

<b>Title</b>	<b>Operate self-propelled pumps, at a pump site, for fire and emergency operations</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	<p>People credited with this unit standard are able to, for fire and emergency operations:</p> <ul style="list-style-type: none"> <li>- demonstrate knowledge of self-propelled pumps used;</li> <li>- establish a self-propelled pump;</li> <li>- operate a self-propelled pump; and</li> <li>- restore site and recommission a self-propelled pump.</li> </ul>
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<b>Classification</b>	Fire and Rescue Services > Fire and Rescue Services - Generic Fire Fighting
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<b>Available grade</b>	Achieved
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<b>Prerequisites</b>	Unit 20385, <i>Demonstrate hydraulic knowledge for firefighting</i> ; or demonstrate equivalent knowledge or skills.
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## Guidance Information

- 1 Compliance with the fire and emergency agency's Health and Safety policy and procedures is mandatory.
- 2 Definitions
 

*Fire and emergency agency's requirements* refer to policies, procedures and documentation on safety and operation set down by each fire and emergency agency employer or host organisation.

*Foam systems* include but are not limited to internal foam systems. This unit standard excludes compressed air foam systems (CAFS).

*Parallel* refers to the configuration of a multi stage pump allowing water to pass through the impellers simultaneously. The outcome is increased volume of water with limits on pressure created.

*Self-propelled pumps* refer to pumps that are permanently fixed or mounted to the chassis of a fire appliance whose output is controlled by throttle and valve, and which incorporate instrumentation such as compound gauges. Pumps driven by power take off units are included – this does not apply to portable pumps fixed to an appliance.

*Series* refers to the configuration of a multi stage pump allowing water to pass through the impellers of the pump in succession. The outcome is increased water pressure with limits on volume able to pass through the pump.
- 3 Assessment against this unit standard must take place under real or simulated conditions.

- 4 Assessment against all outcomes must be in accordance with the fire and emergency agency's requirements.
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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of self-propelled pumps used in fire and emergency operations.

#### Performance criteria

- 1.1 The components of a self-propelled pump are identified and explained.
- Range single and multi-stage pumps; components include but are not limited to – inlet, outlet, power plant, primer, water flow, pressure relief systems, filtering systems, fixed waterway equipment, gauges, cooling systems and associated safety features, and (where fitted) electronic pump control systems, foam systems, transfer valves.
- 1.2 Basic specifications and limitations of a self-propelled pump are explained.
- Range rated output, pump lift configuration – series, parallel, hi-low pressure.
- 1.3 Principles of relay pumping are described.
- Range static, pressure fed.
- 1.4 Fault-finding and resolution of a self-propelled pump are described.

### Outcome 2

Establish a self-propelled pump for fire and emergency operations.

#### Performance criteria

- 2.1 Pump site is selected and prepared.
- Range considerations include but are not limited to – safe pump operation, operator safety, adequate water supply, preservation of environment.
- 2.2 The pump is set up to allow volume and pressure of water to be delivered to achieve the required outcomes.

**Outcome 3**

Operate a self-propelled pump for fire and emergency operations.

Range tank supply, open water (suction utilising normal priming, emergency priming, and ejector pumps as used by the fire and emergency agency), pressure-fed supply.

**Performance criteria**

- 3.1 Personal protective equipment is selected and worn.
- 3.2 Pump is engaged, primed, operated, monitored and shut down.
- 3.3 Communication is maintained throughout operations as required.
- 3.4 Pressure relief valves (where fitted) and pressure control devices are set and monitored to provide optimum performance.

**Outcome 4**

Restore site and recommission a self-propelled pump.

**Performance criteria**

- 4.1 Site used for pump operations is restored.
- 4.2 Pump is recommissioned, and any required documentation is completed.

<b>Replacement information</b>	This unit standard and unit standard 20386 replaced unit standard 3268, unit standard 10612, and unit standard 10620.
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<b>Planned review date</b>	31 December 2026
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	25 March 2004	31 December 2023
Review	2	21 May 2010	31 December 2023
Review	3	30 September 2021	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0039
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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**Comments on this unit standard**

Please contact The Skills Organisation [reviewcomments@skills.org.nz](mailto:reviewcomments@skills.org.nz) if you wish to suggest changes to the content of this unit standard.