Curtin University

Permit to Work Guide

Crane

This guide is intended for Curtin University's Contractors, Vendors, University Staff, Students, and Permit Managers*. The information contained in the guide is to assist Permit Applicants in successfully obtaining a permit by understanding Curtin's minimum requirements.

Permit Applicants will have control over the way work is undertaken and will be operating under their own safety management system. This includes the responsibility to put in place appropriate control measures to eliminate risks so far as is reasonably practicable, or, if it is not reasonably practicable to eliminate risks, to minimise health, safety, and operational risks, so far as is reasonably practicable.

**A Permit Manager is a person trained and authorised by Curtin University to approve permits.*

properties.curtin.edu.au/working-with-us

1

BEFORE PERMIT APPLICATION

1.1 Permit information

Crane Permit
To be issued for activity involving the use of a crane to raise or lower a load and to move it horizontally. The crane used could be fixed (tower, bridge, portal boom) or mobile (slewing, non-slewing, vehicle loading) cranes. Some powered mobile plant like telescopic handlers can be used as cranes.

Examples:
Using a crane to load and unload deliveries, lift / lower heavy equipment or machinery, shift a load from one place to another or in demolition work such as using a crane to clear debris.

Please note:
The permit is to be submitted minimum **2 business days** prior to commencement of works, a longer notice period is strongly enouraged.

1.2 Ensure:

- ☐ Contractor Company Status is COMPLIANT on Rapid Global (where applicable).
- ☐ Worker(s) have completed induction(s) for Curtin University (where applicable).
- ☐ Contractor Company and worker(s) hold required licenses and competencies to do the task (where applicable).

1.3 Plan & Consult

- ☐ Discuss works with Permit Manager to investigate potential impacts of crane lift(s) and identify relevant stakeholders.
- ☐ Engage with relevant Curtin University stakeholders, building or impacted users to agree on work methodology.
- ☐ Identify all potential hazards associated with the crane work and outline control measures.
- ☐ Use stakeholder feedback received to prepare required documents for permit application.
- ☐ Consider if other permits are required, i.e. Road Closure, Vehicle Access or Working at Height Permit.

LODGING PERMIT APPLICATION

2

2.1 Submit Application

https://properties.curtin.edu.au/working-with-us/permits/

- ☐ **Location Plan** of where works will be done.
- ☐ **Services Plan / Survey Information**.
- ☐ **Work Methodology**.
- ☐ **Risk Management Plan or Safe Work Method Statement (SWMS)**.
- ☐ **Outcome of Protected Airspace Assessment Tool (PAAT) application, where applicable.**

2.2 Important

- Assess weather conditions as part of the planning process when using a crane.
- All worker(s) to have appropriate High Risk Work licences relevant to the scope of works.
- Ensure ground conditions are suitable for setting up cranes and outriggers and all underground services, ducts / pits / voids / drains and overhead obstructions are identified and risks controlled.

Please note:
Submission of permit does not constitute an approval. No works are to commence until approval notice email is received.

2.3 Issue Permit

- ☐ Permit Manager approves permit when they are satisfied applicant has met all relevant requirements.
- ☐ Work may begin based on the documentation submitted with the application and in accordance with the conditions outlined in the issued permit.

AFTER PERMIT APPROVAL

3

3.1 Conduct Works

Permit Holder will have control over the manner in which work is undertaken and will be operating under their own safety management system to effectively manage risks involved.

If any issues arise, stop works and escalate to Permit Manager (note: not SCC). Works may only proceed once the issue is resolved.

AFTER WORKS ARE COMPLETED

4

4.1 Close Permit

- ☐ Permit holder to notify Permit Manager once all works pertaining to the permit are finished.
- ☐ Inspect the area to ensure no hazards remain as a result of the works.
- ☐ Where applicable, Permit Holder to send through relevant documentation to Permit Manager to close the permit.

Frequently Asked Questions (FAQ)

1. When do I need a Crane Permit?

When there is a need for a crane to be used to raise or lower a load and to move it horizontally, i.e. lifting a load from the truck to a height, onto a roof, platform or external building facade.

2. Are there any exemptions for the Crane Permit?

A permit may not be required for the following activities:

i) Using a crane for delivery or pick up (from truck to ground / ground to truck only); **OR**

ii) Using a Gantry crane.

Persons conducting work must still undergo the Risk Management process and consult with stakeholders to complete a documented Risk Assessment or SWMS detailing the necessary controls required to eliminate or minimise the risks.

3. What are the training and competency that may be required for crane works?

High Risk Work Licences may be required depending on the scope of works:

CLASS	CRANE, DOGGING AND RIGGING WORK
CT	Tower cranes
CS	Self-erecting tower cranes
CD	Derrick cranes
CP	Portal boom cranes
CB	Bridge and gantry cranes
CV	Vehicle loading cranes (10 metre tonnes or greater lifting capacity)
CN	Non-slewing mobile cranes (greater than 3 tonnes lifting capacity)
C2	Slewing mobile cranes (up to and including 20 tonnes lifting capacity)
C6	Slewing mobile cranes (up to and including 60 tonnes lifting capacity)
C1	Slewing mobile cranes (up to and including 100 tonnes lifting capacity)
CO	Slewing mobile cranes (open / over 100 tonnes lifting capacity)
DG	Dogging
RB	Basic rigging
RI	Intermediate rigging
RA	Advanced rigging

Frequently Asked Questions (FAQ)

4. What are some of the differences between a Dogman / Dogger and a Rigger?

Dogman / Dogger:

- Specialist in slinging and guiding loads handled by cranes.
- Selects the method of lifting by considering the nature of the load, its mass and centre of gravity.
- Inspects lifting gear for suitability and condition.
- Directs the operator of a crane or hoist in the movement of a load when the load is out of the operator's view.
- Responsible for:
  1) Usage of slinging techniques.
  2) Determining the weight of the load to be raised.
  3) Selection and inspection of the lifting gear.
  4) Directing of the crane operator in the movement of the load.

Rigger:

- Can perform all the same activities as a Dogman can, **AND** more advanced rigging techniques depending on the type of rigger licence they have.
- Responsible for:
  1) Moving, placing or securing a load using mechanical load shifting equipment, i.e. cranes, hoists, chain blocks and winch systems.
  2) Erecting or dismantling cranes or hoists.
- Examples:
  - Movement of plants and equipment.
  - Positioning of precast concrete.
  - Hoists (including mast climbing hoists).
  - Safety nets and static lines.
  - Cantilevered crane loading platforms.

To carry out work as a rigger, you need to have undergone a Dogging training course.

The dogman / dogger is responsible for anything below the crane hook, and the rigger is responsible for anything below the hook AND above the crane hook such as wires, ropes, hooks, pulleys and winches, for raising, lowering, moving and placing equipment, structural steel and other heavy items.

5. Why do I need to use the Protected Airspace Assessment Tool (PAAT)?

Curtin University's land is within the flight path for Perth Airport and it is essential to protect Perth Airport's airspace to provide a safe, predictable environment for aircraft to arrive and depart in all weather conditions.

Activities that can cause a hazard to air navigation i.e. construction or erection of any building or other structure that may intrude into prescribed airspace, including construction cranes.

All applications for crane / plant activities to Perth Airport are to be submitted via the PAAT system.

Infringement of Perth Airport's prescribed airspace without approval is an offence and can attract significant penalties, including fines of up to $40,000.

Frequently Asked Questions (FAQ)

6. What are some of the considerations involved with crane operations?

Planning

- Is access to lifting site suitable for cranes and transport vehicles?
- Have weather conditions been assessed (maximum wind speed, rain, light, potential storms) and deemed suitable for lifting operation to be carried out?
- Is the crane(s) standing and working area level, compacted and suitable for assembly?
- Has outrigger packing been identified and prepared to suit ground conditions e.g. Swamp Pads.
- Has an adequate and suitable area been identified to unload, assemble, handle and store the load?
- Have all overhead obstructions, structures been identified and controlled?
- Have underground obstructions, pipes, drains, manholes, been considered?
- Are barriers, barricades, signage, warning lights, etc. identified and available?
- Have scaffold, ladders, access platforms to all work areas been identified and prepared?
- Has a Communication Plan and Handover procedure been established and communicated?
- Have clearances for tail swing, boom operation and load movement been confirmed?
- Has all appropriate Personal Protective Equipment (PPE) been identified and available?

Operations

- Ensure all hazards have been identified and control measures documented in the risk assessment / SWMS.
- Ensure all the necessary information and instruction is given to all persons involved.
- Installation of barricades, signage, warning devices.
- Confirm crane(s) are positioned in accordance with plan, radius and Safe Working Loads (S.W.L.).
- Ensure wind conditions are acceptable.
- Confirm tail swing and boom clearances.
- Communication system is tested and confirmed to be working.
- Safe use of rigging and slinging equipment.

7. What are some of the common risks associated with crane use?

People who work with or near the cranes are most at risk. Some of the risks when using a crane include:

- Structural failure, overturning, or collapsing of the crane.
- Contact or collision of the crane or its load with overhead or underground electric lines, people, other plant or structures.
- Falling objects when lifting over occupied areas or people, causing injury or property damage.

Some potential risk control measures to consider:

- Workplace factors i.e. ground load bearing capacity, slope of the ground, wet or windy conditions.
- Competency of worker(s).
- Certification of crane and lifting attachments.
- Size of exclusion zones to take into account load sway or swing on cranes where the load moves independently of the crane.
- Use of tag lines to help steady heavy loads as they ascend into the air, preventing uncontrollable spinning and accidental damage.
- Communication and signalling between crane operators and spotters / doggers / riggers.
- Ensure there is no lifting of loads over occupied areas or people.