



Te Kaunihera-ā-Rohe o Ngāmotu

# New Plymouth District Council

## Cranes and Heavy Lifting Equipment

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## Table of Contents

1.0	Introduction	3
2.0	Scope	3
3.0	References	3
4.0	Definitions	3
5.0	Responsibilities	4
6.0	Training & Competency	5
7.0	Requirements for Cranes and Heavy lifting equipment	6
	Permit Attachment certificate	6
8.0	Attachments/links	7



## 1.0 Introduction

The purpose of this document is to define the requirements to be met for work involving cranes or other lifting equipment to ensure all work carried out is controlled and clearly documented to ensure people, the environment and assets are protected from harm.

The information provided is to ensure lifting operations are planned and coordinated to minimise the risk of cranes and lifting equipment over turning, collapsing or persons being struck by loads.

## 2.0 Scope

This procedure applies to all persons working for and on behalf of NPDC i.e. workers, contractors, subcontractors etc., when the work scope involves cranes or heavy lifting equipment on or around NPDC owned or operated facilities.

This procedure does not apply to powered industrial lift-truck or forklift lifting operations, or gantry/overhead cranes that are used as part of routine day to day operations.

This procedure must be read in conjunction with the [NPDC Permit to Work Procedure](#).

## 3.0 References

- [Health and Safety at Work Act 2015](#)
- [Health and Safety at Work \(General Risk and Workplace Management\) Regulations 2016](#)
- [Safecrane Website – multiple resources](#)
- [Worksafe notification of particularly hazardous work](#)
- [Worksafe – Approved code of practice for cranes](#)
- [Approved code of practice for load lifting rigging](#)
- [Pressure Equipment, Cranes and Passenger Ropeways Regulations 1999](#)

## 4.0 Definitions

<b>Competent person</b>	Means a person who has acquired, through a combination of training and qualification or experience, the knowledge and skills to perform the task required of them
<b>Complex lift</b>	A complex lift is defined as a non-routine lift requiring detailed planning and additional or unusual precautions, and include: <ul style="list-style-type: none"><li>• Lifts made when the load weight is 75% or more of the rated capacity of the crane; lifts that require the load to be lifted, swung or placed out of the operators view; of lifts made with more than one crane;</li><li>• Lifts using more than one hoist; lifts involving non-routine or technically difficult rigging arrangements; hoisting personnel with a crane or derrick;</li><li>• Lifts involving hazardous materials (e.g., explosives, highly volatile substances); lifts involving submerged loads; lifts without the use of outriggers</li><li>• Using on-rubber load charts; lifts where the centre of gravity could change; or any lift that the crane operator believes should be classified as complex.</li></ul>



	<ul style="list-style-type: none"> <li>All lifting inserts on tilt-up and pre-cast concrete construction must comply with the requirements of ACOP Safe Handling, Transportation &amp; erection of Pre-cast Concrete.</li> </ul>
<b>Controller</b>	Under the PECPR Regulations, Means a person who is the owner, lessee, sub lessee, or Bailee of any equipment in a Workplace.
<b>Crane</b>	Means a powered device- <ol style="list-style-type: none"> <li>That is equipped with mechanical means for raising or lowering loads suspended by means of a hook or other load handling device; and</li> <li>That can, by the movement of the whole device or of its boom, job, trolley or other such part, re-position or move suspended loads both vertically and horizontally</li> <li>Includes all parts of the crane down to and including the hook or load-handling device, and all chains, rails, ropes, wires or other devices used to move the hook or load handling device;</li> <li>Includes the attachments, fittings, foundations, mountings and supports; but</li> <li>Does not include lifting gear that is not an integral part of the crane.</li> </ol>
<b>Crane Operator</b>	Means a person who has acquired, through a combination of training, qualification or experience, the knowledge and skills to operate a particular type of crane.
<b>Lifting gear:</b>	In relation to a crane: 1 means a device used: <ol style="list-style-type: none"> <li>To attach the load to the hook or load-handling device, or</li> <li>To control the load independently of the hook or load-handling device, or</li> <li>As a container for the load, and</li> </ol> 2 Includes lifting beams, lifting frames, spreaders or similar devices that are not an integral part of the crane
<b>PECPR Regulations</b>	Means the health and safety in Employment (Pressure, Equipment, Cranes and Passenger Ropeways) Regulations 1999.
<b>Routine or Standard Lift</b>	A lift that may have a generic risk assessment and lift plan A routine/standard lift includes: <ul style="list-style-type: none"> <li>Within normal operating parameters of the crane</li> <li>Lifting over non sensitive areas</li> <li>Has suitable environmental conditions</li> <li>A load that has a known weight, shape and centre of gravity</li> <li>Standard rigging arrangements</li> </ul>
<b>Safe working load</b>	Means the maximum load the crane can safely lift, as defined by the crane rating sheet.

## 5.0 Responsibilities

In addition to the responsibilities listed in the NPDC Permit to Work Procedure, the specific responsibilities in relation to cranes and heavy lifting equipment are:

### Permit Issuer

- Ensure all personnel are trained for their intended job role.
- Suspend the permit, and re-evaluate the operations if any of the required provisions are not satisfied or if additional hazards that affect the safety of the job become apparent.

NPDC Document Management <i>ECM: 8528820</i>	Approved By: David Langford	Rev: 2	Rev Date: June 2021
			Page 4 of 8



- Has a communication device on their person at all times to call emergency services should the situation arise.
- Ensures that WorkSafe has been notified of particular hazardous work (if the lift meets the definition) [Worksafe notification of particularly hazardous work](#)
- Sign off the Permit to work when the work has been completed.

#### Permit Receiver

- Ensure all documentation is in place and signed on all relevant documents
- Know and understand the hazard control measures are in place and effective.
- Ensure the correct use of equipment.

#### Crane Operator

- Crane operators must possess proof of the appropriate training.
- Crane operators have a responsibility to read and understand the cranes operating manual
- Must provide a lifting plan.

#### Crane controller

- Controllers have an obligation to maintain the crane and attachments in good working order and have the necessary inspections carried out as listed under the relevant section of the Approved Code of Practice (ACOP). They must also rectify any faults found on the crane.

#### Spotter or banksmen or Supervisor

When required a general observer that provides an alternative observation view of the working conditions of the equipment and those using them. This role is responsible for:

- Know and understand the hazards associated with the use of the equipment
- Remain on site and observe procedures and be in reliable contact with other stakeholders in the event of evacuation or stop work is called.
- Observe and analyse the procedures to ensure that all possible steps are being taken to guarantee worksite safety from a different observation point.
- Using the position to call for a stop work if you deem something is not being conducted in the appropriate manner.

## 6.0 Training & Competency

Specialised training and competencies are required before an individual is to perform crane operations with the specified plant selected.

These and other training requirements can be found on the [NPDC Training Matrix](#).

	Recommended competency
<b>Mobile crane operation</b>	NZQA US3789 NZQA US3795
<b>Tower crane operation</b>	NZQA US3789 NZQA US3794
<b>Crawler crane</b>	NZQA US3789 NZQA US20526
<b>Self-erecting tower crane operation</b>	NZQA US3789 NZQA US20208
<b>Truck loader crane (One or more of these unit standards must be held)</b>	NZQA US3795 NZQA US16617



## 7.0 Requirements for Cranes and Heavy lifting equipment

Work with cranes and heavy lifting equipment shall be managed under the [NPDC PTW System, and has five key requirements:](#)

- Identification of hazards;
- Permit attachment certificate;
- Implementation of controls;
- Equipment requirements; and
- Notification of works; and

### Identification of Hazards

Lifting operations associated with the use of cranes or heavy lifting equipment will vary depending on the type of crane selected, work area preparation and operational procedures, hazards to consider as a minimum are:

- Underground services – electrical, water, gas etc
- Uncompacted ground
- Locations of embankments and soft surfaces
- Overhead structures
- Necessary load/working requirements (mass/nature of loads, frequency, positioning)
- Foreseeable operating limitations (wind, weather, swinging objects)
- Load limits on local roads
- Issues relating to delivery requirements (operating times, noise, restrictions, community restrictions)

### Permit Attachment certificate

The Cranes and Heavy Lift attachment certificate must be prepared before a work permit can be issued for any crane work.

A written lifting plan must be presented for the work described, which shall include, but is not limited to the following:

- Weight required to be lifted, typically provided by the supplier or contractor
- Lift capacity of the crane at this radius is adequate for the load
- Evidence of training and competency as listed in this document
- Plans for crane set up and precautions to be taken or controls to be implemented, taking into account:
  - The stability of the ground related to any underground utilities
  - Ensuring there is sufficient slew area
  - Any lifting over live plant
  - Any overhead obstructions
  - Clearing the area of non-essential people and
  - The placement of barriers
- Requirements for safety watch
- Methods for toolbox meeting prior to lift



- Methods of communication during the lift
- Plans for notification if a man cage is required (this is notifiable to WorkSafe)
- Plans to ensure the work will only be carried out if wind speed is less than 30 knots and a means of measuring wind speed.
- Identified possible emergency situations and the emergency response plans.
- The lift plan and drawing should be attached to the permit documentation.

### Potential Controls required for critical lifts

- Use of outriggers to provide additional stability
- Erect signage and barriers to ensure those not involved in the job do not enter the area;
- Those involved in the work scope stay out of the 'danger zone' at all times. Danger zone includes:
  - The path of the cranes components
  - The path of the load
  - The area beneath the suspended load; and
  - Any potential crush areas such as between the vehicle and the load,
- There is a minimum distance of 4m between the lifting equipment and any power lines. If not practical then a close proximity permit must be obtained from the power line company and included in the permit to work documentation.
- Lifting and rigging equipment is certified and tagged.

### Equipment Requirements

- Crane inspection by an IANZ accredited inspection body within the last 12 months
- Lifting equipment inspected by an IANZ accredited inspection body within the last 12 months
- If the crane can vary its operating radius, the crane is clearly marked with its safe working loads and corresponding radii.

### Notification of works

Notification of "notifiable work" covered by the following criteria must be made by the person in charge of the work to WorkSafe NZ at least 24 hours prior to commencement.

Any work involving a lifting appliance where the appliance has to lift a mass of 500 kilograms or more, a vertical distance of 5 metres or more.

Exclusions include:

- Work using an excavator
- Work using a forklift, or
- Work using a self-propelled mobile crane
- Work using a man-cage

## 8.0 Attachments/links

- [Permit to work procedure](#)



- [Permit to work flowchart and criteria](#)
- [Permit to work Crane certificate](#)

NPDC Document Management <i>ECM: 8528820</i>	Approved By: David Langford	Rev: 2	Rev Date: June 2021 Page 8 of 8
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