



Australian Government

Department of Education, Employment and Workplace Relations

FPICOT2236 Fall trees manually (basic)

Release: 1

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Modification History

Version	Detail
1	Unit replaces FPIFGM2208A Fall trees manually (basic) and FPIHAR2202A Harvest trees manually (basic)

Unit Descriptor

This unit describes the outcomes required to assess, plan and safely carry out manual tree-felling operations using a chainsaw.

It is an introductory or base-level unit that covers the felling procedures for relatively small trees with a low level of complexity.

Techniques for trees with a diameter greater than the bar length, while not excluded, would generally be regarded as techniques beyond the scope of this unit.

Application of the Unit

This unit involves tree felling in a variety of work settings, which may include a forest, agricultural, domestic, local council, and emergency services and other government agency environment.

With the exception of minor forest produce, it is not considered a suitable level for commercial harvesting operations.

These skills and knowledge are to be used within the scope of the person's job and authority.

Licensing/Regulatory Information

Compliance with licensing, legislative, regulatory or certification requirements may be required in various jurisdictions.

Pre-Requisites

Not applicable

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for felling	<p>1.1. Identify and adhere to work specifications and site <i>environmental protection measures</i> relevant to felling <i>basic trees</i> in line with <i>organisational requirements</i> and relevant regulations</p> <p>1.2. Review and check <i>job requirements</i> as required with <i>appropriate personnel</i></p> <p>1.3. Select and check <i>tools and equipment</i> appropriate to work requirements for operational effectiveness according to manufacturer recommendations</p> <p>1.4. Identify trees to be retained and felled</p> <p>1.5. Establish general falling direction</p> <p>1.6. Determine and progressively plan tree felling sequence for individual trees</p> <p>1.7. Establish and maintain <i>communication</i> with others according to occupational health and safety (OHS) requirements</p>
2. Visually assess site conditions and surroundings	<p>2.1. Review location and stability for conditions likely to affect felling activities</p> <p>2.2. Monitor movement and location of activity in the work area and modify plan for felling activity according to OHS regulations</p> <p>2.3. Identify and report site <i>environmental conditions</i> to appropriate personnel</p> <p>2.4. Identify and control potential and existing risks and <i>hazards</i></p> <p>2.5. Identify and monitor other personnel working on the site</p>
3. Assess tree and plan felling	<p>3.1. Identify <i>trees considered outside own skill level</i> and seek assistance from appropriate personnel</p> <p>3.2. Visually assess tree for felling characteristics, defects and stresses</p> <p>3.3. Determine and check required falling direction and possible deviation</p> <p>3.4. Plan sequence of cuts to fell tree according to standard felling procedures</p> <p>3.5. Select suitable escape route</p>

- 3.6. Clear work site and escape route of debris and growth according to environmental care principles and statutory requirements
4. Apply tree felling techniques
- 4.1. Fell individual trees using selected *cutting techniques* according to OHS and job requirements
 - 4.2. Adjust cutting technique in response to movement and condition of tree
 - 4.3. Use planned escape route when tree starts to fall
 - 4.4. Monitor fall and movement of tree on ground until determined stable
 - 4.5. Identify and implement procedures for removal of trees that are hung-up
 - 4.6. Dispose of waste materials in line with environmental and operational requirements
5. Maintain equipment
- 5.1. Inspect equipment on completion of trimming and cutting activities
 - 5.2. Identify damaged saws and cutting attachments for repair or replacement according to organisational requirements and manufacturer recommendations
 - 5.3. Remove, clean, adjust or replace chain and other components according to manufacturer recommendations
 - 5.4. Maintain tools and equipment according to OHS requirements and manufacturer recommendations

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- Awareness of legislation, regulations, standards, codes of practice and established safe practices and procedures for felling trees manually
- Technical skills to:
 - use and maintain relevant tools and equipment
 - safely operate and maintain a chainsaw
 - assess, plan and carry out tree-felling operations appropriate to site conditions
- Communication skills to:
 - use appropriate communication and interpersonal techniques and methods with colleagues and others
 - use hand signals with other operators to maintain effective and safe tree felling
- Literacy skills to:
 - locate and report information
 - interpret, apply and convey information in written, diagrammatic and verbal form
- Numeracy skills to:
 - estimate tree height
 - calculate product mass and determine tree fall zone
 - measure tree length and diameter
- Problem-solving skills to:
 - review and identify work requirements
 - identify appropriate trees to be felled at basic level: small in size and low in complexity
 - recognise own limitations given the conditions and trees for felling
 - assess that capacity of equipment is appropriate to tree being felled
 - identify equipment faults and problems and demonstrate appropriate response procedures
 - apply safe work practices, including the use of personal protective equipment (PPE) and control of hazards

Required knowledge:

- Basic knowledge of applicable federal, state or territory legislation, regulations, standards and codes of practice relevant to the full range of processes for felling trees manually
- Key characteristics of trees that are considered to be in the basic, intermediate and advanced categories
- Environmental protection requirements, including the safe disposal of waste material
- Organisational and site standards, requirements, policies and procedures for felling

trees manually

- Types of tools and equipment used when felling trees manually, and the procedures for their safe use, operation and maintenance
- Problem identification and resolution strategies and common fault-finding techniques applicable to tree felling
- Established communication channels and protocols
- Key features of structural defects and stresses in trees to enable their identification and evaluation
- Types and purposes of a range of cuts to fell trees
- Operational principles and limitations of a chainsaw
- Procedures for recording and reporting workplace information

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can safely and efficiently fell trees manually according to organisational requirements

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements of this unit and include demonstration of:

- compliance with applicable federal, state or territory legislative and regulatory requirements and codes of practice relevant to felling trees manually
- compliance with organisational policies and procedures relevant to felling trees manually
- compliance with applicable licensing or certification requirements relevant to felling trees manually
- communicating effectively and working safely with others in the work area
- Identifying key features of structural defects and stresses in trees and the impact on felling trees at the basic level contributing to a tree and conditions assessment, and planning for and felling trees within the range of variables for trees and conditions
- planning felling sequence of basic trees and prepare surroundings including escape route
- felling a range of basic trees using a range of cuts safely without damage to personnel, equipment and surrounding environment
- selecting, using and maintaining appropriate tools and equipment for felling basic trees manually, and recognising faults, problems and malfunctions

Context of and specific resources for assessment

- Competency is to be assessed in the workplace or a realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context

- Assessment is to comply with relevant regulatory requirements and Australian standards
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to undertaking work applicable to this unit
 - specifications and work instructions

Method of assessment

- Assessment methods must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access, interpret and apply the essential underpinning knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Environmental

protection measures may include:

- action to limit the impact to:
 - native vegetation
 - soil and water
 - heritage and archeological artefacts
 - flora and fauna
 - geomorphologic features
 - landscape
 - external site pollution
 - recreational opportunities
 - regeneration opportunities

Basic trees typical to the scope of this unit may include the following characteristics:

- lean and distribution of the crown weight does not create a complex situation to assess or fell
- small dimensions relative to local forest size distribution
- no excessive lean
- no visible damage or defect
- species that are not prone to free splitting and adverse reactions during felling
- a crown that is free of hazards, entanglement or malformation, and is fully visible for assessment and monitoring
- single stem or non-complex multi-stems
- diameter of tree is less than chainsaw bar length
- grown on terrain and slope that does not add significant complexity to the operation

Organisational requirements may include:

- legal compliance documentation
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- procedural manuals
- quality and continuous improvement processes and standards
- OHS requirements, that are in accordance with applicable federal, state or territory legislation and regulations, and organisational safety policies and procedures, including:
 - PPE and clothing
 - safety equipment
 - first aid equipment
 - firefighting equipment
 - hazard and risk control
 - fatigue management
 - appropriate signage
 - elimination of hazardous materials and substances
 - safe forest practices, including required actions relating to forest fire
 - techniques for manual handling, including shifting, lifting and carrying
- legislative requirements that are to be in accordance with applicable federal, state or territory legislation, regulations, certification requirements and codes of practice, including:
 - award and organisational agreements
 - industrial relations
 - Australian standards
 - confidentiality and privacy
 - OHS
 - the environment
 - native vegetation
 - equal employment opportunity
 - anti-discrimination
 - relevant industry codes of practice
 - duty of care
- OHS, emergency and evacuation procedures
- ethical standards
- recording and reporting requirements
- equipment use, maintenance and storage requirements

- environmental management requirements, including waste disposal, recycling and re-use guidelines
- Job requirements** may include:
- information and instructions relevant to tree-felling operations, including:
 - processing location details
 - trees to be felled and retained
 - general environmental requirements, including site plan and environmental features
- Appropriate personnel** may include:
- supervisors
 - clients
 - colleagues
 - managers
- Tools and equipment** may include:
- warning signs
 - chainsaw and components
 - PPE and clothing
 - first aid equipment
 - maintenance requirements
 - support tools
- Communication** may include:
- verbal and non-verbal language
 - hand or other agreed signals
 - eye contact with other operators or personnel
 - active listening and questioning to clarify and confirm understanding
 - electronic communication devices
- Environmental conditions** may relate to:
- ground growth
 - canopy
 - general forest lean
 - ground slope
 - ground hazards
 - wind speed and direction

- Hazards** may include:
- uneven/unstable terrain
 - unsafe trees
 - fires
 - overhead and underground services
 - excavations
 - traffic
 - structures
 - hazardous materials
 - insects and animals
 - other personnel and machinery
- Trees considered outside own skill level** may include:
- trees that contain hazards and are deemed unsafe
 - trees where cuts made may lead to loss of control of tree in felling
 - trees that are considered to be in the intermediate or advanced categories
- Cutting techniques:**
- will be suited to small non-complex felling situations and will include:
 - scarf cutting
 - back cutting to provide hinge-wood and maintain control of tree
 - and may include:
 - use of wedges to assist in controlling falling direction

Unit Sector(s)

Common Technical

Competency field

Competency field n/a