

Title	Lift and place regular and irregular loads using a tower crane		
Level	4	Credits	15

Purpose	People credited with this unit standard are able to: <ul style="list-style-type: none"> – demonstrate knowledge of using a tower crane; – position the tower crane, and lift and place regular and irregular loads; – put the tower crane into out-of-service condition; and – carry out daily and weekly operator maintenance of a tower crane.
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Classification	Cranes > Crane Operation
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Available grade	Achieved
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Prerequisites	Unit 3789, <i>Sling varied regular loads and safely direct a crane during crane operations</i> , or demonstrate equivalent knowledge and skills.
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Guidance Information

- 1 All tasks are to be carried out in accordance with the equipment manufacturer requirements, applicable company procedures, and industry good practice found in the following sources:
 - a company quality management systems;
 - b requirements and guidelines consistent with the Health and Safety at Work Act 2015;
 - c equipment manufacturer operating instructions;
 - d government and local government legislation, regulations, and bylaws;
 - e *Crane Safety Manual*, version 3.2 or higher, available from <http://shop.cranes.org.nz/>;
 - f *Approved Code of Practice for Cranes*, 2009 (3rd edition), and/or the *Approved Code of Practice for Load-lifting Rigging* available from
- 2 Assessment
 - Assessment must be carried out in a crane workplace or other non-simulated environment. Non-simulated environment means working with the skill sets required in an authentic experience in an organisational context, with commercial competence and the expectations and possible consequences of that context.

- Evidence used for assessment against this unit standard must meet one or more of the following requirements to prove experience:
 - a. verified experiences from authorised verifier documented and observed lifts, or company documents with a minimum of 40 lifts (slinging and directing placement of load) with at least six variations of lifting operations that may include site, crane, loads, and communication methods; and
 - b. at least two irregular loads, including one in which centre of gravity is offset, must be observed by the assessor.
- 3 It is recommended that Unit 31904, *Plan and document lifts of regular and irregular loads using multiple cranes* is completed prior to assessment against this unit.
- 4 **Definitions**
Crane – the definition as given in the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.
Tower crane – the two main types are hammerhead crane and luffing jib crane. They may be erected from component parts or may be self-erecting.
Company procedures refer to instructions to staff on policy and procedures, which are documented in memo or manual format and are available in the workplace. These requirements may include but are not limited to – site specific requirements, company quality management requirements, Approved Codes of Practice and guidelines, and legislative requirements.
Industry good practice – practice that meets the requirements of the Approved Code of Practice for Cranes, Approved Code of Practice for Load-lifting Rigging, and the Crane Safety Manual.
Irregular loads have one or more of the following characteristics: unequal weight distribution, eccentric loading, irregular shape and proportions, with or without set lifting points.
Lift plan – the planning of a lift that may be in a variety of formats, in accordance with company procedures.
Regular loads have the following characteristics – uniform weight distribution; concentric loading or regular proportions; known lifting points; repetitively lifted.
Cranes workplace – the definition as given in Health and Safety at Work Act 2015.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of using a tower crane.

Performance criteria

- 1.1 Describe the hazards associated with the operation of the tower crane.
- Range includes – climbing the crane.
- 1.2 Explain the operation of a tower crane.
- Range includes but not limited to – rating charts, range diagrams, boom clash agreements.

- 1.3 Explain the requirements for lock out and tag out processes for the tower crane.

Outcome 2

Position the tower crane, and lift and place regular and irregular loads.

Performance criteria

- 2.1 Complete a lift plan for the task, using a tower crane in accordance with manufacturer's requirements and company procedures.
- 2.2 Analyse the crane's workplace to identify and document hazards and risks relating to the planned lift, and implement control measures so far as reasonably practicable.
- Range may include but is not limited to – equipment, overhead power lines, overhead service lines, trees, buildings, structures, unauthorised people, exclusion zones, wind and weather, simultaneous activities.
- 2.3 Put crane into in-service condition.
- 2.4 Place crane in position taking into consideration weather conditions, in accordance with the lift plan.
- Range height, boom position, boom angle, radius, load weight, load cell.
- 2.5 Communicate the tasks, hazards, roles, and responsibilities to workers assisting with the lift, and other persons who may be affected, in accordance with the lift plan.
- 2.6 Check to ensure workers assisting with the lift, and other persons who may be affected, are in their respective positions ready to conduct their tasks.
- Range may include but is not limited to – riggers, slingers, dogmen, supervisor.
- 2.7 Observe and check to confirm that the load is correctly attached, lift and place the load in accordance with the lift plan, the rating chart and customer's requirements.
- Range includes – regular and irregular loads.

Outcome 3

Put the tower crane into out-of-service condition.

Performance criteria

- 3.1 Put the crane into out-of-service condition in accordance with the safety specifications.

- 3.2 Return lifting and other equipment used in conjunction with the lift to storage.
- 3.3 Record and take action for any defects in crane and equipment.
- 3.4 Complete documentation as required.

Range includes but is not limited to – log books, records, job sheets, crane equipment inventories, maintenance requests.

Outcome 4

Carry out daily and weekly operator maintenance of a tower crane.

Performance criteria

- 4.1 Inspect the crane and inform the crane controller of any issues that impact the operation of the crane in accordance with safety requirements.

Replacement information	This unit standard was replaced by skill standard 40831.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	9 April 1995	30 June 2013
Review	2	22 May 1997	30 June 2013
Review	3	27 March 2000	30 June 2013
Review	4	20 June 2006	30 June 2013
Review	5	15 March 2012	31 December 2018
Review	6	28 September 2017	31 December 2021
Review	7	26 September 2019	31 December 2027
Review	8	27 November 2025	31 December 2027

Consent and Moderation Requirements (CMR) reference	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.