Title
Demonstrate knowledge of helicopter logging

Level
3
Credits
6

Purpose
This unit standard is intended for people employed in a commercial forestry helicopter logging operation. People credited with this unit standard are able to demonstrate knowledge of: factors affecting the productivity of helicopter logging operations; hazards associated with the extraction of logs by helicopter; and operational factors relating to the extraction of logs by helicopter.

Classification
Forestry > Forest Harvesting Operations

Available grade
Achieved

Explanatory notes
1. This unit standard must be assessed on-job.
2. Definition

   Accepted industry practice – approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.

3. Helicopter logging operations are subject to the provisions of the Civil Aviation Rules (see http://www.caa.govt.nz) in accordance with the Civil Aviation Act 1990 and any subsequent amendments.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of the factors affecting the productivity of helicopter logging operations.

Evidence requirements

1.1 Productivity of a helicopter logging operation is explained in terms of maximum utilisation of the machine and minimum cycle times.

1.2 The factors affecting the efficiency of the helicopter logging operation are explained.
Range matching machine capacity to tree size, stand density, average flight distance, clearing size, landing accessibility, log quality, load optimisation, up and down hill extraction.

1.3 Terms associated with helicopter logging are explained in accordance with accepted industry practice.

Range matching machine capacity to tree size, stand density, average.

1.4 Hot-decking and cold-decking operations are explained in terms of their advantages and disadvantages.

Range shatter effects, ‘bird nests’, fleeting hazards, choker recovery.

Outcome 2

Demonstrate knowledge of hazards associated with the extraction of logs by helicopter.

Evidence requirements

2.1 The hazards created by helicopter rotor wash are explained in accordance with accepted industry practice.


2.2 Placement of grapple or strop on the log to be extracted is described in accordance with accepted industry practice.

2.3 The correct way to exit the felling area after hook-on is described in accordance with accepted industry practice.

Range to pilot’s line of vision, away from intended flight path, call ‘clear’ to pilot.

2.4 The concepts of calling in, clocking and distance are explained in accordance with accepted industry practice.

2.5 Emergency procedures and steps to be taken in the event of an accident involving a helicopter are explained in accordance with accepted industry practice.

Outcome 3

Describe operational factors relating to the extraction of logs by helicopter.

Evidence requirements

3.1 The effects of poor bush-work and cross-cutting decisions on the efficiency of the operation are described in accordance with accepted industry practice.

Range aborts, slow cycle times, higher costs.
3.2 The factors that affect the helicopter’s ability to break-out a turn are explained.

Range: log weight, wind, temperature, topography, altitude, branches on standing trees, incomplete cross-cuts, butts tight against one another on steep ground.

3.3 The effects of strop or grapple placement on lifting ability and on the flight of a log turn are explained in accordance with accepted industry practice.

3.4 The reasons for a pilot’s decision to abort a log turn are explained.

Range: may include but is not limited to – incomplete cross-cuts, logs jammed behind stumps, incorrect weight calculation.

3.5 The situations when high stumps may be acceptable are explained in terms of the stability of logs on steep slopes.

3.6 The effects of fluting and buttressing on butt logs, and the impact on dead lifting from gullies are explained in accordance with accepted industry practice.

3.7 The effects of varying densities within tree species between gully and ridge sites and the impact on dead lifting are explained.

3.8 Regulations relating to the suspension of persons under a helicopter are described in accordance with the Civil Aviation Rules Part 133.

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**Planned review date**
31 December 2020

**Status information and last date for assessment for superseded versions**

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**Consent and Moderation Requirements (CMR) reference**
0173


**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 Competenz at qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.