

Title	Describe the preparation of, set up, and simultaneously operate, a multi-winch crane during crane operations		
Level	4	Credits	6

Purpose	People credited with this unit standard are able to: demonstrate knowledge of preparation required prior to multi-winch crane operation; and set up, prepare for operation, simultaneously operate, and shut down, a multi-winch crane.
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Classification	Cranes > Crane Operation
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Available grade	Achieved
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Entry information	
Critical health and safety prerequisites	Unit 3795, <i>Configure and position a mobile crane and lift and place regular loads</i> ; or Unit 27676, <i>Configure a lattice boom track crawler crane, and lift and place regular loads</i> ; or demonstrate equivalent knowledge and skills.

Explanatory notes

1 Definitions

The definition of *crane* is as given in the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999. This definition is also applicable to self-erecting tower cranes.

Crane and equipment manufacturer's requirements – crane and equipment manufacturer's operating, safety and maintenance instructions or verification by a chartered engineer.

2 Assessment

Evidence is required for one of the following types of winches:

- a individually operated hydraulic
- b independent winches.

Assessment cannot be carried out using a single winch lever crane.

Assessment must be carried out in a crane workplace.

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 Load-Lifting Rigging*, published by the Department of Labour, available at <http://www.dol.govt.nz>;
- g *Approved Code of Practice for Cranes*, published by the Department of Labour, available at <http://www.dol.govt.nz>;
- h *Approved Code of Practice for The Safe Handling, Transportation and Erection of Precast Concrete* (Wellington: Department of Labour, 2002).

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

Demonstrate knowledge of preparation required prior to multi-winch crane operation.

Evidence requirements

- 1.1 Company and on-site requirements, and associated documentation are identified and completed in accordance with company procedures.

Range includes but is not limited to – permit system, job safety analysis.
- 1.2 Lifting requirements of the load and task to be undertaken are identified in accordance with company procedures and approved codes of practice.
- 1.3 Distance between ropes when lifting is described in accordance with the implications of load movement throughout the range of movements required, and fleet angle at sheaves.
- 1.4 Rigging equipment is checked to ensure safe operation through the range of movements required.
- 1.5 Personnel and communications required for the task are identified in accordance with company procedures.
- 1.6 Rigging for the load and task are selected suitable for the load, and in accordance with crane and equipment manufacturer's requirements, the lift plan, and company procedures.
- 1.7 The requirements for the use of a certified crane lifted work platform, boson's chair, or industrial harness are described in accordance with the *Crane Safety Manual*, approved code of practice, and company procedures.
- 1.8 Operation of controls for each winch is described in accordance with crane manufacturer's requirements and approved code of practice.

- 1.9 Hazards associated with twin winch operation are described in terms of the implications and preventative measures.

Range includes but is not limited to – ropes crossing, poor communication, lack of winch drum and rope identification, winch line-pull/safe working load (SWL), establishment of weight distribution.

Outcome 2

Set up a multi-winch crane ready for operation.

Evidence requirements

- 2.1 Safe load indicator (SLI) settings are selected consistent with the load to be lifted for each winch, in accordance with crane manufacturer's requirements.

- 2.2 Winch capacity, line pull or lay's on drum, and rope size are identified to determine falls of rope and weight to be lifted in accordance with crane manufacturer's requirements for the components being lifted.

Range components may include but are not limited to – concrete panels, clam shells, piling equipment.

- 2.3 Ropes, reeving, and hook blocks are set up for load and boomhead sheaves equalising, in accordance with crane manufacturer's requirements.

- 2.4 Crane is configured and set up for the lift in accordance with crane manufacturer's requirements, company procedures, and site lift plan.

Range includes but is not limited to – boom length, boom angle, special attachments, rope angles and load rotation or movement.

Outcome 3

Simultaneously operate a multi-winch crane.

Evidence requirements

- 3.1 Freefall is locked out in accordance with crane manufacturer's requirements, company procedures, and approved code of practice.

- 3.2 All load attachment points and fixings are engaged in accordance with crane and equipment manufacturer's requirements and company procedures.

Range lifting clutches, shackles, swivels, slings, equalising sheaves.

- 3.3 Multi winch lifts are carried out in accordance with the on-site lift plan and company procedures.

Range at least one of – concrete panel erection, clam shell operation, piling operations.

- 3.4 Winches are operated smoothly and safely, in accordance with crane manufacturer's requirements, and the requirements of the task.
- 3.5 Personnel involved with the task are directed in accordance with company procedures.
- 3.6 Communications are used throughout the task in accordance with company procedures.
- 3.7 The load is released and final safety and quality checks are conducted in accordance with company procedures, and approved code of practice.

Outcome 4

Shut down a multi-winch crane.

Evidence requirements

- 4.1 The crane is shut down in accordance with crane manufacturer's requirements.
- 4.2 The crane is stowed in accordance with company procedures, and manufacturer's requirements.

Planned review date	31 December 2016
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	20 May 2008	30 June 2013
Review	2	15 March 2012	N/A

Consent and Moderation Requirements (CMR) reference	0025
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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 at reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.