

<b>Title</b>	<b>Conduct product transfer at a petrochemical marine terminal</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	<p>This unit standard is for people employed in the petrochemical industry with responsibility for transferring petrochemical products at a marine terminal.</p> <p>People credited with this unit standard are, at a marine terminal, able to: identify equipment for transferring petrochemical products; prepare for transfer of petrochemical product; transfer petrochemical product; and complete the product transfer process.</p>
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<b>Classification</b>	Petrochemical Industry > Petrochemical Product Transmission and Transfer
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<b>Available grade</b>	Achieved
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### Guidance Information

- Performance of the outcomes of this unit standard must comply with relevant site requirements and the following legislation and documents:
  - Hazardous Substances and New Organisms Act 1996;
  - Health and Safety at Work Act 2015;
  - Resource Management Act 1991;
  - International Ship and Port Facility Security Code* (London: International Maritime Organization (IMO), 2003), (Product Code: I116E) available from the IMO (or recognised stockists) at [www.imo.org](http://www.imo.org) and following the menu to the Publications Bookshop Section;
  - Guidance for Oil Terminal Operators on the International Maritime Organization IMO International Ship and Port Facility Security Code*, First edition. (London: Oil Companies International Marine Forum, 2003), available at <http://www.ocimf.com>.
- This unit standard is intended for, but is not limited to, workplace assessment. While all performance criteria must be met, it is noted that all range statements within this unit standard are indicative and dependent on enterprise and site specific equipment, procedures, and practices.
- Definitions**

*Marine terminal* refers to facilities such as tanks and pipelines that are dedicated to petrochemical products such as methanol, resin, oil, condensate, and naphtha. A representative of the petrochemical industry is required to oversee product transfers at the terminal.

*Site requirements* mean the site specific documented methods for performing work activities and include health, safety, environmental, and quality management requirements. They may refer to manuals, codes of practice, or policy statements.

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## Outcomes and performance criteria

### Outcome 1

Identify equipment for transferring petrochemical products at a marine terminal.

#### Performance criteria

- 1.1 Marine terminal storage and transfer equipment is located and its purpose explained.
- Range loading pumps, discharge hoses, loading arms, gantries, conveyor system, compressors, storage tanks, pipelines, manifolds, earthing and bonding equipment, corrosion protection systems, nitrogen/inert gas systems, dye injection systems, leak detection system, instrumentation.
- 1.2 Marine terminal safety equipment is located and its purpose explained.
- Range fire extinguishers, hoses, fire monitors, hydrants, foam systems, fire alarms, smoke/gas detectors, heat detectors, deluges, spray blankets, fire walls, signage, personal protective equipment, eye wash, safety shower, personal exposure samplers, spill containment systems.

### Outcome 2

Prepare for transfer of petrochemical product at a marine terminal.

#### Performance criteria

- 2.1 Potential hazards associated with wharf activities are identified and relevant corrective actions explained in accordance with site requirements.
- Range crew error, site weather and sea conditions, simultaneous shipping operations, spills, leaks, vapour discharge, static electricity, static build up, earthing systems, vehicle entry, product transfer and recovery, other vessel discharging/loading, maintenance activities.
- 2.2 Preparation for transfer operations is carried out in accordance with site requirements.
- Range communication with ship's master, communication with harbour master, product documentation, vessel safety inspection, tank inspections, gas freeing, sampling, testing, cargo surveying.
- 2.3 Safety systems and personal protective equipment are checked and utilised in accordance with site requirements and manufacturer's recommendations.

2.4 Loading requirements are explained in accordance with site requirements.

Range vessel capacities, loading time-frame, schedules, tide times, lay days, lay times.

2.5 Transfer equipment is connected in accordance with site requirements.

Range loading arms, discharge hoses, manifolds, valves, fittings, automatic samplers, hand tools, pneumatic tools, hydraulic tools, personal protective equipment.

### **Outcome 3**

Transfer petrochemical product at a marine terminal.

#### **Performance criteria**

3.1 Communication is established and transfer operations are tested to determine the progress of the loading, tank levels, flow rates, and volumes with appropriate parties in accordance with site requirements.

Range operations personnel, ship's crew, loading officer, wharf personnel.

3.2 Transfer operations are commenced and monitored in accordance with site requirements.

Range stowage plans, loading schedule, tank availability, transfer rate, tank levels, vapour sampling, product certificate of quality.

3.3 Any deviations from normal transfer operation procedure are identified and corrective actions taken in accordance with site requirements.

Range product leaks, emergency alarms, utility failures, breakdowns.

### **Outcome 4**

Complete the transfer process at a marine terminal.

#### **Performance criteria**

4.1 Transfer equipment is shut down and transfer arms and hoses are disengaged from the vessel in accordance with site requirements.

4.2 Third party custody transfer activities are completed in accordance with site requirements.

Range vessel tank dipping, shore tank dipping, transfer volume reconciliations, retained samples.

- 4.3 Loading facilities are decommissioned, ensuring that the area has been made safe following transfer in accordance with site requirements.
- 4.4 Logs and documentation are completed and the results of the transfer are communicated to appropriate personnel in accordance with site requirements.

**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	6 February 1997	31 December 2018
Revision	2	3 August 2000	31 December 2018
Review	3	24 January 2002	31 December 2018
Review	4	20 February 2009	31 December 2018
Rollover and Revision	5	20 April 2017	31 December 2022
Review	6	27 February 2020	31 December 2022

#### Consent and Moderation Requirements (CMR) reference

0079

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