as well as ensuring the stability of those members, and the set up and dismantling of cranes and hoists.

Competence in this unit does not in itself result in a licence. A licence is obtained after competence is assessed under applicable Commonwealth, state or territory work health and safety (WHS) regulations.

1.1.2 What Types of Work Can You Do with a Rigging Advanced Level Licence?

A person with an advanced rigging high risk work licence is allowed to complete the following range of tasks:

- ◆ All tasks that an intermediate rigger is qualified to do.
- ◆ Erection of flying foxes.
- ◆ Erection of cableways.
- ◆ Erection of gin poles.
- ◆ Erection of shear legs and tripods.
- ◆ Erection of guyed derricks and structures.
- ◆ Erection of suspended and fabricated hung scaffolds.



1.1.3 High Risk Work and WHS Legislation

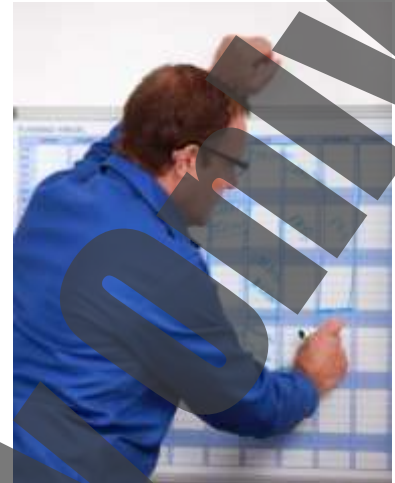
Once you pass your assessment you will have 60 days to apply for your licence.

You must renew your licence within 12 months of its expiry otherwise:

- ◆ Your licence can't be renewed.
- ◆ You need to repeat the course and re-apply for your licence.
- ◆ You need to enrol in the course again and be supervised by somebody who has a current licence for the same class.

You can still do high risk work without a licence as long as:

- ◆ You are enrolled in a high risk course for the class, and,
- ◆ You are being supervised by somebody who has a licence for the same class.



As part of their legal duty of care, licensed workers must take reasonable steps to make sure the way they work does not impact on the safety of themselves or any others on site. Failing to work safely can result in the health and safety regulator:

- ◆ Suspending or cancelling your licence.
- ◆ Refusing to renew your licence.
- ◆ Ordering that you are reassessed to ensure you are competent.
- ◆ Prosecuting

Your employer should ask you for evidence that you have a high risk licence before you start any high risk work. You can show them:

- ◆ Your licence.
- ◆ Proof from the training company that you have passed your assessment.
- ◆ Proof that you are currently completing a course for high risk work.



1.2 Plan Job

Planning the job before you start is an important step in any high risk work.

When planning out the task, some things you may consider are:

- ◆ Workplace-specific issues.
- ◆ Safe and adequate communications.
- ◆ Access and egress to/from work area.
- ◆ Weather conditions.
- ◆ Location of the task.
- ◆ Specific information required to complete the task.
- ◆ Equipment required for the task and its availability.
- ◆ Capability or capacity of lifting and braking equipment.



1.2.1 Work Health and Safety Requirements

Work Health & Safety (WHS) is defined as laws and guidelines to help keep your workplace safe.

These can be broken down into four main types:

Law	Description
Acts	Laws to protect the health, safety and welfare of people at work.
Regulations	Gives more details or information on particular parts of the Act.
Codes of Practice	Are practical instructions on how to meet the terms of the Law.
Australian Standards	Give you the minimum levels of performance or quality for a hazard, work process or product.

1.2.2 Duty of Care

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

This includes activities that require licences, tickets or certificates of competency or any other relevant state and territory WHS requirements.





This includes:

- ◆ Employers and self-employed persons.
- ◆ Persons in control of the workplace.
- ◆ Supervisors.
- ◆ Designers.
- ◆ Manufacturers.
- ◆ Suppliers.
- ◆ Workers.
- ◆ Inspectors.



As part of their duty of care obligations, an employer must provide and maintain a work environment without risks to health and safety. This includes providing and maintaining safe plant and structures as well as safe systems of work. In addition, adequate facilities need to be provided by the employer to meet the needs of everyone on site.

They must also ensure that everyone has received adequate training, information, or supervision to complete their work. The employer must confirm that workers who have recently completed their High Risk Work Licence and will be completing unfamiliar rigging work have been provided with sufficient information, training, instruction and/or supervision.

Intentionally or recklessly interfering with or misusing any WHS equipment provided by your employer is a breach of duty of care. You must cooperate with the health and safety policies and procedures set out by your employer. Doing this will assist you in meeting your duty of care obligations.



1.2.3 Task and Equipment Instructions



Task and equipment instructions can include:

- ◆ Manufacturer's guidelines (instructions, specifications, checklists).
- ◆ Industry operating procedures.
- ◆ Workplace procedures (work instructions, operating procedures, checklists).

It is important that you follow the guidance provided in manufacturer documentation as this will ensure all tools and equipment are being used safely. Reviewing this documentation is an important part of meeting WHS responsibilities. Not following guidance given in the manufacturer's instructions can lead to unsafe work practices which could lead to illness, injury or in some cases death. Manufacturer's instructions are often referred to when conducting a risk assessment, or training personnel on how to use a new tool or install a piece of equipment. If you are not sure where to locate these documents then ask your supervisor or manager.



1.2.4 Work Method Statements

A Work Method Statement (WMS) details how specific hazards and risks related to the task being completed will be managed and is developed by the employer.



Work Method Statements fulfil a number of objectives:

- ◆ They outline a safe method of work for a specific job.
- ◆ They provide an induction document that workers must read and understand before starting the job.
- ◆ They assist in meeting legal responsibilities for the risk management process, hazard identification, risk assessment and risk control.
- ◆ They assist in effectively coordinating the work, the materials required, the time required and the people involved to achieve a safe and efficient outcome.
- ◆ They are a quality assurance tool.

Work Method Statements may also be referred to as a Safe Work Method Statement (SWMS), Job Safety Analysis (JSA) or Safe Operating Procedure (SOP).

An example of a Work Method Statement can be found in **Appendix A**.

1.2.5 Assess the Task

Before you start any work or planning, look to see what the task actually is.

- ◆ Does the task require lifting or moving of materials?
- ◆ Will you be assembling or disassembling plant or equipment?
- ◆ What equipment will you need and is it available?
- ◆ What is the weather doing and is it safe to carry out the work?

All of these factors will introduce different hazards and requirements to the work.



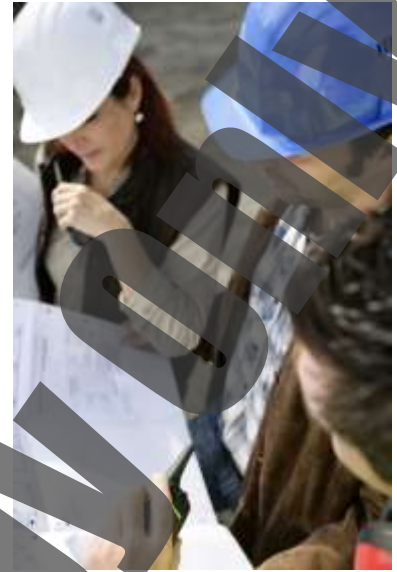
1.2.6 Gather Site Information

Before you begin the work, access all the relevant documents so that you can plan to complete the job safely and to the correct specifications.

The following sources of information will assist you in planning for the work:

- ◆ Legislation and regulations.
- ◆ WHS/OHS policies.
- ◆ Duty of care.
- ◆ Work Method Statements (WMS), Job Safety Analysis (JSA) and other hazard identification procedures such as 'Take-5'.
- ◆ Management plans.
- ◆ Codes of Practice.
- ◆ Manufacturer's instructions.
- ◆ Operations manuals.
- ◆ Job or task requirements.
- ◆ Permits and procedures required for the task, such as:
 - ◆ Current permits.
 - ◆ Emergency response.
 - ◆ Incident and accident reporting.
 - ◆ Equipment fault reports.
 - ◆ Equipment maintenance requirements.
 - ◆ Communication methods and equipment use.
 - ◆ Supervision requirements.
- ◆ Schedules detailing priorities and job sequencing.
- ◆ Site rules and regulations.
- ◆ Risk management procedures.
- ◆ Structural plans.

Talk to your supervisor if you have any questions about the information you need to complete the job, such as permits and procedures.



Review Questions

1.

What are the four (4) main types of laws and guidelines relating to WHS legislation?

1.

2.

3.

4.

2.

What is your duty of care responsibility?

3.

List two (2) examples of documentation you may find in manufacturer guidelines.

1.

2.

4.

What information does a Work Method Statement include?



5.

List three (3) examples of sources of site information that needs to be gathered before starting the job.



1.

2.

3.

1.3 Identify and Control Hazards

HAZARDS CREATE RISK. CHECK FOR HAZARDS.

A **HAZARD** is a thing or situation that has the potential to cause injury or harm to a person.

A **RISK** is the possibility of harm (death, injury or illness) occurring if someone was exposed to a hazard.

If you can remove or at least control a **HAZARD** you can reduce the **RISK** involved.



1.3.1 Consultation and Communicating with Others

Communication and consulting with others is an important part of doing your job safely.

Make sure you talk to the right people. They will be able to give you the best information to safely carry out your work. This can include:

- ◆ Safety officers who can tell you about:
 - ◇ Workplace-specific hazards.
 - ◇ Workplace-specific hazard controls.
 - ◇ Workplace policies.
- ◆ Engineers who know about:
 - ◇ Plans and drawings.
 - ◇ Load bearings (of ground and suspended surfaces).
 - ◇ Purpose of installations.
 - ◇ Suitability of the roof.
 - ◇ The correct anchorage to be used.
- ◆ Supervisors who can provide you with guidance for:
 - ◇ Job specifics.
 - ◇ Local, job and workplace knowledge.
 - ◇ Information relating to contractors and work area arrangements.
- ◆ Colleagues, such as doggers, riggers and crane operators.
- ◆ Managers who are authorised to take responsibility for the workplace or operations.



It is important to communicate with workplace personnel and safety officers before starting on a worksite to ensure that any workplace policies and/or site-specific procedures are adhered to.

1.3.2 Risk/Hazard Identification

When identifying hazards always remember to check:



- ◆ **Above head height** – Remember the load may be moving above your head.
- ◆ **At eye level** – Look around to see if there is anything in the way of where you want to move the load.
- ◆ **On the ground (and below)** – Have a look at the ground conditions and think about where the load is being moved to. Will it support the weight of the load?

Common workplace hazards include:

- ◆ Ground conditions:
 - ◇ Underground services.
 - ◇ Non-weight bearing surfaces.
 - ◇ Recent excavations.
 - ◇ Soil conditions (e.g. recently filled trenches).
- ◆ Overhead hazards:
 - ◇ Power lines.
 - ◇ Overhead service lines.
 - ◇ Bridges.
- ◆ Working at heights:
 - ◇ Instability of work areas.
 - ◇ Falling objects.
 - ◇ Falls from heights.
- ◆ Poor lighting.
- ◆ Surrounding structures:
 - ◇ Buildings.
 - ◇ Obstructions.
 - ◇ Facilities.
 - ◇ Trees.
- ◆ Traffic:
 - ◇ Pedestrians.
 - ◇ Personnel.
 - ◇ Vehicles.
 - ◇ Mobile plant.
- ◆ Weather:
 - ◇ Wind.
 - ◇ Lightning.
 - ◇ Rain.
- ◆ Other worksite-specific hazards:
 - ◇ Dangerous materials.
 - ◇ Hazardous manual tasks.
 - ◇ Damaged or poor-quality equipment.
 - ◇ Electrical items.



If you were required to set up a flying fox to shift loads you would need to consider any hazards in the proposed path of movement of the load. Hazards that are specific to this situation could include:



- ◆ **Obstructions** – Anything that the load could come into contact with during its movement.
- ◆ **Overhead power lines** – These are a very serious hazard and may require specific control measures or re-planning of the task.
- ◆ **Pedestrians** – Any workers, personnel or site visitors must be kept away from, and made aware of the path of movement of loads.
- ◆ **Surrounding structures** – Make sure there is nothing too close to the path of movement. Consider the effect of the wind on the load during movement as well.

1.3.2.1 Working Near Power Lines

Working near power lines can be 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 state or territory you are working in and 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.

Queensland

The Queensland Electrical Safety Regulation breaks down the distances in detail. Exclusion zones are broken down not only by size of 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:

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

New South Wales

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

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.