

<b>Title</b>	<b>Plan for, manage, and perform quality control on a production thinning operation</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	<p>This unit standard is intended for crew foremen or operational managers within contracting companies managing the felling, extraction and processing of trees in production thinning operations.</p> <p>People credited with this unit standard are able to: interpret the job prescription or harvest plan and determine the production target and resource requirements of the operation; develop a felling plan, an extraction plan, a processing plan, and a temporary traffic control plan for a production thinning operation; manage a production thinning operation; and perform quality control on a production thinning operation.</p>
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<b>Classification</b>	Forestry > Forest Operations Management
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation relevant to this unit standard includes the: Health and Safety at Work (HSW) Act 2015, Resource Management Act 1991; the Resource Management (National Environmental Standards for Plantation Forestry) Amendment Regulations 2018; and the Heritage New Zealand Pouhere Taonga Act 2014, and any subsequent amendments.
- 2 References  
 New Zealand Forest Owners Association, *Forest Practice Guides* (2019), and any subsequent amendments, available from <http://www.nzfoa.org.nz>.  
*Approved Code of Practice (ACOP) for Safety and Health in Forestry Operations*, December 2012, available from <http://www.worksafe.govt.nz>.  
*Transit Code of Practice* refers to the *Code of Practice for Temporary Traffic Management*, and any subsequent amendments, published by NZ Transport Agency (Wellington, November 2004). Available from NZ Transport Agency at <http://www.nzta.govt.nz/resources/>, or, PO Box 5084, Wellington 6145.
- 3 Definitions  
*A stand map* is a map of a block of trees that are similar or the same in age and species.  
*Accepted industry practice* refers to approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.

*Harvest plan* is a document usually supplied by the forest manager. The harvest plan will include detailed information on how the stand is intended to be harvested. It will include information on any environmental requirements for the stand.

*Job prescription* refers to a document usually supplied by the forest manager detailing the requirements for the job. It will include stand details, operational requirements, quality standards, health and safety and environmental requirements for the stand.

*Operational plan* is the plan developed by the contractor. It details the way the contractor will work the stand to meet their production and quality targets while complying with the requirements of the forest manager.

*Stand* is a commonly used term in forestry. It describes an area containing trees that are the same species and were planted at the same time for the purpose of harvesting.

*Worksite procedures* refers to documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, quality assurance procedures, housekeeping standards, procedures to comply with legislative and local body requirements.

- 4 This unit standard is intended for people who are responsible for all personnel involved in a production thinning operation. Personnel involved in the operation may include tree fallers, extraction machine operators, log makers, chainsaw operators and loader operators. Production thinning operations may use mechanised harvesting methods, motor manual methods, or a combination of both.

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## Outcomes and performance criteria

### Outcome 1

Interpret the job prescription or harvest plan and determine the production target and resource requirements of the operation.

### Performance criteria

- 1.1 Boundaries of the area to be thinned are located from the job prescription or the harvest plan.
- 1.2 The method and direction of extraction and the location of the landings are identified from the job prescription or the harvest plan.
- 1.3 Natural features of the area are identified. Any relevant natural features missing from the stand map are marked.
- 1.4 Physical structures and cultural features of the area are identified. Any relevant physical structures and cultural features missing from the stand map are marked.
- 1.5 Operational constraints are identified from the job prescription or harvest plan.

1.6 Hazardous areas are identified and recorded on the stand map in accordance with worksite procedures.

1.7 Production target of the production thinning operation is determined in accordance with accepted industry practice.

Range production target to be expressed as tonnes per day (t/day).

1.8 Resources required to meet average daily production are determined in accordance with accepted industry practice.

Range machinery, equipment, manpower.

## Outcome 2

Develop a felling plan for a production thinning operation.

### Performance criteria

2.1 A felling plan is developed to meet the operational requirements in accordance with accepted industry practice and worksite procedures.

Range may include but is not limited to – timing of felling, stocking targets, production target, boundaries, hazard management, felling pattern and/or direction, communication, environmental management, machinery availability.

## Outcome 3

Develop an extraction plan for a production thinning operation.

### Performance criteria

3.1 Operational requirements for extraction are determined in accordance with accepted industry practice.

Range may include but is not limited to – type of extraction, piece size, drag or load size, haul distance, machine type, terrain conditions, minimising damage to crop trees, buffer trees.

3.2 An extraction plan is developed to meet operational requirements in accordance with accepted industry practice.

Range may include but is not limited to – short and long-haul regulation, method for monitoring ground conditions, hazard management, environmental management, optimal machine utilisation, interface with felling, machine maintenance schedule, communication, interface with processing.

## Outcome 4

Develop a processing plan for a production thinning operation.

**Performance criteria**

4.1 A processing plan is developed to meet operational requirements in accordance with accepted industry practice.

Range may include but is not limited to – manpower, machinery, location of processing area, location of surge stacks, location of log stockpiles, loadout requirements.

**Outcome 5**

Develop and set up a temporary traffic control plan for the production thinning operation.

**Performance criteria**

5.1 The temporary traffic control plan required for the operation is developed in accordance with accepted industry practice and the Transit Code of Practice.

5.2 The temporary traffic control plan is set up in accordance with accepted industry practice and the Transit Code of Practice.

**Outcome 6**

Manage a production thinning operation.

**Performance criteria**

6.1 The operational plan including safety, environmental production and quality requirements is communicated to the crew at a pre-start meeting in accordance with worksite procedures.

6.2 Operation is managed to ensure trees which pose a specific hazard to people using roads, skids, or tracks, are felled before operations begin.

Range may include but is not limited to – damaged trees, dead trees, trees leaning toward skid or extraction tracks, trees blocking extraction tracks, trees on the prevailing wind side, trees disturbed in skid or track formation.

6.3 Tree felling is managed in accordance with accepted industry practice.

Range may include but is not limited to – daily production target, machine utilisation, environmental constraints, damage to standing crop, tree placement, ease of extraction, communication.

6.4 Daily production is measured, and crew targets are maintained to meet the requirements of the operational plan and the job prescription.

Range production, stocking, spacing.

- 6.5 The operation of the extraction machine is managed and to meet the requirements of the operation and the job prescription or harvest plan and is in accordance with accepted industry practice.

### Outcome 7

Perform quality control on a production thinning operation.

#### Performance criteria

- 7.1 Stocking rates are assessed against job prescription requirements.
- 7.2 A damage assessment plot is established and analysed in accordance with worksite procedures.
- Range size, width, and height of damage are measured within thinned zone; frequency of damage is established; cause of damage is established.
- 7.3 Damage is assessed against job prescription requirements in accordance with worksite procedures.
- 7.4 Extraction quality and efficiency are monitored against job prescription requirements and operational plan in accordance with worksite procedures.
- Range may include – stems per drag, drags per hour, condition of extraction trail, salvage requirements, landing congestion.
- 7.5 Processing quality control is monitored against the cutting instruction and operational plan in accordance with worksite procedures.
- Range may include – log making quality, landing efficiency, machine utilisation.
- 7.6 Quality control results are recorded and communicated to the crew and other interested parties in accordance with worksite procedures.
- Range other interested parties may include but are not limited to – supervisors, contractor, forest owner.
- 7.7 Health and safety and quality issues identified during quality control checks are remedied in accordance with the job prescription and worksite procedures.
- Range may include but is not limited to – training, auditing, incentives, penalties; evidence of at least two issues remedied.

<b>Planned review date</b>	31 December 2028
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	22 May 2008	31 December 2011
Review	2	18 February 2011	31 December 2017
Review	3	10 December 2015	N/A
Review	4	28 May 2020	N/A
Rollover	5	26 April 2024	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0173
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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 Muka Tangata - People, Food and Fibre Workforce Development Council [qualifications@mukatangata.nz](mailto:qualifications@mukatangata.nz) if you wish to suggest changes to the content of this unit standard.