

Title	Operate a mobile harbour crane for cargo exchange		
Level	4	Credits	20

Purpose	People credited with this unit standard are able to: describe factors affecting the operation of a mobile harbour crane; prepare for cargo exchange with the mobile harbour crane; carry out cargo exchange with the mobile harbour crane; and conclude operations with the mobile harbour crane.
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Classification	Stevedoring and Ports Industry > Port Machinery Operations
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Available grade	Achieved
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Entry information	
Critical health and safety prerequisites	Prerequisites: Unit 3787, <i>Demonstrate knowledge of regulatory requirements pertaining to cranes</i> ; and Unit 20053, <i>Describe care and handling of cargo lifting equipment and safe slinging of loads</i> ; or demonstrate equivalent knowledge and skills.

Explanatory notes

- 1 Compliance requirements include but are not limited to – Health and Safety in Employment Act 1992, Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999, Local Government Act 2002, regional council bylaws, manufacturer’s instructions, company policies and procedures.
- 2 Assessment
All elements are to be assessed in a workplace environment(s) or equivalent. While every assessment situation may not provide opportunity for evidence of every performance criterion, evidence may be obtained over a period of time on the job, over several assessment opportunities, or through other means such as attestation and the use of questioning.
- 3 Definitions
Company policies and procedures refers to relevant workplace documents which are current and accessible to candidates, trainers, and assessors, and which comply with legal requirements.
Hazards refers to situations and conditions presenting actual or potential risk including but not limited to – risk of harm to persons and/or environment, risk of damage to property and/or process, and exposure to financial loss.
Fluidly, with reference to load movements, means smoothly, with direct load path, and with simultaneous use of controls.

Heavy loads are heavy as defined by crane manufacturer.

Irregular loads refers to loads which include but are not limited to the following characteristics – unequal weight distribution, irregular shape and proportions, with or without set lifting points.

4 Reference

PCA Crane Safety Manual for Operators/Users, Power Crane Association of New Zealand (Inc), and its subsequent amendments. This document is available from PO Box 30 074, LOWER HUTT, telephone 04 569 9799, fax 569 6969, email info@pca.org.nz.

5 Personal protective equipment must be used throughout operations in accordance with company policies and procedures.

Outcomes and evidence requirements

Outcome 1

Describe factors affecting the operation of a mobile harbour crane.

Evidence requirements

1.1 Description includes positioning of the crane in accordance with company policies and procedures and manufacturer's instructions.

Range local rules of operation – location, positioning of outriggers, clearances;
load curve configurations and outrigger settings;
travelling – settings, communication, safety, designated pathways, clearances;
levelling and level tolerance.

1.2 Description explains effect of crane's level on load curve accuracy, slewing, and weight distribution.

1.3 Description identifies uses and limitations of mobile harbour crane attachments for cargo exchange.

Range includes but is not limited to – ISO spreaders (telescopic, twin lift, single lift, manual), out-gauge frame, overheight frame, grab, hook, rotator.

1.4 Description identifies non-cargo exchange activities involving mobile harbour cranes.

1.5 Description includes communication processes and procedures.

Range documentation, radio, hand signals, emergency.

1.6 Description includes response to weather and sea conditions in accordance with company policies and procedures.

- Range reading local wind speed, maximum wind strength for operations, visibility, lightning, ship movement.
- 1.7 Description includes the operating environment.
- Range ship layouts, stevedoring roles, ship personnel roles, mobile machinery operations, cargo securing systems, cargo exchange work plans.
- 1.8 Description includes hazards relating to mobile harbour crane operations, and identifies their controls under company policies and procedures.
- Range personnel, ships and all fittings, terminal equipment, stuck ISO container, stuck spreader, radio interference, fire and evacuation.
- 1.9 Description explains emergency stopping in terms of uses, risks, and manufacturer's instructions.
- 1.10 Description includes and explains applicable load chart/s.
- 1.11 Description explains out of service condition.
- Range slew lock, hoist position, outrigger position, park position, jib position, shore power supply, night lighting.
- 1.12 Description includes crane maintenance in accordance with company policies and procedures and manufacturer's instructions, and identifies who does maintenance.

Outcome 2

Prepare for cargo exchange with the mobile harbour crane.

Evidence requirements

- 2.1 Requirements of the operation are identified from briefing information provided.
- Range includes but is not limited to – cargo to be lifted; type of lifting equipment to be used; movements; personnel, including person in charge; any handover requirements; communication.
- 2.2 Communication procedures are established in accordance with company policies and procedures.
- Range radio, may include hand signals.
- 2.3 Shore power is unplugged where applicable.
- 2.4 Visual inspection is carried out and necessary corrective actions taken in accordance with company policies and procedures and manufacturer's instructions.

Range oil and water levels, power supply, wheels and tyres, structure, access, drives and brakes, ropes, leaks, anemometer, log book, fire extinguisher, visibility, hazards, lighting, attachment/s.

2.5 Pre-operational check and pre-travel actions are carried out in accordance with company policies and procedures and manufacturer's instructions.

Range may include but is not limited to – engine start; main switch; main pump; engine functions; limit functions; lighting; error reports; camera; new hazards; communication equipment; lifting attachment; pinning and locking; radius for travelling; system prerequisites; status and actions as required; outriggers, supports, and arms for travel; communication check with guide person.

2.6 Crane is driven to work position in accordance with company policies and procedures and manufacturer's instructions.

2.7 Outrigger and pads are positioned in accordance with company policies and procedures and manufacturer's instructions.

Outcome 3

Carry out cargo exchange with the mobile harbour crane.

Evidence requirements

3.1 At the beginning of each lift from the vessel the load is checked to be free in accordance with company policies and procedures.

3.2 Regular ISO containers are moved to and from the wharf and vessel safely, fluidly, efficiently, and with controlled sway, in accordance with company policies and procedures and manufacturer's instructions.

3.3 Lids are moved safely, fluidly, and with controlled sway, in accordance with company policies and procedures and manufacturer's instructions.

3.4 Heavy and/or irregular loads are moved to and from the wharf and vessel safely, with no sway, in accordance with company policies and procedures and manufacturer's instructions.

3.5 The ability to operate with no line of sight is demonstrated.

Range lift and/or place, move.

3.6 Ability to kill a swing is demonstrated.

3.7 Emergency stopping is demonstrated in accordance with company policies and procedures and manufacturer's instructions.

3.8 Loads are placed on the vessel safely and efficiently as directed.

Range load orientation, placement.

- 3.9 Loads are placed on the wharf safely and efficiently in accordance with company policies and procedures.
- Range load orientation, placement.
- 3.10 Coordination and communication with personnel is maintained throughout operations in accordance with company policies and procedures.
- 3.11 Damage to crane, lifting equipment, load, vessel, and wharf is avoided in accordance with company policies and procedures and manufacturer's instructions.

Outcome 4

Conclude operations with the mobile harbour crane.

Evidence requirements

- 4.1 Jib is positioned in accordance with company policies and procedures and manufacturer's instructions.
- 4.2 Lifting attachment/s is/are set at specified height and/or removed and stored, in accordance with company policies and procedures and manufacturer's instructions.
- 4.3 Pre-travel actions are carried out in accordance with company policies and procedures and manufacturer's instructions.
- Range may include but is not limited to – slew lock; radius for travelling; outriggers, supports, and arms for travel; communication check with guide person.
- 4.4 Crane is driven to parking position in accordance with company policies and procedures and manufacturer's instructions.
- 4.5 Crane is parked and put into out of service condition in accordance with company policies and procedures and manufacturer's instructions.
- Range may include but is not limited to – outrigger arms, outrigger pads, power down, access secured, shore power.
- 4.6 Documentation requirements are completed in accordance with company policies and procedures and manufacturer's instructions.
- Range may include but is not limited to – log book, fault report/s, damage report/s.

Planned review date	31 December 2020
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 January 2004	N/A
Revision	2	25 September 2006	N/A
Rollover	3	17 September 2015	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 SSB ssb@email.address if you wish to suggest changes to the content of this unit standard.