

Title	Operate a wharf gantry crane for cargo exchange		
Level	3	Credits	12

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

- Legislative and regulatory requirements relevant to this unit standard include – Health and Safety at Work Act 2015; Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999; Local Government Act 2002; *Approved Code of Practice for Health and Safety in Port Operations*, available at [Health and safety in port operations | WorkSafe](#); *New Zealand Port and Harbour Marine Safety Code*, available at [New Zealand Port and Harbour Marine Safety Code - Maritime NZ](#).
- Assessment
All outcomes 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.
- Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

- 4 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with company requirements, legislative requirements and regulatory requirements.
- 5 Definitions
Company requirements refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions and legislative requirements.
Heavy loads are heavy as defined by crane manufacturer.
Irregular loads refer 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.
Regulatory requirements refer to regulations set by but not limited to the New Zealand Customs Service, Ministry for Primary Industries and WorkSafe New Zealand.

Outcomes and performance criteria

Outcome 1

Describe factors affecting the operation of a wharf gantry crane.

Performance criteria

- 1.1 Uses and limitations of wharf gantry crane attachments for cargo exchange are described.
- Range ISO spreaders (telescopic, twin lift, single lift, manual), out-of-gauge frame, grab, hook.
- 1.2 Non-cargo exchange activities wharf gantry cranes are involved in are described.
- 1.3 Communication processes and procedures are described.
- Range documentation, radio, hand signals, emergency.
- 1.4 Response to weather and sea conditions are described.
- Range reading local wind speed, maximum wind strength for operations, visibility, lightning, ship movement.
- 1.5 The operating environment is described.
- Range ship layouts, stevedoring roles, ship personnel roles, mobile machinery operations, cargo securing systems, cargo exchange work plans.

- 1.6 Hazards relating to wharf gantry crane operations, and their controls are described.
- Range personnel, ships and all fittings (long travel and cargo operations), terminal equipment, stuck ISO container, stuck spreader, radio interference, fire and evacuation.
- 1.7 Emergency stopping in terms of uses and risks are described.
- 1.8 Applicable load chart/s are described.
- 1.9 Out of service condition is described.
- Range boom, tie-downs (where fitted), anchors, storm pins, power supply, night lighting.
- 1.10 Crane maintenance and who is responsible for this is described.

Outcome 2

Prepare for cargo exchange with the wharf gantry crane.

Performance criteria

- 2.1 Requirements of the operation are identified from briefing information provided.
- Range 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.
- Range radio;
may include – hand signals.
- 2.3 Visual inspection is carried out and necessary corrective actions taken.
- Range structure, festoon, access, long travel clearance, storm anchors, power supply, drives and brakes, ropes and anchorages, machinery house, spreader, pulley frame, lifting attachments, anemometer, log book, fire extinguisher, derrick boom position, visibility, new hazards, tie-downs, lighting.
- 2.4 Pre-operational check and pre-travel actions are carried out.
- Range may include – spreader, twist locks, flippers, telescoping, indications lights, limit functions, brake functions, error reports, communication equipment, storm pins, anchors, tie-downs.
- 2.5 Crane is long-travelled to work position.
- 2.6 Boom is lowered.

2.7 Trolley travel function and limits are tested.

Outcome 3

Carry out cargo exchange with the wharf gantry crane.

Performance criteria

- 3.1 Long travel is checked as accurate, and any necessary realignment is made.
- 3.2 At the beginning of each lift from the vessel the load is checked to be free.
- 3.3 Regular ISO containers are moved to and from the wharf and vessel safely, fluidly, efficiently, and with controlled swing.
- 3.4 Lids are moved safely, fluidly, and with controlled swing.
- 3.5 Heavy and/or irregular loads are moved to and from the wharf and vessel safely, with no or controlled swing.
- 3.6 Ability to attach spreaders to poorly aligned ISO containers is demonstrated.
- 3.7 Ability to kill a swing is demonstrated.
- 3.8 Emergency stopping is demonstrated.
Range long travel, cross travel, hoist, lower.
- 3.9 Loads are placed on the vessel safely and as directed.
Range load orientation, placement.
- 3.10 Loads are placed on the wharf safely.
Range load orientation, placement.
- 3.11 Coordination and communication with personnel is maintained throughout operations.

Outcome 4

Conclude operations with the wharf gantry crane.

Performance criteria

- 4.1 The trolley is positioned.
- 4.2 Lifting attachment is set at specified height.
- 4.3 Boom is raised.

4.4 Crane is long-travelled to parking position.

4.5 Crane is parked and put into out of service condition.

Range communication equipment, tie-downs (where fitted), anchors, storm pins.

4.6 Documentation requirements are completed.

Range may include – log book, fault report/s, damage report/s.

Replacement information	This unit standard replaced unit standard 3793.
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Planned review date	31 December 2024
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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	31 December 2023
Revision	2	25 September 2006	31 December 2023
Rollover	3	17 September 2015	31 December 2023
Review	4	24 February 2022	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.