

Title	Prepare and use a crane in free fall operations		
Level	4	Credits	8

Purpose	People credited with this unit standard are able to: prepare a crane and drop weight for piling and foundation operations; carry out piling and foundation operations using a drop weight; de-rig the drop weight, re-rig the crane, and functionally test the crane for routine crane use, and complete documentation; and carry out daily and weekly safety and maintenance checks of crane and drop weight.
----------------	--

Classification	Cranes > Crane Operation
-----------------------	--------------------------

Available grade	Achieved
------------------------	----------

Entry information	
Recommended skills and knowledge	Unit 3795, <i>Configure and position a mobile crane and lift and place regular loads</i> ; and Unit 20526, <i>Configure a track crawler crane, and lift and place regular loads for piling and foundation operations</i> ; or demonstrate equivalent knowledge and skills.

Explanatory notes

- 1 Definition
The definition of a *crane* is as given in the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.
- 2 Assessment
Assessment must be carried out in a crane workplace or equivalent.
- 3 All tasks are to be carried out in accordance with the equipment manufacturers' requirements and company standards and procedures based on industry requirements in:
 - a company quality management systems;
 - b health and safety requirements and guidelines consistent with the Health and Safety in Employment Act 1992 (HSE Act);
 - c equipment manufacturers' operating instructions;
 - d government and local government legislation, regulations, and bylaws;
 - e *Crane Safety Manual*, published by the Crane Association of New Zealand (Inc), PO Box 25 156, Panama Street, Wellington 6146;
 - f *Approved Code of Practice for Cranes*, published by the Department of Labour, available at <http://www.dol.govt.nz>.

- 4 HSE Act Codes of Practice are available from the Department of Labour website, <http://www.osh.dol.govt.nz>.

Outcomes and evidence requirements

Outcome 1

Prepare a crane and drop weight for piling and foundation operations.

Evidence requirements

- 1.1 Crane is confirmed as suitable for piling and foundation operations in accordance with the crane operating manual, the type of work to be carried out, and company procedures.
- 1.2 Site safety is checked, precautions are taken, and hazard control measures implemented prior to commencement of piling activities in accordance with company procedures.
- Range site checks of - environment, people, equipment, services, personal protective equipment, proximity and effect on offsite buildings and services.
- 1.3 Piling and foundation operation attachments provided by the supervisor are checked and confirmed as appropriate in accordance with the type of work to be carried out.
- 1.4 Crane is rigged for piling and foundation operations in accordance with crane and equipment manufacturer's requirements and company procedures.
- Range may include but is not limited to – drop weight, swivel, trips, driving strops.
- 1.5 Siting of the crane and the sequence of procedures are planned in consultation with authorised personnel in accordance with site requirements.
- Range authorised personnel may include but are not limited to – client representatives, on-site supervisor, engineer.

Outcome 2

Carry out piling and foundation operations using a drop weight.

Evidence requirements

- 2.1 Potential hazards and consequences of hazards are identified, and hazard control measures are described in accordance with company procedures, and engineer's site recommendations.
- Range must include – kick back, catch load, rigging failure, rope over-run; may include but is not limited to – fly material, proximity to people, crane stability, equipment failure.

2.2 The purpose of safety devices and the reasons for their removal to conduct piling and foundation operations are described.

Range must include – anti-two block, safe load indicator.

2.3 Signals are identified and agreed in accordance with company procedures and *Crane Association of New Zealand – Crane Safety Manual for Operators/Users*.

2.4 Free fall operations are carried out safely, smoothly, and in accordance with company procedures.

Range free fall operations may include but are not limited to – dynamic compaction, top or bottom pile driving, chisel hammer.

Outcome 3

De-rig the drop weight, re-rig the crane, and functionally test the crane for routine crane use, and complete documentation.

Evidence requirements

3.1 Drop weight is de-rigged, and crane is re-rigged for other crane use in accordance with crane and equipment manufacturer's requirements and company procedures.

3.2 Functional test is conducted in accordance with crane and equipment manufacturer's requirements and company procedures, prior to the crane being returned to routine crane activities.

3.3 Documentation is completed in accordance with company procedures.

Range may include but is not limited to – logs, records, job sheets, crane equipment inventories, maintenance requests.

Outcome 4

Carry out daily and weekly safety and maintenance checks of crane and drop weight.

Evidence requirements

4.1 Daily safety and maintenance checks of crane and drop weight are carried out in accordance with crane and equipment manufacturer's requirements and company procedures.

4.2 Weekly safety and maintenance checks of crane and drop weight are carried out in accordance with crane and equipment manufacturer's requirements and company procedures.

Planned review date	31 December 2016
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 March 2012	N/A

Consent and Moderation Requirements (CMR) reference	0025
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.