FPIFGM2009A Fall trees manually (basic)

Unit Descriptor
This unit specifies the outcomes required to assess, plan and safely carry out manual tree falling operations using a chainsaw.

This unit is intended for use in situations where the production of timber is not the primary focus of the activity.

Pre-requisite Unit(s)
FPICOR2005A Follow OH&S policies and procedures

Application of the Unit
Competency Field
Forests and Forest Products

Sector
Forest Growing and Management

ELEMENT
Elements describe the essential outcomes of a unit of competency

PERFORMANCE CRITERIA
Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

1 Prepare and maintain falling equipment

1.1 Applicable OH&S, legislative and organisational requirements relevant to falling trees are verified and complied with

1.2 Site environmental protection measures are adhered to in accordance with relevant legislation and regulations

1.3 Work plan is reviewed, confirmed and clarified as required with appropriate personnel

1.4 Tools and equipment are selected appropriate to work requirements and checked for operational effectiveness in accordance with manufacturers recommendations

1.5 Blunt or damaged chainsaw is detected, rectified and reported in accordance with workplace procedures

1.6 Operational effectiveness of chainsaw is monitored to maintain falling safety and productivity

1.7 Communication with others is established and maintained in accordance with OH&S requirements

2 Assess conditions and surroundings

2.1 Site environmental concerns are verified and complied with in accordance with relevant national, state, and local legislation or regulations

2.2 Environmental conditions are verified and assessed in accordance with work plan requirements

2.3 Awareness of environmental conditions and other
personnel activity in the work area is maintained and falling activity modified.

2.4 General factors affecting falling requirements are assessed and specific forest or site risks and hazards are detected and controlled.

3 Assess tree and plan falling

3.1 Tree is located and visually assessed for falling characteristics.

3.2 Required falling direction and degree of allowable error is assessed and confirmed.

3.3 Sequence of cuts to fall tree is planned in accordance with standard falling procedures.

3.4 Suitable escape route is selected and cleared of growth and other obstacles in accordance with environmental care principles and statutory requirements.

3.5 Personal limitations in safely falling trees with own skills are assessed and assistance sought from appropriate personnel.

3.6 Location and activity of other personnel in the work area is noted and monitored.

4 Fall tree

4.1 All work is conducted using established safe operating practices and in accordance with workplace procedures.

4.2 Tree falling operations are safely undertaken appropriate to site conditions and at a safe distance from other personnel in the work area.

4.3 Unexpected characteristics of tree and other problems are verified, assistance sought and planning reviewed.

4.4 Planned escape route is used when tree starts to fall and the fall and movement of tree on ground is monitored until determined stable.

4.5 Chainsaw is monitored for operational effectiveness and any faults, malfunctions or problems are recorded and reported in accordance with workplace procedures.

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills include:

- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures relating to manual tree falling operations (basic).

- Use and maintain relevant tools, machinery and equipment.
Identify problems and equipment faults and demonstrate appropriate response procedures

Use appropriate communication and interpersonal techniques and methods with colleagues and others

Accurately record and maintain information relating to tree falling operations

Safely operate and maintain a chainsaw

Use hand signals with other operators to maintain effective and safe tree falling

Recognise own limitations in conditions and trees for falling

Assess, plan and carry out tree falling operations appropriate to site conditions

Recognise common diseases, pests and nutrition deficiencies

Read and interpret written material

State/Territory OH&S legislation, regulations, standards and codes of practice relevant to the full range of processes relating to manual tree falling operations (basic)

Organisational and site standards, requirements, policies and procedures relating to manual tree falling operations (basic)

Environmental protection requirements for operations in forest settings including the disposal of waste material

Established communication channels and protocols

Problem identification and resolution

Types of tools and equipment and procedures for their safe use, operation and maintenance

Identification and evaluation of structural defects in trees

Types and purposes of a range of cuts to fall trees

Hazards of operating a chainsaw and falling trees

Types of tools and equipment and procedures for their use, operation and maintenance

Operational principles and limitations of a chainsaw

Procedures for the recording, reporting and maintenance of workplace records and information
- Appropriate mathematical procedures for estimation and measurement

### KEY COMPETENCIES

The seven key competencies represent generic skills considered necessary for effective participation by an individual in the workplace.

- Performance Level 1 – at this level, the candidate is required to undertake tasks effectively.
- Performance Level 2 – at this level, the candidate is required to manage tasks.
- Performance Level 3 – at this level, the candidate is required to use concepts for evaluating and reshaping tasks.

<table>
<thead>
<tr>
<th>Key Competency</th>
<th>Example of Application</th>
<th>Performance Level</th>
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</thead>
<tbody>
<tr>
<td>How are ideas and information communicated within this competency?</td>
<td>Ideas and information, verbal and written, are communicated in simple English to confirm work requirements, convey information to colleagues, and report outcomes relating to falling trees</td>
<td>1</td>
</tr>
<tr>
<td>How can information be collected, analysed and organised?</td>
<td>Collect, organise, interpret and understand information required to plan and undertake tree falling</td>
<td>1</td>
</tr>
<tr>
<td>How are activities planned and organised?</td>
<td>Organise and conduct tree falling activities in the correct sequence to complete within the designated timeframes</td>
<td>2</td>
</tr>
<tr>
<td>How is team work used within this competency?</td>
<td>Effective communication and interpersonal techniques are used with colleagues and others to maximise confidence, satisfaction and productivity during tree falling operations</td>
<td>1</td>
</tr>
<tr>
<td>How are mathematical ideas and techniques used?</td>
<td>Mathematical ideas and techniques are used to calculate slopes, wind speed and direction time to complete tasks</td>
<td>2</td>
</tr>
<tr>
<td>How are problem solving skills applied?</td>
<td>Establish safe and effective tree falling procedures and processes which anticipate likely problems to avoid wastage and downtime</td>
<td>1</td>
</tr>
<tr>
<td>How is use of technology applied?</td>
<td>Access and locate applicable legislative, regulatory and environmental guidelines relevant to tree falling operations</td>
<td>1</td>
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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 in the Performance Criteria is detailed below. Add any 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.

**OH&S requirements**

- are to be in accordance with Commonwealth, State or Territory legislation and regulations, organisational safety policies and procedures. Requirements may include but not be limited to the use of personal protective equipment and clothing, fire fighting equipment, first aid equipment, hazard and risk control and elimination of hazardous materials and substances, manual handling including lifting and carrying, and required actions relating to forest fire

**Legislative requirements**

- are to be in accordance with applicable legislation from all levels of government that affect organisational operation. Requirements may include but not be limited to award and enterprise agreements, industrial relations, Australian Standards, confidentiality and privacy. OH&S, the environment, equal opportunity, anti-discrimination, relevant industry codes of practice, duty of care, and heritage and traditional land owners issues

**Organisational requirements**

- may include but not be limited to legal, organisational and site guidelines, policies and procedures relating to own role and responsibility, quality assurance, procedural manuals, quality and continuous improvement processes and standards, OH&S, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines)

**Trees**

- for falling will have the following characteristics: diameter not more than 50 centimetres at position of cut, height not more than 20 metres, lean and weight distribution consistent with falling direction, single leader, sound wood condition in barrel, species and growth conditions not prone to twisting or splitting, slope not more than 20 degrees

**Environmental protection measures**

- may include but not be limited to ground growth, canopy, general forest lean, wind speed and direction, fallen trees, density of trees, ground slope, soil and water protection, ground hazards, obstacles. Measures may also include contingencies for modifying operations during wet or other adverse weather
Work plan
• is to include information and instructions relevant to tree falling operations including processing location details and trees to be felled and retained. Information may also include general environmental requirements, site plan and environmental features

Appropriate personnel
• may include supervisors, clients, colleagues, line management

Tools and equipment
• may include chainsaw and components, personal protective equipment and clothing, first aid equipment, maintenance requirements, fuel

Maintenance
• of chainsaw and components may include sharpening and making adjustments

Communication
• may include verbal and non-verbal language, constructive feedback, active listening, questioning to clarify and confirm understanding, use of positive, confident and co-operative language, use of language and concepts appropriate to individual social and cultural differences, control of tone of voice and body language, hand signals

Environmental conditions
• may relate to ground growth, canopy, general forest lean, ground slope, ground hazards, wind speed and direction

Conditions
• in which falling will be undertaken include minimal canopy affecting free fall, ground slope not excessive, wind not significantly affecting falling characteristics, absence of ground growth or fallen trees preventing free movement around stump or preventing complete fall, absence of stags and hazardous ground features in falling radius, clear falling or sparse tree density

Limitations
• may relate to job role and responsibilities, own competency level, industry requirements, own understanding of risk identification processes, own interpretation of legislation, regulations and procedures, complying with OH&S requirements

Assistance
• may be required in situations where cuts made may lead to loss of control of tree in falling, to confirm and adjust cutting techniques in response to movement and condition of tree, to help clear trees that hang up during falling

Operations
• may include scarf cutting to plan, backcutting to provide planned hinge-wood and maintain control of tree, using wedges to assist in controlling falling
direction

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 standard must be able to provide evidence that they can safely and efficiently assess, plan and conduct manual tree falling operations (basic) in accordance with environmental and organisational requirements.

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

- Compliance with OH&S, environmental, and organisational/site policies and procedures, and State/Territory legislation applicable to manual falling of trees (basic).
- Effectively communicate and work safely with others including maintaining an awareness of other personnel activity in the work area.
- Contribute to a tree assessment, plan and fall trees within the range of variables for trees and conditions.
- Select, use and maintain appropriate tools and equipment and recognise faults, problems or malfunctions.
- Safely operate and maintain a chainsaw.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or 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 or Australian Standards requirements.
- The following resources should be made available:
  - workplace location or simulated workplace
  - materials and equipment relevant to manual falling of trees (basic)
  - specifications and work instructions

Method of assessment

- Assessment must satisfy the endorsed assessment guidelines of the Forest and Forest Products Industry.
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 key competencies.
- Assessment methods must confirm the ability to access and correctly 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, including those listed above