Sawmilling and Processing Competency Standards

FPIS2001A Grade Round Poles and Debarked Logs

Description

This unit describes the work involved in the planning, identification, moving, measuring and sorting of round poles and debarked logs by length and diameter.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Plan size grades and location

1) Occupational health & safety regulations, policies & procedures relevant to grading round poles and debarking logs are to be followed throughout the application of this competency.
2) Material to be graded is identified from supervisor's instructions.
3) Largest and smallest diameter poles or logs are identified within industry or site standard diameter ranges by visual estimate or with the aid of a measuring tool.
4) Longest and shortest industry standard lengths are identified by visual estimate or with the aid of a measuring tape or other scale.
5) Number of diameter ranges and lengths into which poles will be graded is estimated.
6) Area for grading is planned, to site requirements.
7) Required sorting frames or storage locations are obtained and identified with standard diameter ranges and lengths.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Identify and grade poles or logs

1) Individual poles or logs are identified within industry or enterprise standard diameter ranges by visual estimate or with the aid of a measuring tape.
2) Individual poles or logs are identified as industry standard lengths by visual estimate or with the aid of a measuring tape or other scale.
3) Poles or logs of inconsistent species are identified and segregated.
4) Faults in poles or logs are recognised and material segregated or corrected in accordance with site standards.
5) Poles or logs are sorted into correct sorting locations.
6) Material from filled storage locations or frames is moved (or movement is requested) to maintain the grading process.
7) Records detailing material types, sizes and quantities are completed clearly and accurately.
8) Problems that arise are recognised and reported in accordance with site procedures.

Range of Variables

- OH&S requirements may include manual handling, protective clothing, elimination of hazards and enterprise safety policies and procedures.
- Logs and poles graded may be hardwood or softwood.
- The process may apply to the grading of poles which will be left in the round form with or without preservative treatment or to logs which are destined for conversion to boards.
- Methods for lifting and moving material may be manual or mechanical with wheeled lifting equipment.
- Record keeping may include tally sheets, production records and QA forms.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for grading round poles and debarked logs
  - ◊ industry standard diameter ranges and length dimensions required
  - ◊ planning process associated with grading material
  - ◊ the importance of accuracy.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for grading round poles and debarked logs
  - ◊ grade poles and logs to enterprise standards
  - ◊ measure to an accuracy adequate to ensure that material can be consistently allocated to a standard size
  - ◊ complete required production records
  - ◊ identify timber species.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely grade round poles and debark logs
  - ◊ communicate effectively with others in associated areas
  - ◊ plan size grades and location
  - ◊ identify and grade poles or logs.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS2002A Assess and Pre-Sort Timber For a Production Process

Description

This unit describes the work involved in the visual evaluation of timber for characteristics and defects and the assessment and the pre-sorting of the timber for a production process.

Suggested Pre-Requisites/Co-Requisites

FPI OHS 1A Follow defined occupational health & safety policies & procedures.
FPI C2 003A Dock timber manually for lengths and defects.

1 Prepare for sorting

1) Occupational health & safety regulations, policies & procedures relevant to assessing, pre-sorting and marking of timber for a production process are to be followed throughout the application of this competency.
2) Specific sorting requirements are determined from orders or site procedures.
3) Timber requirements for special products are identified.
4) Board requirements for subsequent processing operations are identified.
5) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Evaluate timber characteristics and defects

1) Timber characteristics and defects of individual boards are evaluated against appropriate rules for sort type and other requirements.
2) Defects are clearly marked for fault docking according to site standards.
3) Sorting is conducted to site standards for the process.
4) Defects caused by sawing or dressing operations are identified and promptly reported to relevant personnel.
5) Boards are directed to subsequent operations according to size, characteristics and defects identified.

3 Maintain production flow

Board sizes and processing requirements are identified in accordance with site procedures.
Conveyors are regularly monitored for material flow problems.
Supplies of required materials are maintained to support production.
Problems and equipment faults are reported promptly and fully.
Production and quality records are completed in accordance with enterprise standards.

Range of Variables

- Timber sorted may be hardwood or softwood.
- Timber may be bar coded.
- Record keeping may include tally sheets, production records and QA forms.
- OH&S requirements include protective clothing and equipment, manual handling, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for assessing and sorting in a production process
  - ◊ routine material transfer problems and approach used to resolve them
  - ◊ Industry standard cross-section and length dimensions
  - ◊ the importance of accuracy.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for assessing, sorting and marking timber in a production process
  - ◊ identify timber characteristics and defects
  - ◊ mark boards appropriately
  - ◊ communicate effectively with others in associated production areas
  - ◊ locate, interpret and apply relevant information.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely assess and sort timber in a production process
  - ◊ communicate effectively with others in associated areas
  - ◊ prepare for sorting
  - ◊ evaluate timber characteristics and defects
  - ◊ maintain the production flow.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the setting up of the sorter and the processing of boards through the mechanical sorting process.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Check machine and set up sorting

1) Occupational health & safety regulations, policies & procedures relevant to the sorting of boards mechanically are to be followed throughout the application of this competency.
2) Order and schedule requirements are identified.
3) Range of board cross-sections, lengths and grades to be sorted is identified.
4) Program linking board sizes to storage bins or trays is selected to optimise storage space and ensure efficient operation.
5) Storage program is entered or modified, if necessary, to suit range of sorted material.
6) Timber flow to machine is planned and co-ordinated with other operators to ensure minimal downtime.
7) Pre-start checks are conducted to site standards and manufacturer's instructions.
8) Correct size discrimination settings are set in accordance with site standards.
9) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Sort boards

1) Start-up procedures are performed for all machine areas.
2) Sorting process is run automatically and correct operation of machine, gates, conveyors and bins confirmed.
3) Flow of material through machine is maintained.
4) Boards are directed to subsequent operation according to size and grade.
5) Equipment faults are communicated and appropriate remedial action taken.
6) Routine problems with transfer of material are investigated and resolved in conjunction with other operators.
7) Machine performance is monitored to ensure board sizes sorted are consistent with machine measurement and visual assessment of boards.
8) Broken and defect boards identified are removed from machine.
9) Clearance of storage bins or trays is monitored to prevent delays to processing.
10) Regular cleaning procedures are carried out in accordance with site procedures.
11) Production and quality records are maintained in accordance with site procedures.

3 Maintain equipment

1) Equipment lockout procedures are carried out in accordance with OH&S legislation and site procedures.
2) Photo electric cells and reflectors or other switching systems are regularly cleaned and checked in accordance with site procedures.
3) Size identification mechanisms are adjusted and calibrated in accordance with site procedures.
4) Basic checking and maintenance procedures are followed in accordance with site procedures.

Range of Variables

- Timber sorted may be hardwood or softwood.
- Equipment used may include drop sorter, waterfall, unscrambler and tray sorter.
- Faults in operation may include jammed material, wrong sorting bin or overfull bins.
- Record keeping may include tally sheets, production records and QA forms.
- OH&S requirements include manual handling, operation of equipment, machine isolation and machine guarding.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for sorting boards mechanically
  - ◊ machine function and capabilities
  - ◊ industry standard cross-section and length dimensions and tolerances
  - ◊ routine problem-solving approaches
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment for sorting boards mechanically
  - ◊ plan and set up sorting equipment for a range of sizes
  - ◊ sort boards at optimum rate and while maintaining production flow
  - ◊ solve problems
  - ◊ carry out lock out procedures
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely sort boards mechanically
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement
  - ◊ check machine
  - ◊ set up sorting
  - ◊ sort boards
  - ◊ maintain equipment.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS2006A Peel and/or Debark Softwood Logs Mechanically

Description

This unit describes the work involved in the setting up of the peeling process for logs and poles, their debarking and the maintenance of a flow of production.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Set up processing of logs and poles

1) Occupational health and safety regulations, policies and procedures relevant to the peeling and/or debarking of softwood logs mechanically are to be followed throughout the application of this competency.
2) Logs or poles to be debarked are identified in accordance with site procedures.
3) Logs or poles are visually assessed.
4) Start-up checks are conducted and machine started in accordance with site procedures and manufacturer's instructions.
5) Equipment lock out procedures are applied in accordance with OH&S legislation and site procedures.
6) Debarking equipment is set up and adjusted to optimise debarking rate and quality and to produce acceptable bark chip characteristics.
7) Storage locations for each diameter range and length are selected and programmed where automated sorting equipment is incorporated in the outfeed system.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Debark logs or poles

1) Log or pole is loaded onto infeed and size and condition confirmed as acceptable for processing.
2) Conveyors and debarking equipment are operated to remove bark according to site procedures.
3) Debarked logs or poles are regularly assessed for material removal and surface finish.
4) Equipment adjustments are made to maintain finish quality.
5) Characteristics of blunt and damaged blades are recognised and problems reported in accordance with site procedures.
6) Bark condition is monitored for acceptable chip size.
7) Debarked logs or poles are directed to sorting operation.
8) Production and quality records are completed in accordance with enterprise standard procedures.

3 Maintain production flow

1) Supply of logs is co-ordinated with supervisor or log yard personnel.
2) Debarking problems relating to equipment or to specific logs are identified, and remedial action taken.
3) Material from filled storage locations or frames is moved (or movement is requested) to prevent interruption to debarking operation.
4) Conveyors are monitored for optimum material flow.
5) Area around debarker is regularly cleared of chips and dust.
6) Problems with transfer of logs, poles and bark chips are investigated and resolved.
7) Equipment faults are reported promptly and fully in accordance with site procedures.

4 Assist in maintaining debarking equipment

1) Routine maintenance of debarking equipment is planned and conducted.
2) Equipment faults are recognised from debarking equipment operation and debarked product.
3) Debarking operation and output are monitored to identify possible process improvements.
4) Assistance is provided to maintenance personnel to identify equipment faults and resolve problems.

Range of Variables

- Assessment covers diameter range, curvature, faults, species and moisture content.
- Debarking equipment may incorporate an automated diameter and length sorting system.
- Production and Quality records may include downtimes sheets, quality sheets and production sheets.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine guarding and enterprise safety policy.

Evidence Guide

Underpinning Knowledge

Explains:

◊ OH&S regulations, policies and procedures for peeling and/or debarking softwood logs mechanically
◊ requirements for material removal and surface finish
◊ how blunt debarker blade is recognised
◊ requirements for chip size of bark removed
◊ the purpose of lock out procedures
◊ the importance of accuracy
◊ the purpose of record keeping
◊ industry standard diameter ranges and length dimensions.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for peeling and/or debarking logs mechanically
  - ◊ debark full range of log sizes and species
  - ◊ identify and segregate logs on the basis of size, defects and species across the full range of features that the mill will debark
  - ◊ evaluate logs and poles and set up debarking conditions over the full range of diameters, lengths, species and moisture content which the operator will encounter
  - ◊ troubleshoot and resolve problems associated with a broad range of debarking conditions
  - ◊ record production data
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely peel and/or debark softwood logs mechanically
  - ◊ communicate effectively with others in associated areas
  - ◊ set up processing of logs and poles
  - ◊ debark logs or poles
  - ◊ maintain the production flow
  - ◊ assist in maintaining debarking equipment.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit covers the functions required for treatment plant operations including the maintenance of the plant environment, the immediate planning and preparation for treatment and the application and completion of the authorised treatment cycle.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Maintain the treatment plant environment

1) Occupational health and safety regulations, policies and procedures relevant to conducting timber treatment plant operations are to be applied throughout the application of this competency.
2) General housekeeping is completed in accordance with site procedures.
3) Equipment lock out procedures are applied in accordance with occupational, health and safety legislation and site procedures.
4) Treatment plant equipment maintenance is conducted in accordance with site procedures.
5) Records of equipment maintenance are completed and copies filed.
6) Receipt and storage of chemicals is supervised.
7) Water management procedures are applied.
8) Waste minimisation and control measures are applied.
9) Security of plant site is implemented in accordance with site procedures.

2 Plan and prepare for treatment

1) Work requirements are identified from work orders and supervisor's instructions.
2) Co-ordination activities with others involved in the operations throughout this work cycle are resolved through timely and effective communication.
3) Moisture content of timber is confirmed.
4) Preservative solution strength is confirmed as being appropriate for application.
5) Preservative solution is maintained and/or adjusted to maintain strength and volume.
6) Start up checks are conducted and equipment is prepared or started in accordance with site procedures.
7) Fault recognition reports are completed.

3 Apply timber treatment procedures

1) Appropriate treatment processes/cycles are applied.
2) Site specific plant and equipment is operated in accordance with site procedures.
3) Treatment processes are monitored.
4) Charge records are maintained throughout the cycle.

4 Complete the treatment procedure

1) Plant and equipment is shut down in accordance with site procedures.
2) Charge records are completed.
3) Effectiveness of treatment is confirmed in accordance with site procedures.
4) Chemical usage and stock records are maintained in accordance with site procedures.
5) Chemical stock levels are confirmed and reported.
6) Branding is confirmed/completed in accordance with regulatory requirements.
7) Liaison is effected with others to arrange transfer and storage of freshly treated timber.

Range of Variables

- Treatment processes may include full cell, modified full cell, empty cell, double vacuum, dip diffusion and vat and sprays and other processes developed and documented by the treatment organisation.
- Timber treated may include the full range of density, sizes and species normally encountered at the site.
- Preservatives may include water-borne, oil-based and solvent-based.
- Faults in equipment may include leaking valves, leaking pipes, leaking door, tank overflowing, faulty gauges, PLC's, pumps, computers, controls, data collection and reporting systems.
- Treatment plant operations require compliance with statutory requirements, Australian Standards and other regulations and specifications within the operator's authority.
- Waste minimisation measures may address chemical waste, wood residues, packaging residues and debris, soil, and other foreign matter.
- Water management may include stormwater, contaminated water, bore water, recycled dam water and town mains water.
- Housekeeping may include dust dirt control, tank cleaning, rail track cleaning, drip pad cleaning, sump cleaning, domestic refuse, passageway clearance and area cleaning.
- Security of plant site may include all measures to ensure integrity of the site, equipment and environmentally sensitive materials.
- Operator completed maintenance may be site specific and may include cleaning sight glasses, cleaning analytical equipment, in line filters, checking door seals, water/oil supply to vacuum pumps and temporary operational repairs.
- Work requirements - production schedules may be issued by diaries, notice boards, briefings, work group meetings and customer orders.
- Timber moisture content confirmation may include use of capacitance type meters and electrical resistance type meters.
- Preservative solution strength determination may include use of refractometer, hydrometer, titration and XRF.
- Timber presented for treatment may include green (unseasoned), air seasoned, kiln dried, steamed and boultonised.
- Treatment cycle may include the time taken for each stage of the treatment process.
- Monitoring treatment processes address the function of process compliance and may be by a range of means and technologies such as gauges, sight glasses, VDU's and chart records and computer generated outputs.
- Confirmation of effective treatment may be by net solution absorption, charge sheet retention, sampling, penetration assessment and chemical analysis.
- Branding of product may be by burn, impression (hammer), ink and tags .
- OH&S requirements include manual handling, protective clothing, breathing apparatus, personal hygiene, confined space, dealing with hazardous substances, elimination of hazards and enterprise safety policy and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies & procedures for conducting timber treatment plant operations
  - ◊ an awareness of environmental protection legislation, State and Territory regulations for treating
  - ◊ timber with preservatives
  - ◊ processing conditions during treatment
  - ◊ necessary documentation
  - ◊ basic wood properties
  - ◊ seasoning (pre-conditioning methods)
  - ◊ wood preservatives
  - ◊ fundamental treatment technologies
  - ◊ site plant and equipment
  - ◊ site waste/water policies
  - ◊ fault identification process
  - ◊ treatment standards
    - State regulation
    - appropriate Australian Standards
    - other specifications and codes of practice.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ identify and interpret signage and emergency information panels (EIP)
  - ◊ safely and effectively operate equipment and material over the full range of processes used by the enterprise for conducting timber treatment plant operations
  - ◊ maintain processing conditions during treatment
  - ◊ complete necessary documentation
  - ◊ calculate solution strength as required by site procedures
  - ◊ determine treating solution volume requirements
  - ◊ calculate charge sheet absorption
  - ◊ calculate charge sheet retention and/or solution uptake
  - ◊ test penetration where required
  - ◊ minimise charge changeover delays
  - ◊ interpret charge sheet information
  - ◊ interpret preservative reconciliation statements
  - ◊ accurately compile charge reports
  - ◊ use moisture meters
  - ◊ use various quality control equipment as is appropriate
  - ◊ apply fault identification techniques
  - ◊ follow, interpret and apply enterprise instructions.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely conduct timber treatment plant operations
  - ◊ effectively communicate in written and oral form
  - ◊ comply with EPA, State and Territory regulations
  - ◊ plan activities
  - ◊ produce properly treated material
  - ◊ minimise treatment costs
  - ◊ respond to changing circumstances within authority and scope
  - ◊ accurately complete treatment process calculations
  - ◊ accurately complete chemical stock reconciliation
  - ◊ complete the timber procedure.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the planning of sawing from individual cants or sawn edges and the production of boards.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Plan sawing process

1) Occupational health & safety regulations, policies & procedures relevant to the production of sawn green boards are to be followed throughout the application of this competency.
2) Required sawn board dimensions are identified in accordance with site procedures.
3) Number of boards to be cut from individual cants or sawn edges is estimated taking account of defects and wane.
4) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Produce boards

1) Equipment lockout procedures are carried out in accordance with OH&S legislation and site procedures.
2) Start-up checks are conducted and saw started in accordance with site procedures and manufacturer's instructions.
3) Saws and feeds are adjusted to suit dimensions and cutting sequence selected.
4) Cants or edges are positioned on infeed to cut planned sequence.
5) Saw bench is operated to saw cant or edge without damage to sawn board or saw blade.
6) Reject boards are identified.
7) Off-cuts and rejected boards are directed for waste or recovery.
8) Cants are returned and positioned for cutting to planned sequence.
9) Sawn boards are directed for further processing as required.
10) Supply of cants is co-ordinated in accordance with site procedures.
11) Conveyors are regularly monitored for material flow problems.
12) Problems and equipment faults are reported promptly and fully in accordance with site procedures.
13) Production and quality records are completed in accordance with site standards.

3 Maintain sawing conditions

1) Sawing conditions are adjusted to optimise feed rate and finish.
2) Cross-section dimensions of sawn boards are monitored with respect to standard sizes and tolerances.
3) Sawing process is adjusted to maintain accurate sizing.
4) Area around saw is regularly cleaned in accordance with site procedures.
5) Routine sawing problems are identified, investigated and resolved.
6) Characteristics of blunt and damaged saw blade are recognised.
7) Saw blade is removed and replaced in accordance with site procedures.
8) Communication with supervisor and other workers is maintained to ensure efficient work flow co-ordination and personnel co-operation.

Range of Variables

- Timber sawn may be hardwood or softwood.
- Boards produced from each set-up are of a single size.
- Equipment used may include simple saw benches necessitating significant manual handling to more complex handling arrangements utilising conveyor systems to transfer and position material, circular or band saws and edgers.
- Processes may operate without scanning technology.
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements include protective clothing, manual handling, machine guarding, dust extraction and enterprise safety policy.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for producing sawn green boards
  - ◊ typical timber defects and sawing problems which require action to be taken
  - ◊ recognition methods for blunt saws
  - ◊ routine problem-solving approaches
  - ◊ industry standard cross-section and length dimensions
  - ◊ typical cutting patterns
  - ◊ saw guide adjustment
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for producing sawn green boards
  - ◊ produce boards at optimum volume and finish quality while maintaining production flow
  - ◊ change and adjust saw blades
  - ◊ communicate effectively with others in associated production areas
  - ◊ adjust saw guide
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures
  - ◊ to solve routine sawing and material transfer problems in simulated situations.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely produce sawn green boards
  - ◊ communicate effectively with others in associated areas
  - ◊ plan sawing processes
  - ◊ produce boards
  - ◊ maintain sawing conditions.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the preparation for docking of boards with mechanical docking equipment, their cutting and the monitoring and adjustment of the process.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare for docking with mechanical feed

1) Occupational health and safety regulations, policies and procedures relevant to docking boards on mechanical feed are to be followed throughout the application of this competency.
2) Job requirements regarding sizes and lengths acceptable for further processing are obtained from order or in accordance with site procedures.
3) Start-up checks are completed according to site procedures.
4) General cross-section, length and condition of boards on conveyor is visually assessed.
5) Typical docking/cutting patterns are identified.

2 Cut boards on mechanical feed

1) Individual boards are assessed and optimal docking/cutting pattern identified.
2) Boards are positioned as required and saw(s) operated to produce selected cutting pattern.
3) Sloven ends of boards are removed.
4) Cuts are made to required lengths.
5) Cuts are made to required grade.
6) Processing faults in materials are identified and reported in accordance with site procedures.
7) Reject boards are identified and marked or removed.
8) Machine faults are reported in accordance with site procedures.
9) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

3 Monitor and correct processing

1) Feed systems are regularly monitored for material flow problems.
2) Minor feed problems are cleared.
3) Major problems and equipment faults are reported promptly and fully in accordance with site procedures.
4) Characteristics of blunt and damaged saws are recognised.
5) Equipment lock out procedures are applied in accordance with OH&S legislation and site procedures.
6) Saw blades are removed and replaced in accordance with site procedures.
7) Area around saw is regularly cleaned in accordance with site procedures.

Range of Variables

- Timber may be hardwood or softwood.
- Docking equipment may include docking and trimming saws to which boards are mechanically fed and can be moved relative to fixed saw positions, and single or multiple saw positions.
- Visual assessment may cover timber species and characteristics, timber types including as sawn, dressed, preservative treated and finger jointed, end condition, position and size of knots and other faults, and industry and enterprise standards for allowable wane, knots and other faults.
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine isolation and machine guarding.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for docking boards on mechanical feed
  - ◊ optimal docking/cutting patterns for a variety of board samples
  - ◊ types of material, feed system and machine faults and appropriate actions
  - ◊ how blunt blades are recognised
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for docking boards on mechanical feed
  - ◊ visually assess a variety of board samples
  - ◊ cut variety of boards to requirements
  - ◊ change saw blades
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely dock boards on mechanical feed
  - ◊ communicate effectively with others in associated areas
  - ◊ prepare for docking with mechanical feed
  - ◊ cut boards on mechanical feed
  - ◊ monitor and correct processing.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the identification of the design and components, the assembly of the beams and the installation of nail plates.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Identify design requirements and components

1) Production requirements are determined from schedules or supervisor's instructions.
2) Sizes of boards to be used to construct beam are determined from available information.
3) Allowable number and position of joins is determined from available information.
4) Requirements for size and placement of nail plates is determined from available information.
5) Construction plans for beam design are devised from orders, site standards or drawings and confirmed in accordance with site procedures.
6) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Lay up beams

1) Occupational health & safety regulations, policies & procedures relevant to the production of beams using nail plates are to be followed throughout the application of this competency.
2) Assembly jigs and operating procedures are identified in accordance with site procedures.
3) Prepared timber components are identified and obtained.
4) Components not meeting required quality levels are rejected for scrap or recovery in accordance with site procedures.
5) Components are laid in jig with joints, faults and grain placed to meet relevant standards and grading rules.
6) Components are stapled as necessary to maintain alignment during assembly.
7) Components are aligned and clamped using jig to site procedures.
8) Equipment faults are recognised and reported in accordance with site procedures.

3 Position and install nail plates

1) OH&S regulations, policies and precautions are followed.
2) Nail plates of required size are located on joints to site and manufacturer's standards.
3) Beam and nail plate press are positioned and plates installed using press according to site and equipment manufacturer's standards.
4) Finished beam is checked, labelled and stored.
5) Routine problems are investigated and resolved.
6) Equipment faults are recognised and reported in accordance with site procedures.
7) Production and quality records are maintained in accordance with site procedures.

Range of Variables

- Sources of design information may be supervisor's instruction, orders, enterprise standards or drawings.
- Production and Quality records may include downtime sheets, quality sheets/forms and production sheets.
- OH&S requirements include manual handling, operation of equipment, elimination of hazards and enterprise safety policy.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies & procedures for producing beams using nail plates
  - ◊ typical problems encountered and approaches used with lay up and clamping
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for producing beams using nail plates
  - ◊ select appropriate design options from information available
  - ◊ lay up beams to standards
  - ◊ operate a range of assembly jigs
  - ◊ install nail plates
  - ◊ locate, interpret and apply relevant information
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures
  - ◊ reading technical and/or diagrammatic information.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely produce beams using nail plates
  - ◊ communicate effectively with others in associated areas
  - ◊ identify design requirements and components
  - ◊ lay up of beams
  - ◊ position and install nail plates.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the preparation and operation of a chipper or hogger to chip sawmill residue.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare to operate waste system

1) Occupational health & safety regulations, policies & procedures relevant to chipping sawmill residue are to be followed throughout the application of this competency.
2) Customer/enterprise requirements for waste products are identified.
3) Machinery start-up checks are carried out to enterprise standard procedures.
4) Machines and feed systems are adjusted to produce chip size to match customer/enterprise requirements.
5) Availability of sufficient waste bins to meet job requirements is ensured.
6) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Operate waste system

1) Chipper/hogger is started following enterprise standard procedures.
2) Checks are made to ensure woodchips conform to relevant woodchip quality specifications according to order requirements and site standards.
3) Conveyor operation is monitored to ensure continuous chipping operation.
4) Chipper/hogger is shut down following site procedures.

3 Carry out routine maintenance and recording duties

1) Equipment lock out procedures are applied in accordance with OH&S legislation and site procedures.
2) Blade condition is monitored and faulty blades replaced in accordance with site procedures.
3) Machine faults are reported in accordance with site procedures.
4) Cleaning procedures which prevent build up of sawdust and other debris around waste system operations are carried out.
5) Records which detail chip output and quality are kept in accordance with site procedures.

Range of Variables

- Equipment used may be chipper or hogger using mechanised feed system.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine isolation and machine guarding.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for chipping sawmill residue
  - ◊ how blade condition is monitored and blunt blades recognised
  - ◊ the importance of accuracy
  - ◊ the purpose of lock out procedures.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for chipping sawmill residue
  - ◊ prepare, start-up, operate and shut-down waste systems to enterprise standard procedures
  - ◊ clean in the environment of the waste system
  - ◊ prepare records of chip output in accordance with enterprise requirements
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely chip sawmill residue
  - ◊ communicate effectively with others in associated areas
  - ◊ prepare to operate waste system
  - ◊ operate of the waste system
  - ◊ carry out routine maintenance
  - ◊ record information.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the assessment and control of dried boards, the monitoring of their use, their supply and their separation from timber racks for the dressing process.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Assess and control dried boards

1) Occupational health & safety regulations, policies & procedures relevant to supplying boards for dressing are followed throughout the application of this competency.
2) Use and movement of racks of boards are estimated in accordance with site procedures.
3) Racks are visually assessed for board type, size and quality.
4) Moisture content of boards is measured to site procedures.
5) Racks are stored according to board properties and planned usage.
6) Racks not meeting processing requirements are identified and rejected in accordance with site procedures.
7) Racks are tagged and inventory records maintained in accordance with site procedures.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Monitor board usage and maintain supply

1) Routine transfer problems on conveyors are identified and cleared.
2) Need to supply racks is identified by monitoring board separation equipment and infeed conveyors to dressing equipment.
3) Racks are supplied to board separation equipment consistent with size, species, schedule and continuity of dressing.
4) Dressing process size changes are identified in accordance with site procedures.
5) Boards are supplied to initiate dressing size changes at appropriate times.
6) Change points are identified in accordance with site procedures.

3 Separate boards from timber racks

1) Immediate area is checked and personnel warned of impending stack movement.
2) Racks are loaded onto separation equipment in accordance with site procedures.
3) Boards are separated and loaded onto conveyor systems using equipment to site procedures and manufacturer's instructions.
4) Bearers and other protective timber are removed and stored for return to stacking area.
5) Spacing stick removal and collection is checked for correct operation.
6) Storage of spacing sticks is monitored and cleared.
7) Empty transfer equipment is removed with minimal disruption to production.
8) Area around infeed is regularly cleared of timber scraps in accordance with site procedures.
9) Routine problems are investigated and resolved.
10) Machine faults are recognised and reported in accordance with site procedures.

Range of Variables

- Timber may be hardwood or softwood.
- Board type, size and quality assessment may include species, length to industry standard dimensions, cross-section to industry and enterprise standard dimensions, and straightness to industry and enterprise standards.
- Type of board separation may be manual and/or mechanical.
- Boards may be supplied to one or more dressing processes.
- Mechanical separation may include tilt hoist, separation area, tray, waterfall and singulator or drop slide.
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements include manual handling, use of safety equipment and protective clothing, including isolation and guarding, elimination of hazards, operation of equipment and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for supplying boards for dressing
  - ◊ the range of variables for assessing boards
  - ◊ availability and location of specific boards within storage area
  - ◊ size change procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively supply boards for dressing
  - ◊ assess boards to the noted range of variables
  - ◊ size change procedures
  - ◊ load and operate board separation equipment
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely supply boards for dressing
  - ◊ communicate effectively with others in associated areas
  - ◊ assess and control boards
  - ◊ monitor board usage
  - ◊ maintain supply
  - ◊ separate boards from timber racks.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the monitoring of an automatic storage operation, the unloading of storage bins and the provision of boards for stacking.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Monitor sorting and control storage

1) Occupational health & safety regulations, policies & procedures relevant to supplying boards for stacking are to be followed throughout the application of this competency.
2) Use and movement of boards is estimated in accordance with site procedures.
3) Storage bins are monitored and boards positioned to ensure tangles and product damage are avoided.
4) Sorting irregularities are recognised and reported to the sorter operator.
5) Storage bin indicators are recognised and interpreted.
6) Bins are unloaded to ensure minimal delay to sorter.
7) Operational problems are identified and resolved in conjunction with the appropriate personnel.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Unload storage bins and maintain stacking supply

1) Board requirements for stacker are monitored from schedules and operators.
2) Bin unloading is co-ordinated to ensure a continuous supply of boards is available to the stacker.
3) Transfer conveyors are operated to ensure board congestion is avoided.
4) Boards which cannot be stacked are moved to available storage area in accordance with site procedures.
5) Routine operational problems are recognised and resolved in conjunction with appropriate personnel.
6) Machine faults are recognised and reported in accordance with site procedures.
7) Production and quality records are completed in accordance with enterprise standard procedures.

Range of Variables

- Timber may be hardwood or softwood.
- Equipment operated will typically be that utilised for storage and transfer of boards following the sorting operation.
- Boards will cover full range of lengths and cross-sections.
- Mechanical processes may include chain deck, gantry and rotating table.
- Production and quality records may include tally sheets, downtime sheets, quality sheets/forms and production sheets.
- OH&S requirements include manual handling, use of safety equipment and clothing, elimination of hazards, operation of equipment and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for supplying boards for stacking
  - ◊ control board flow
  - ◊ disruptions to sorting and stacking operations
  - ◊ routine problem-solving approaches
  - ◊ industry standard cross-section and length dimensions
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for supplying boards for stacking
  - ◊ control board flow
  - ◊ minimise disruptions to sorting and stacking operations
  - ◊ solve routine material transfer problems in simulated situations
  - ◊ a working knowledge of the sorting system
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely supply boards for stacking
  - ◊ communicate effectively with others in associated areas
  - ◊ monitor sorting
  - ◊ control storage
  - ◊ unload storage bins
  - ◊ maintain stacking supply.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS2014A Round Softwood Logs Using Automated Processes

Description

This unit describes the work required for the rounding of logs up to 200mm in diameter. It involves planning, processing and maintaining the production flow and finalising all documentation.

Suggested Pre-Requisites

FPI OHS 1A	Follow defined occupational health & safety policies & procedures.
FPI S2002A	Assess and pre-sort timber for a production process.
FPI S2006A	Peel and/or debark softwood logs mechanically.

1 Plan and set up processing of logs

1) OH&S regulations, policies and precautions are followed throughout this process.
2) Equipment lockout operations are carried out in accordance with OH&S legislation and site procedures.
3) Work schedule is confirmed for load.
4) Scanner is calibrated in accordance with site procedures.
5) Start- up checks are conducted and machine started in accordance with site procedures and manufacturer's instructions.
6) Storage locations for each diameter range and length are selected and programmed.
7) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Round logs

1) Logs are visually assessed as being acceptable for processing and loaded into infeed.
2) Conveyors and logging equipment are monitored according to site procedures.
3) Equipment adjustments are made to maintain finish quality.
4) Characteristics of blunt and damaged knife tips are recognised and problems reported to in accordance with site procedures.
5) Log condition is monitored.
6) Rejected logs are returned to stack (dead deck) in accordance with site procedures.

3 Maintain production flow

1) Supply of logs is co-ordinated in accordance with site procedures.
2) Problems relating to equipment or to specific logs are identified and remedial action taken.
3) Material from filled storage locations or frames is moved (or movement is requested) to prevent interruption to debarking operations.
4) Conveyors are monitored for optimum material flow.
5) Area around equipment is regularly cleared for chips and dust.
6) Problems with transfer of logs are investigated and resolved.
7) Equipment faults are reported promptly and fully in accordance with site procedures.
8) Operational problems are assessed and acted on in accordance with site procedures.

4 Assist in maintaining equipment

1) Routine maintenance of equipment is planned and conducted.
2) Equipment faults are recognised from equipment operation and finished product and acted on, or reported in accordance with site procedures.
3) Log rounding operation and output are monitored to identify possible process improvements.
4) Assistance is provided to maintenance personnel to identify equipment faults and resolve problems.

5 Complete operations and handover to new shift operator

1) Production and quality records are completed in accordance with standard operating procedures.
2) Back up files are created in accordance with standard operating procedures.
3) Production and quality records are printed in accordance with site procedures.
4) Documentation is handed over in accordance with site procedures.
5) Briefing is undertaken with changeover operator.

Range of Variables

- Assessment may include diameter range, curvature, faults and species.
- The process may include tagging operations, work schedule, logs, calibration of scanner, start up checks, storage locations, trouble shooting, monitoring equipment and equipment adjustments.
- System errors may include non scanning of material (problems with scanner), calibration, tangle on line, and decks and sorting pockets and monitor failure.
- Operator maintenance may include change peeler knives or rounder knives, change shear pins, grease equipment, general housekeeping and trouble shooting.
- Production and quality records may include tally sheets, downtime sheets, quality sheets/forms and production sheets.
- OH&S requirements include; manual handling, protective clothing, elimination of hazards, machine guarding and enterprise safety policy.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for rounding softwood logs using automated processes
  - ◊ industry standard diameter ranges and length dimensions
  - ◊ the requirements for material removal and surface finish
  - ◊ how blunt debarker knife/blade is recognised
  - ◊ methods for cleaning blades and surrounds
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for rounding softwood logs using automated processes.
  - ◊ visually assess a variety of log samples
  - ◊ debark a full range of log sizes and species
  - ◊ identify and segregate logs on the basis of size, defects and species
  - ◊ change saw blades/knives/tips
  - ◊ process a variety of logs to requirements
  - ◊ set up rounding conditions over a range of diameters, lengths, species and moisture content
  - ◊ clean knives/tips and surrounds
  - ◊ enter, extract and print computer data
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely round softwood logs using automated processes
  - ◊ communicate effectively with others in associated areas
  - ◊ apply keyboard skills using a full range of functions
  - ◊ visually assess logs
  - ◊ plan and set up for processing of logs
  - ◊ round logs
  - ◊ maintain production flow
  - ◊ assist in maintaining equipment
  - ◊ complete operations and handing over to new shift operator.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the preparation for and the conduct of a post splitting operation.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare for splitting operation

1) Occupational health and safety regulations, policies and procedures relevant to splitting posts are to be followed throughout the application of this competency.
2) Required type and quantity of material for splitting is identified in accordance with site procedures.
3) Pre-operational checks are performed on machinery to site procedures.
4) Machinery is adjusted to suit size and type of timber to be processed.
5) Machinery is started in accordance with manufacturer's instructions.
6) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Maintain splitting operation

1) Posts are split in accordance with order requirements and site specifications.
2) Posts are produced at optimal rate consistent with material type, acceptable surface finish and equipment capability.
3) Sawdust removal system is monitored to ensure that waste material is effectively controlled.
4) Supply of material is co-ordinated with relevant personnel.
5) Split posts are sorted according to site requirements.
6) Characteristics of blunt saw is recognised.
7) Equipment lock out procedures are applied in accordance with OH&S legislation and site procedures.
8) Saws are changed as required and fitted according to manufacturer's instructions.
9) Routine operational problems are recognised and resolved.
10) Equipment and area is regularly cleared in accordance with site procedures.
11) Production and quality records are completed in accordance with site procedures.
12) Machine faults are recognised and reported to relevant personnel.

Range of Variables

- Equipment used for splitting may incorporate a circular or band saw and may be manually or mechanically fed.
- Posts may be of diameter and length covering the full range of material which the splitting equipment and enterprise can handle.
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements include manual handling, use of safety equipment, machine isolation and guarding, operation of equipment and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for splitting posts
  - ◊ set up and operation of splitting equipment for a range of sizes
  - ◊ recognition methods for blunt saws
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping
  - ◊ the purpose of lock out procedures.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely operate equipment and use material for splitting posts
  - ◊ set up and operate splitting equipment for a range of sizes
  - ◊ produce split products to order requirements
  - ◊ recognise and correct typical splitting problems
  - ◊ convey information in oral form
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely split posts
  - ◊ communicate effectively with others in associated areas
  - ◊ prepare for the splitting operation
  - ◊ maintain the splitting operation.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS2020A Rack or Stack Material Using Automated Processes

Description

This unit describes the work involved in the planning and building of racks/packs of timber using mechanical stacking equipment and the monitoring and recording of these.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Plan the building of packs

1) Type and quantity of material to be stacked is identified.
2) Specific pack sizes and other requirements are identified in accordance with site procedures.
3) Area for stacking is planned to site procedures.
4) Required equipment is obtained.
5) Availability and supply of material is monitored and requirements communicated in accordance with site procedures.
6) Additional material requirements are identified and obtained, according to site requirements.

2 Build packs with a mechanical stacking machine

1) Occupational health & safety regulations, policies & procedures relevant to the racking or stacking of material using automated processes are to be followed throughout the application of this competency.
2) Stacking machine is checked in accordance with manufacturer's specifications and site procedures.
3) Machine defects and damage are recognised and reported.
4) Machine is set up to produce planned pack sizes in accordance with manufacturer's specifications.
5) Packs are built from the material identified to site procedures.
6) Material of consistent type, section and length is stacked to site procedures.
7) Bearers, spacing and protective strips required for rack type are placed squarely, evenly and consistently.
8) Spacing sticks and bearers are checked for consistent thickness and damage and are discarded as necessary.
9) Routine problems are identified and remedial action taken where appropriate or problem reported in accordance with site procedures.
10) Machine faults that arise are recognised and reported in accordance with site procedures.
11) Stacking machine is shut down in accordance with manufacturer's specifications and left in a safe condition.
12) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

3 Monitor and record the building of packs

1) Material stacked is monitored for grade and quality and unacceptable components removed and stored for reprocessing.
2) Packs are finished at the correct count or dimension.
3) Finished packs are identified using written information or completed tags according to site standards.
4) Packs are checked during building to ensure material is safely stacked.
5) Finished packs are moved (or movement is requested) to maintain adequate and safe working area.
6) Number of packs built or quantity of material stacked is monitored against order or instruction and stacking operation changed at the correct time.
7) Records are completed detailing material types, sizes and quantities stacked.
8) Problems and machine faults that arise are recognised and reported in accordance with site procedures.

Range of Variables

- Timber stacked may be hardwood or softwood.
- Equipment may include semi-automatic type and automatic type.
- Material may include sawn and dried material .
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for racking or stacking material using automated processes
  - ◊ planning and communication processes associated with stacking material
  - ◊ routine problem-solving approaches
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for racking or stacking material using automated processes
  - ◊ set up and operate stacking machines
  - ◊ build packs mechanically to enterprise standards
  - ◊ complete required production records
  - ◊ identify acceptable spacing sticks and bearers
  - ◊ problem solving in simulated situations
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely rack or stack material using automated processes
  - ◊ communicate effectively with others in associated areas
  - ◊ plan the building of stacks
  - ◊ build packs with a mechanical stacking machine
  - ◊ monitor and record the building of packs.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS2021A Conduct Mechanical Stress Grading Operations

Description

This unit describes the work involved in the checking and setting of the mechanical stress grader, its operation and the monitoring of the process.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Check and set machine

1) Occupational health & safety regulations, policies & procedures relevant to mechanically stress grading of boards are to be followed throughout the application of this competency.
2) Order and schedule requirements are identified and matched to stock.
3) Correct tools and program for mechanical stress grading operation are selected.
4) Marking systems are set up for use in accordance with site procedures.
5) Set-up and pre-start checks are conducted to site procedures and manufacturer's instructions.
6) Verification boards are stored safely when not in use.
7) Correct grade threshold settings are set in accordance with site procedures.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Operate machine and monitor operations

1) Start-up procedures are performed for all machine areas.
2) Timber flow to machine is planned and co-ordinated with other operators to ensure minimal downtime.
3) Grading process is run automatically and correct operation of machine, gates and conveyors confirmed.
4) Flow of material through machine is maintained.
5) Breakdowns are communicated and appropriate remedial action taken.
6) Routine problems with transfer of material are investigated and resolved in conjunction with other operators.
7) Appearance of grade marking on boards is regularly checked to standards.
8) Machine performance is monitored to ensure grades marked are consistent with machine measurement and visual assessment of boards.
9) Samples for independent testing are prepared in accordance with site requirements and relevant standards.
10) Production and quality records are maintained in accordance with site procedures.

3 Maintain equipment

1) Basic checking and maintenance procedures are followed in accordance with enterprise standard procedures.
2) Required machine calibrations are performed in accordance with site procedures.
3) Mechanical stress grader rollers, feed and load pressure are adjusted to required settings in accordance with enterprise standard procedures.
4) Housekeeping requirements, including the cleaning and maintenance of the work area, is carried out regularly.

Range of Variables

- Machines used may be mechanical stress grader or high-speed mechanical grader.
- Timber graded may be hardwood or softwood.
- Visual and mechanical grading standards to relevant industry standards may include AS2082, AS2858 or AS/NZS 174B MGP GRADE AS174B and enterprise standards.
- Timber is graded for species, characteristics and board form.
- Calibration methods may include measuring, recording and adjusting.
- Maintenance requirements may include clean and checking of photo-electric cells, reflectors or other switching systems, the regular testing of spray guns, and the regular checking and maintenance of dye levels.
- Records may include production, quality and calibration.
- OH&S requirements include manual handling, operation of equipment, machine isolation and machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for mechanically stress grading boards
  - ◊ machine function and capabilities
  - ◊ industry standard cross-section and length dimensions and tolerances
  - ◊ routine problem-solving approaches
  - ◊ the importance of accuracy
  - ◊ the importance of industry standards for stress tolerance.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for mechanically stress grading boards
  - ◊ plan and set up grading equipment for specific products
  - ◊ grade boards at optimum rate while maintaining production flow
  - ◊ communicate effectively with others in associated production areas
  - ◊ solve problems in process situations.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely mechanically stress grade boards
  - ◊ communicate effectively with others in associated areas
  - ◊ check and set machine
  - ◊ operate machine
  - ◊ monitoring grading
  - ◊ maintain equipment.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams		•	
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology	•		

Description

This unit describes the work involved in the reception of logs, their measurement and estimation of weight or volume, the recording of details and the direction of trucks for unloading.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Determine log weights or volumes

1) Occupational health & safety regulations, policies & procedures relevant to measuring and recording log deliveries are to be followed throughout the application of this competency.
2) Length and average diameter or circumference of logs are measured using a measuring tape.
3) Log data and estimated weights or volumes are recorded accurately and legibly on standard documents.
4) Log species, size and quality acceptable for delivery are identified.
5) Trucks delivering loads are identified, documents checked and logs confirmed as suitable for delivery.
6) Logs delivered with measurement, quality or other deficiencies noted during visual assessment are isolated and referred for supplier or agency inspection in accordance with site procedures.
7) Configuration of load conforms with site standards.
8) Weight or volume of each log in the load is calculated and recorded with type of logs delivered as required by site procedures.
9) Confirmation of delivery record is obtained from truck driver.
10) Records of deliveries are summarised and provided to management and log yard personnel as required.
11) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Direct trucks for unloading

1) Trucks are directed to unloading areas appropriate to the logs delivered.
2) Truck movements are monitored to identify those on site and attend to drivers' needs equitably.

Range of Variables

- Logs and species received may be hardwood or softwood.
- Aids provided may include formulae, data tables and calculator.
- Visual assessment may include species, defects, length to industry standard dimensions and diameter within industry standard ranges.
- Documents may include weighbridge docket(s), tally sheets and order docket.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, vehicle loading safety requirements and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for receiving and measuring logs
  - ◊ industry standard diameter ranges and length dimensions
  - ◊ log yard layout and unloading areas
  - ◊ enterprise standards for load configuration
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates ability to:
  - ◊ safely measure and record log deliveries
  - ◊ segregate logs on the basis of size, defects and species across the range of features which the mill will encounter
  - ◊ measure logs to enterprise standards
  - ◊ calculate and record log volumes or weights
  - ◊ store logs consistently within each location
  - ◊ minimise handling to meet sawing schedules and stock rotation requirements
  - ◊ identifies companies, personnel and trucks delivering logs
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical processes
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely measure and record logs
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement
  - ◊ determine log weights or volumes
  - ◊ direct trucks for unloading.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in preparing logs and flitches for sawing, setting up the processing of logs, breaking down logs to flitches and cants and maintaining the production flow and sawing conditions.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare logs and flitches for sawing

1) Occupational health & safety regulations, policies & procedures relevant to sawing logs are followed throughout the application of this competency.
2) Pre-start-up checks are completed on sawing and transfer equipment in accordance with enterprise and manufacturer's procedures.
3) Equipment is started, checked and adjusted in accordance with site and manufacturer's procedures.
4) Logs to be cut are identified in accordance with site procedures.
5) Log or flitch surface is cleared of debris likely to cause saw damage.
6) Log or flitch is orientated and aligned with saw in accordance with site procedures.
7) Log or flitch is secured with dogs with minimal damage to timber.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Break down logs to flitches and cants

1) Logs and flitches are evaluated to plan optimum volume and quality of recovery taking account of all characteristics.
2) Evaluation of logs presenting unusual characteristics is referred in accordance with site procedures.
3) Planning process incorporates material orders presented in accordance with site procedures.
4) Appropriate sawing technique is selected for each log consistent with equipment used and site procedures.
5) Position and sequence of cuts is planned.
6) Logs or flitches are positioned on infeed to cut planned sequence.
7) Sawing equipment is operated to saw log or flitch without damage to sawn flitch or saw blade.
8) Sawn edges are directed for waste or recovery.
9) Flitches are returned and positioned for cutting to planned sequence.
10) Defects revealed in logs or flitches are recognised and necessary adjustments made.
11) Production and quality records are completed in accordance with enterprise standard procedures.

3 Maintain production flow

1) Flitches are produced with regard to current resawing operations, available logs, orders and schedules.
2) Log supply is co-ordinated with log yard personnel.
3) Routine problems with transfer of material are investigated and resolved.
4) Equipment faults are reported to supervisor or maintenance personnel promptly and fully.

4 Maintain sawing conditions

1) Sawing feed rates and finish are evaluated considering log or flitch size, timber species and condition.
2) Sawing conditions are adjusted to optimise feed rate and finish.
3) Area around saw is regularly cleaned in accordance with site procedures.
4) Routine sawing problems are identified, investigated and resolved.
5) Characteristics of blunt and damaged saw blade are recognised.
6) Equipment lock out procedures are applied in accordance with OH&S legislation and site procedures.
7) Saw blade is removed and replaced in accordance with site procedures.

Range of Variables

- Log characteristics may include defects, species, diameter, curvature, taper and moisture content.
- Logs sawn will cover the full range of diameters and species normally produced by the mill.
- Logs may be recovered to optimise volume or value.
- Processes may operate with or without scanning technology.
- Equipment used may include simple saw benches necessitating significant manual handling of logs and flitches, complex handling arrangements utilising conveyor systems to transfer and position material, standard three headed dog carriage, flat top carriage with head rig, over head frame saw, and circular or band saws including single, twin, single edges and twin edges.
- Production and quality records may include tally sheets, downtime sheets, quality sheets/forms and production sheets.
- OH&S requirements include protective clothing, manual handling, machine guarding, dust extraction and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for sawing logs
  - ◊ recognition methods for blunt saws and/or chippers
  - ◊ routine problem-solving approaches
  - ◊ industry standard cross-section and length dimensions
  - ◊ sawing techniques and cutting patterns relevant to available equipment
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for sawing logs
  - ◊ prepare, secure and handle logs and flitches through a repeated sawing process
  - ◊ sort and segregate sawn edges and finished cants
  - ◊ break down logs with optimum volume recovery and finish quality
  - ◊ maintain production flow
  - ◊ change saw blades
  - ◊ solve routine sawing and material transfer problems in simulated situations
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely saw logs
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement
  - ◊ prepare logs and flitches for sawing
  - ◊ break down logs to flitches and cants
  - ◊ maintain the production flow
  - ◊ maintaining sawing conditions.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams			
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the setting up of the sawing process, the selection of cutting patterns, the breaking down of cants and the maintenance of production and conditions.

Suggested Pre-Requisites/Co-Requisites

FPI OHS 1A Follow defined occupational health & safety policies & procedures.
FPI S2 008 Produce sawn green boards.

1 Set up processing of boards

1) Occupational health & safety regulations, policies & procedures relevant to producing sawn green boards are to be followed throughout the application of this competency.
2) Pre-start-up checks are completed on sawing and transfer equipment in accordance with site and manufacturer's procedures.
3) Equipment is started, checked and adjusted in accordance with site and manufacturer's procedures.
4) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Select cutting patterns to optimise volume recovery

1) Cutting requirements and patterns are identified by communication with breaking down sawyers.
2) Cants are evaluated taking account of all characteristics.
3) Optimal cutting pattern is selected for each cant from standard range of patterns.
4) Cutting patterns selected satisfy orders and schedules presented in accordance with site procedures.

3 Saw boards from cants at maximum rate

1) Saws, carriage and feeds are adjusted to suit sawing pattern selected.
2) Cants are positioned on infeed to cut planned sequence.
3) Saw bench is operated to saw cant without damage to sawn board or saw blade.
4) Reject boards are identified.
5) Off-cuts and rejected boards are directed for waste or recovery in accordance with site procedures.
6) Cants are returned and positioned for cutting to planned sequence.
7) Defects in timber or sawing problems are recognised and necessary adjustments made.
8) Sawn boards are directed for further processing with regard to size, species and current processing activity.
9) Production and quality records are completed in accordance with enterprise standard procedures.

4 Maintain production flow

1) Boards are produced with regard to current resawing operations, available cants, orders and schedules.
2) Material supply is co-ordinated with breaking down sawyers.
3) Conveyors are regularly monitored for material flow problems.
4) Routine problems with transfer of material are investigated and resolved.
5) Equipment faults are reported to supervisor or maintenance personnel promptly and fully in accordance with site procedures.

5 Maintain sawing conditions

1) Sawing feed rates and finish are evaluated and adjusted considering cant and board size, timber species and condition.
2) Sawing conditions are adjusted to optimise feed rate and finish.
3) Cross-section dimensions of sawn boards are monitored with respect to standard sizes and tolerances.
4) Sawing process is adjusted to maintain accurate sizing.
5) Area around saw is regularly cleaned in accordance with site procedures.
6) Routine sawing problems are identified, investigated and resolved.
7) Characteristics of blunt and damaged saw blade are recognised.
8) Equipment lock out procedures are applied in accordance with OH&S legislation and site procedures.
9) Saw blade is removed and replaced in accordance with site procedures.

Range of Variables

- Timber sawn may be hardwood or softwood.
- Equipment used may include simple saw benches necessitating significant manual handling of cants , conveyor systems to transfer and position material, circular or band saws and single and multiple blades.
- Processes may operate with or without scanning technology.
- Production and quality records may include tally sheets, downtime sheets, quality sheets/forms and production sheets.
- OH&S requirements include protective clothing, manual handling, machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for producing sawn green boards
  - ◊ produce boards at optimum volume, rate and finish quality while maintaining production flow
  - ◊ change saw blades
  - ◊ typical timber defects and sawing problems which require action to be taken
  - ◊ recognition methods for blunt saws
  - ◊ industry standard cross-section and length dimensions
  - ◊ sawing techniques and cutting patterns relevant to available equipment
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for producing sawn green boards
  - ◊ produce boards at optimum volume, rate and finish quality while maintaining production flow
  - ◊ change saw blades
  - ◊ solve routine sawing and material transfer problems in simulated situations
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical processes
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely produce sawn green boards
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement
  - ◊ set up processing of boards
  - ◊ select cutting patterns
  - ◊ saw boards from cants
  - ◊ maintain the production flow
  - ◊ maintain sawing conditions.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the preparation, docking and cutting boards to suit beams. It also involves the work involved in laying up and clamping beams and joining timber components.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare for production

1) Occupational health & safety regulations, policies & procedures relevant to producing laminated beams are to be followed throughout the application of this competency.
2) Type and quantity of glue to be prepared are determined from scheduled requirements and in accordance with site procedures.
3) Required quantities of glue are obtained.
4) Glue handling requirements are reviewed and necessary precautions followed.
5) Glue is mixed to site procedures ensuring minimum wastage.
6) Excess material is disposed of in accordance with relevant environmental policies and requirements.
7) Mixing equipment is cleaned to site procedures.
8) Equipment faults are recognised and reported in accordance with site procedures.
9) Production and quality records are maintained in accordance with site procedures.
10) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Prepare for docking

1) Start- up checks are carried out in accordance with site procedures and manufacturer's instructions.
2) Condition of boards is visually assessed.
3) Moisture content of boards is checked in accordance with site procedures.
4) Optimal docking/cutting patterns are identified including scarf and straight cuts.

3 Cut boards to suit beams

1) Equipment lock out operations are applied in accordance with OH&S legislation and site procedures.
2) Unacceptable faults are removed from boards.
3) Straight and scarf cuts are made to required length.
4) Cut boards are segregated according to length and marked in accordance with site procedures.
5) Machine faults are reported in accordance with site procedures.
6) Production and quality records are maintained in accordance with site procedures.

4 Lay up beams

1) Production requirements are determined from schedules in accordance with site procedures.
2) Assembly jigs and jig operating procedures are identified and accessed from site procedures.
3) Prepared timber components are identified and obtained.
4) Glue spreader is set to apply even coating to components in accordance with site requirements.
5) Continuous glue line is applied to components with minimum wastage.
6) Components are laid in jig with joints, faults and grain placed to meet relevant standards and grading rules.
7) Glue spreader is monitored, cleaned and filled to ensure continuity of supply.
8) Routine problems are investigated and resolved.
9) Equipment faults are recognised and reported in accordance with site procedures.

5 Clamp beams

1) Press is started and controls and operation checked in accordance with standard operating procedures.
2) Press is set to accept prepared jigs/beams.
3) Jigs/beams are positioned in press with correct orientation.
4) Load and heat are applied to beams in accordance with site procedures.
5) Beam is checked, removed from press and stored for finishing.
6) Jig and press are cleaned to ensure continued correct functioning.
7) Routine problems are investigated and resolved.
8) Equipment faults are recognised and reported in accordance with site procedures.
9) Production and quality records are maintained in accordance with site standards.
10) Samples of glued components are collected for testing.

Range of Variables

- Timber may be hardwood or softwood.
- Docking equipment may include manually operated docking and trimming saw types, straight and scarf dockers and saws with one blade.
- Movement of partly processed and finished products may be around mill and to/from other sites across private and public properties.
- Other personnel consulted may include mill operation personnel including those involved in material handling and transport personnel including other enterprises.
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements include manual handling, protective clothing, use of safety equipment, dealing with hazardous substances, operation of equipment, machine isolation, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for producing laminated boards
  - ◊ optimal docking/cutting patterns for a variety of board samples
  - ◊ how blunt blades are recognised
  - ◊ sources of information on glue handling including:
    - supervisor's instructions
    - material safety data sheets
  - ◊ standards and grading rules
  - ◊ enterprise requirements, including those for appearance
  - ◊ standard setting and operating procedures including enterprise standard procedures and equipment
  - ◊ manufacturer's instructions
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for producing laminated boards
  - ◊ co-ordinate the supply of boards
  - ◊ cut a variety of boards to standards
  - ◊ change saw blades
  - ◊ mix glue to standards
  - ◊ join scarfed boards
  - ◊ apply correct glue quantities
  - ◊ lay up beams to standards
  - ◊ operate a range of assembly jigs
  - ◊ load beams to standards
  - ◊ maintain clean operating conditions
  - ◊ locate, interpret and apply relevant information
  - ◊ reading technical and/or diagrammatic information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely produce laminated boards
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement
  - ◊ prepare for production
  - ◊ prepare for docking
  - ◊ cut boards to suit beams
  - ◊ lay up beams
  - ◊ clamp beams.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS2026A Select and Co-ordinate Machine and Saw Shop Supplies

Description

This unit describes the work involved in the determination of stocks and usages and the arranging of required supplies.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Determine stocks and usages

1) Occupational health & safety regulations, policies & procedures relevant to selecting and co-ordinating machine and saw shop supplies are to be followed throughout the application of this competency.
2) Stocks of saw shop consumables required to maintain operation of mill on daily basis are maintained.
3) Records are maintained of saw shop stocks, receipts and issues from stocks in accordance with site procedures.
4) Sufficient stock is held to meet the reorder and delivery period for replacement stock.
5) Stocks not being used are disposed of in accordance with site procedures.

2 Organise supplies

1) Sources of supply are determined according to site procedures.
2) Evaluation of alternative sources is made in conjunction with other personnel in accordance with site procedures.
3) Quantities of stock are requisitioned/ordered to site procedures to maintain adequate but not excess stock.
4) Deliveries of stock are checked to ensure correct goods and quantities have been delivered.
5) Advice of deliveries is given for accounting purposes to site procedures.
6) Machine and saw shop supply records are completed in accordance with site procedures.

Range of Variables

- Supplies may include the full range of consumables for operation of saw shop.
- Stock level considerations may include length of ordering/delivery time, variations in usages, importance of item in maintaining mill operations, quantity discounts, and stock security arrangements.
- Record keeping may include tally sheets, quality sheets/forms, production sheets, delivery dockets, stock dockets and order dockets.
- OH&S requirements include protective clothing and equipment, manual handling, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for selecting and co-ordinating machine and saw shop supplies
  - ◊ enterprise stock control, purchasing and related accounting procedures
  - ◊ basic stock control theory
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrate the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for selecting and co-ordinating machine and saw shop supplies
  - ◊ evaluate stock holdings
  - ◊ requisition/reorder and receipt stock
  - ◊ stock control, issue and secure procedures
  - ◊ locate, interpret and apply relevant information
  - ◊ convey information in oral form
  - ◊ select appropriate mathematical process
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely select and co-ordinate machine and saw shop supplies
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement
  - ◊ determine stocks and usages
  - ◊ organise supplies.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the preparation of timber racks for processing, loading low temperature kilns, the monitoring and controlling of kiln conditions and processing of timber and unloading kilns.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare timber racks for drying

1) Occupational health & safety regulations, policies & procedures relevant to the drying of timber are to be applied throughout the application of this competency.
2) Racks to be dried are visually checked and adjusted to meet site requirements.
3) Moisture content is determined in accordance with site procedures.
4) Racks containing materials of consistent drying characteristics are prepared to load each kiln.
5) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Load kilns

1) Kiln is loaded with racks selected for processing.
2) Baffles and/or blankets are positioned to site requirements.
3) Adjustments are made to kiln control settings to satisfy processing conditions according to site procedures.
4) Completion of loading process is confirmed and reported according to site procedures.

3 Monitor and control kiln conditions and drying of timber

1) Control settings are routinely checked and adjusted to site drying schedules.
2) Moisture content in timber is routinely checked and compared with anticipated levels according to site requirements.
3) Problems with drying process are identified, investigated, resolved and/or reported.
4) Alarms triggered by kiln monitoring equipment are checked promptly, problems confirmed and emergency procedures followed.
5) Clear and accurate records are maintained of kiln conditions and adjustments.
6) Routine minor maintenance and housekeeping procedures are regularly carried out on and around kilns.

4 Unload kilns

1) Drying end point is confirmed.
2) Kiln is made safe for entry.
3) Kiln is opened and moisture content of processed timber is confirmed according to site procedures.
4) Moisture probes and baffles, where used, are removed from timber, and racks are removed and stored.
5) Production and quality records are completed in accordance with site procedures.
6) Processed racks are tagged or marked in accordance with site procedures.

Range of Variables

- Low temperature kilns are those which operate up to approximately 60 - 70°C, with heat source which may be solar, electricity or gas.
- Visual assessment of racks may include stability, spacing of strips, and support to minimise warping.
- Processing cycles may include drying and reconditioning.
- Moisture tests may include capacitance, resistance and ovendry.
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements may include; manual handling, protective clothing, elimination of hazards, working in high temperature environments, confined space, toxic atmosphere and enterprise safety policy.

Evidence Guide

Underpinning Knowledge

- Explains
  - ◊ OH&S regulations, policies and procedures relevant for the drying of timber
  - ◊ processing conditions with minimal lost time on operating kilns
  - ◊ the monitoring process using common cycles
  - ◊ how accurate moisture readings are undertaken
  - ◊ how records are maintained
  - ◊ typical problems encountered with racks, kilns and processing
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and handle material to dry timber
  - ◊ maintain processing conditions with minimal lost time on operating kilns
  - ◊ monitor processing using common cycles
  - ◊ obtain accurate moisture readings
  - ◊ maintain records
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely dry timber
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare timber racks for drying
  - ◊ load kilns
  - ◊ monitor and control kiln conditions and drying of timber
  - ◊ unload kilns.

Interdependent Assessment of Unit

This unit will normally need to be assessed as a discrete/stand alone competency.

Assessment context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology	•		

FPIS3033 A Dismantle, Transport and Assemble Hand Portable Sawmill

Description

This unit describes the work involved in the dismantling, transporting and assembly of a hand portable sawmill.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Dismantle hand portable sawmill

1) Occupational health & safety regulations, policies & procedures relevant to the dismantling, transporting and assembly of a hand portable sawmill are to be followed throughout the application of this competency.
2) Sawmill is disassembled in accordance with manufacturer's instructions and enterprise requirements.
3) Individual task responsibilities are identified.
4) Sequence of dismantling activities is identified and progressively observed.
5) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Apply environment protection measures

1) Forest operational plans are followed.
2) Legal and other site environment protection measures, including those related to soil and water protection, are identified and applied at all times.
3) Operations are modified to ensure appropriate environment protection during wet or other adverse weather conditions.

3 Load, transport and unload hand portable sawmill

1) An appropriate method of transport is chosen according to site location, environment, manufacturer's instructions and job requirements.
2) Dismantled sawmill machinery is loaded for transportation and secured in accordance with manufacturer's instructions.
3) Sawmill is transported to the new location by the chosen means, being checked periodically for security and stability.
4) Sawmill machinery is unloaded in accordance with manufacturer's instructions and site, safety and job requirements.

4 Prepare site and assemble hand portable sawmill

1) The proposed new work site is inspected to identify potential hazards and any interference to work flow and to address them.
2) Sites for logs and stacking of finished products and waste are assessed and chosen to optimise efficient and safe work practices and minimise environmental impact.
3) Site is made safe and cleared of obstacles.
4) Logs to be sawn are positioned by using such equipment as cant hooks and/or winches and/or log rollers to be clear of obstacles and be accessible for movement to the saw.
5) Logs are to be stabilised by using appropriate methods such as chock logs and pre-notched runners and cleared of debris likely to cause saw damage.
6) Sawmill is assembled in accordance with manufacturer's instructions and enterprise requirements and aligned with log(s).
7) Task requirements, including quality measures and sequence of activities are identified.

Range of Variables

- Hand portable sawmills can be collocated with a tree harvesting operation.
- Logs will cover the full range of species, size and conditions to be encountered in local harvesting operations, and may be softwood or hardwood.
- Saw is normally a single circular blade saw.
- Saw has ability to swing between 90º and 180º.
- Hand portable sawmill will normally be operated by a team of two, requiring no supervision in their operation, although coordination will be required with other work site activities.
- Hand portable sawmill can be assembled to saw either single logs or stack(s) of logs.
- OH&S requirements include use of protective and high visibility clothing, use of safety equipment, manual handling, machine guarding, control of hazards and maintenance of safe forest practices including location of other people and potential falling objects and required actions relating to forest fire.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures relating to portable sawmills
  - ◊ environmental protection requirements and measures
  - ◊ requirements of a hand portable sawmill site
  - ◊ reasons for log selection and placement
  - ◊ typical problems encountered and ways of overcoming
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely dismantle, transport and assemble a portable mill
  - ◊ address hazards associated with the task
  - ◊ disassemble, load, pack, secure for transport, align and assemble portable sawmill
  - ◊ assess a range of sites and conditions
  - ◊ set up an effective, safe and environmentally sound site
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely dismantle, transport and assemble hand portable sawmill
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ dismantle hand portable sawmill
  - ◊ apply environment protection measures
  - ◊ load, transport and unload hand portable sawmill
  - ◊ prepare site and assemble hand portable sawmill.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams		•	
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology		•	

FPIS3034A Produce Sawn Green Boards With Hand Portable Sawmill

Description

This unit describes the work involved in the production of sawn green boards using a hand portable sawmill.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Set up processing of boards

1) Occupational health & safety regulations, policies & procedures relevant to the production of sawn green boards using a hand portable sawmill are to be followed throughout the application of this competency.
2) Pre-start up checks are conducted on sawing equipment in accordance with site and manufacturer's procedures.
3) Equipment is started, checked and adjusted in accordance with enterprise and manufacturer's procedures.
4) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Apply environment protection measures

1) Forest operational plans are followed.
2) Legal and other site environment protection measures, including those related to soil and water protection, are identified and applied at all times.
3) Operations are modified to ensure appropriate environment protection during wet or other adverse weather conditions.

3 Plan sawing process

1) Required sawn board dimensions are identified from customer orders, work orders or site procedures.
2) Number of boards to be cut from an individual log is estimated taking account of defects and wane.
3) Sequence of cuts is planned to optimise recovery and taking into account log characteristics and job requirements.

4 Saw boards

1) Start up checks are conducted and saw started in accordance with site and manufacturer's instructions.
2) Cutting technique and type of cut are selected to optimise recovery.
3) Saw, carriage and mill are adjusted to suit dimensions of board and required technique selected for each cut according to manufacturer's instructions.
4) Saw is operated to saw log without damage to sawn board or saw blade.
5) Sawn edges are controlled by sawing method.
6) Sawn edges are separated into recoverable categories and waste and placed in correct location for transfer.
7) Area around saw is kept clear of off cuts, wedges and other material.
8) Reject boards and off-cuts are identified and directed to waste or recovery.
9) Defects in log, timber and/or sawing problems are recognised and necessary adjustments made.
10) Problems and equipment faults are reported to supervisor promptly and in full.
11) Production and quality records are completed in accordance with enterprise standards.

5 Evaluate sawing conditions

1) Saw rate, mill adjustments and finished boards are evaluated considering board size, timber species and condition.
2) Sawing conditions are adjusted to finish required.
3) Cross section dimensions of sawn boards are monitored with respect to standard sizes and tolerances.
4) Sawing process is adjusted to maintain accurate sizing.
5) Area around saw is cleaned regularly in accordance with site procedures.
6) Routine sawing problems are identified, investigated and resolved.
7) Characteristics of blunt and damaged saw blades are recognised.
8) Saw blade is sharpened or removed and replaced in accordance with manufacturer's instructions and site procedures.

6 Remove finished products and waste

1) Sawn material is moved by manual or mechanical means with minimal environmental impact for transfer, recycling or appropriate disposal.
2) Sawn material is transferred to maintain clear working area and support sawing needs.
3) Required production records are completed to site procedures.

Range of Variables

- Hand portable sawmills may be collocated with a tree harvesting operation.
- Logs may cover the full range of species, size and conditions to be encountered in local harvesting operations, and may be softwood or hardwood.
- Saw may be a single circular blade saw with ability to swing between 90^{o} and 180^{o}.
- Hand portable sawmill may be operated by a small team of two, requiring no supervision in their operation, although coordination may be required with other work site activities.
- Production and Quality records may include downtime sheets, quality sheets/forms and production sheets.
- OH&S requirements include use of protective and high visibility clothing, manual handling, machine guarding, use of safety equipment, control of hazards and maintenance of safe forest practices including location of other people and potential falling objects and required actions relating to forest fire.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures relating to producing sawn green boards with hand portable sawmills
  - ◊ environmental protection requirements and measures
  - ◊ typical timber defects and sawing problems
  - ◊ methods of recognising blunt saws
  - ◊ board sawing process, indicating typical problems and solutions.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely produce sawn green boards with hand portable sawmills
  - ◊ address hazards associated with the task
  - ◊ produce boards at optimal volume and finish quality while maintaining production flow
  - ◊ remove and replace sawblades
  - ◊ transfer finished product and waste
  - ◊ operate an effective, safe and environmentally sound process
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely produce sawn green boards with hand portable sawmill
  - ◊ produce boards at optimal volume and finish quality
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ set up processing of boards
  - ◊ apply environmental protection measures
  - ◊ plan sawing process
  - ◊ evaluate sawing conditions
  - ◊ remove finished products and waste.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS3035A Dry Timber in Conventional and High Temperature Kilns

Description

This unit describes the work involved in the preparation of timber racks for processing, loading conventional and high temperature kilns, the monitoring and controlling of kiln conditions and processing of timber and unloading kilns.

Suggested Pre-Requisite:

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare timber racks for drying

1) Occupational health & safety regulations, policies & procedures relevant to the drying of timber are to be applied throughout the application of this competency.
2) Equipment lockout and tagging operations are carried out in accordance with OH&S legislation and enterprise procedures.
3) Racks to be dried are visually checked and adjusted to meet site requirements.
4) Weights to minimise warping are placed on to rack as required.
5) Moisture content is determined in accordance with site procedures.
6) Racks containing materials of consistent drying characteristics are prepared to load each kiln.
7) Racks identified for each load are selected to maximise use of kiln space.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Load kilns

1) Kiln is loaded with racks selected for processing.
2) Baffles and/or blankets are positioned to site requirements.
3) Adjustments are made to kiln control settings to satisfy processing conditions according to site procedures.
4) Completion of loading process is confirmed and reported according to site procedures.

3 Monitor and control kiln conditions and drying of timber

1) Control settings are routinely checked and adjusted to site drying schedules.
2) Moisture content in timber is routinely checked and compared with anticipated levels according to site requirements.
3) Problems with drying process are identified, investigated, resolved and/or reported.
4) Alarms triggered by kiln monitoring equipment are checked promptly, problems confirmed and emergency procedures followed.
5) Clear and accurate records are maintained of kiln conditions and adjustments.
6) Routine minor maintenance and housekeeping procedures are regularly carried out on and around kilns.

4 Unload kilns

1) Drying end point is confirmed.
2) Kiln is shut down or conditions reset according to site procedures to enable safe entry.
3) Kiln is opened and moisture content of processed timber is confirmed according to site procedures.
4) Moisture probes and baffles are removed from timber, and racks are removed and stored.
5) Production and quality records are completed in accordance with site procedures.
6) Processed racks are tagged or marked in accordance with site procedures.

Range of Variables

- Conventional and high temperature kilns are those which operate at approximately 60 - 70°C or above and where the heat source may be steam, hot-oil or gas.
- Visual assessment of racks may include stability, spacing of strips, and support to minimise warping.
- Processing cycles may include drying and reconditioning.
- Moisture tests may include capacitance, resistance and ovendry.
- Record keeping may include tally sheets, quality sheets/forms and production sheets.
- OH&S requirements may include manual handling, protective clothing, elimination of hazards, working in high temperature environments, confined space, toxic atmosphere and enterprise safety policy.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures relevant for the drying of timber
  - ◊ processing conditions with minimal lost time on operating kilns
  - ◊ the monitoring process using common cycles
  - ◊ how accurate moisture readings are undertaken
  - ◊ how records are maintained
  - ◊ typical problems encountered with racks, kilns and processing
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and handle material to dry timber
  - ◊ maintain processing conditions with minimal lost time on operating kilns
  - ◊ monitor processing using common cycles
  - ◊ obtain accurate moisture readings
  - ◊ maintain records
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely dry timber
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare timber racks for drying
  - ◊ load kilns
  - ◊ monitor and control kiln conditions and drying of timber
  - ◊ unload kilns.

Interdependent Assessment of Unit

This unit will normally need to be assessed as a discrete/stand alone competency.

Assessment context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams		•	
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology	•		

Description

This unit describes the work involved in the safe starting of a steam boiler.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Maintain health & safety standards in work area

1) Occupational health & safety regulations, policies & procedures relevant to starting a steam boiler are to be followed throughout the application of this competency.
2) Hazards and potential hazards in work area are identified in accordance with statutory requirements and site procedures.
3) Hazards are reported in accordance with statutory requirements and site procedures.
4) Prevention/control measures are selected in accordance with the hierarchy of hazard control.
5) Personal protective clothing and equipment is selected for use, ensuring statutory requirements and workplace procedures are followed.
6) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Perform pre-operational safety checks

1) Pre-operational safety checks of boiler are conducted in accordance with statutory requirements, manufacturer's recommendations and plant operating procedures.
2) Maintenance requirements are identified and reported in accordance with site procedures.
3) Decision to operate boiler is made in light of pre-operational checks and any outstanding maintenance requirements.

3 Start boiler

1) Start-up checks are conducted according to site procedures.
2) Boiler is started and brought on line safely in accordance with statutory requirements, manufacturer's recommendations and site procedures.
3) Maintenance requirements are identified and reported in accordance with site procedures.
4) Continued operation of boiler is assessed in light of checks, maintenance requirements and operating conditions.

Range of Variables

- Boiler operations and maintenance must meet statutory requirements in the applicable State/Territory.
- Scope of boiler operations may include boiler liquid/vapour restricted to water/steam, type of fuel and fuel supply system, and boiler operations in conjunction with or separate from other plant and operations.
- The hierarchy of hazard control measures may include elimination (e.g. insulation of sources of thermal hazards), substitution, isolation and engineering control measures being selected before safe work practices and personal protective clothing.
- OH&S requirements include protective clothing and equipment, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies & procedures for starting a steam boiler
  - ◊ boiler operations according to statutory requirements
  - ◊ safety requirements
  - ◊ current State/Territory OH&S legislation, standards and codes of practice
  - ◊ workplace communication procedures.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for starting a steam boiler
  - ◊ undertake pre-operational and start-up procedures
  - ◊ select and use personal protective clothing and equipment
  - ◊ carries out inspection procedures as specified in the manufacturer's instructions and workplace procedures
  - ◊ start-up the boiler
  - ◊ identify maintenance requirements
  - ◊ apply the hierarchy of hazard control measures
  - ◊ carry out workplace communication procedures
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely start a steam boiler
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ maintain health and safety standards in the work area
  - ◊ perform pre-operational safety checks
  - ◊ start boiler.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the safe take/hand over of a steam boiler and the monitoring of its operation, including maintenance and safety aspects.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Conduct take/hand over procedures for boiler

1) Occupational health & safety regulations, policies & procedures relevant to operating and monitoring a boiler are to be followed throughout the application of this competency.
2) Operational status and recent boiler performance is communicated clearly with others in the workplace, according to site procedures.
3) Operating status of boiler is diagnosed from audible, visual and written information.
4) Operating log is maintained clearly and accurately, in accordance with statutory requirements and site procedures.

2 Monitor boiler operation

1) Boiler is operated to manufacturer's recommendation and site procedures.
2) Boiler operation and status is monitored in accordance with statutory requirements, manufacturer's recommendations and site procedures.
3) Boiler water quality tests are conducted in accordance with manufacturer's and chemical/test supplier recommendation and site procedures.
4) Boiler is adjusted as a result of tests to meet manufacturer's and workplace criteria.
5) Boiler house chemicals are stored, recorded and handled in accordance with statutory requirements, manufacturer's recommendations and site procedures.
6) Fuel efficiency recordings/calculations are made to site procedures.
7) Adjustments are made to boiler control settings to maintain safe and efficient operations.

3 Maintain boiler and workplace safety

1) Maintenance requirements are identified and reported in accordance with site procedures.
2) Boiler emergencies are responded to in accordance with statutory requirements, manufacturer's recommendations and site procedures.

Range of Variables

- Boiler operations and maintenance must meet statutory requirements in the applicable State/Territory.
- Scope of boiler operations may include boiler liquid/vapour restricted to water/steam, type of fuel and fuel supply system, and boiler operations in conjunction with or separate from other plant and operations.
- The hierarchy of hazard control measures may include elimination (e.g. insulation of sources of thermal hazards), substitution, isolation and engineering control measures being selected before safe work practices and personal protective clothing.
- OH&S requirements include protective clothing and equipment, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies & procedures for operating and monitoring a steam boiler
  - ◊ boiler operations according to statutory requirements
  - ◊ current State/Territory OH&S legislation, standards and codes of practice.

Critical Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for starting a steam boiler
  - ◊ undertake pre-operational and start-up procedures
  - ◊ select and use personal protective clothing and equipment
  - ◊ carries out inspection procedures as specified in the manufacturer's instructions and workplace procedures
  - ◊ start-up the boiler
  - ◊ identify maintenance requirements
  - ◊ apply the hierarchy of hazard control measures
  - ◊ carry out workplace communication procedures
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely operate and monitor a boiler
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ conduct take/hand over procedures for boiler
  - ◊ monitor boiler operation
  - ◊ maintain boiler and workplace safety.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the shut down of the boiler, its preparation for inspection and its storage.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Perform boiler shut-down

1) Occupational health & safety regulations, policies & procedures relevant to shutting down and storing a boiler are to be followed throughout the application of this competency.
2) Boiler is shut down in accordance with statutory requirements, manufacturer's recommendations and site procedures.
3) Maintenance requirements are identified and reported in accordance with site procedures.
4) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Prepare for boiler inspection

1) Condition of boiler is checked after operational shut-down has been completed to ensure equipment can been safely removed.
2) Boiler is prepared for inspection process in accordance with statutory requirements, manufacturer's recommendations and site procedures.
3) Boiler is cleaned internally and externally in accordance with statutory requirements, manufacturer's recommendations and site procedures.
4) Boiler valves and fittings are removed for inspection/maintenance in accordance with statutory requirements, manufacturer's recommendations and site procedures.

3 Store boiler in shut-down mode

1) Mode of storage is identified for the boiler in accordance with storage time and conditions of storage.
2) Boiler is stored in accordance with statutory requirements, manufacturer's recommendations and site procedures.

Range of Variables

- Boiler operations and maintenance must meet statutory requirements in the applicable State/Territory.
- Scope of boiler operations may include boiler liquid/vapour restricted to water/steam, type of fuel and fuel supply system, and boiler operations in conjunction with or separate from other plant and operations.
- The hierarchy of hazard control measures may include elimination (e.g. insulation of sources of thermal hazards), substitution, isolation and engineering control measures being selected before safe work practices and personal protective clothing.
- OH&S requirements include protective clothing and equipment, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies & procedures for shutting down and storing a steam boiler
  - ◊ boiler operations according to statutory requirements
  - ◊ current State/Territory OH&S legislation, standards and codes of practice
  - ◊ workplace communication procedures.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for starting a steam boiler
  - ◊ undertake pre-operational and start-up procedures
  - ◊ select and use personal protective clothing and equipment
  - ◊ carries out inspection procedures as specified in the manufacturer's instructions and workplace procedures
  - ◊ start-up the boiler
  - ◊ identify maintenance requirements
  - ◊ apply the hierarchy of hazard control measures
  - ◊ carry out workplace communication procedures
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely shut down and store boiler
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ perform boiler shut-down
  - ◊ prepare for boiler inspection
  - ◊ store boiler in shut-down mode.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in starting, operation and monitoring, hand over and the shutting down and storing of a heat plant.

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Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Perform pre-operational safety checks

1) Occupational health & safety regulations, policies & procedures relevant to conducting heat plant operations are followed throughout the application of this competency.
2) Pre-operational safety checks of heat plant are conducted in accordance with site procedures, statutory requirements and manufacturer's recommendations.
3) Maintenance requirements are identified and reported in accordance with site procedures.
4) Decision to operate heat plant is made in light of pre-operational checks, any outstanding maintenance requirements and in accordance with site procedures.

2 Operate and monitor heat plant

1) Start-up checks are conducted according to site procedures.
2) Heat plant is started and brought on line safely in accordance with site procedures, statutory requirements and manufacturer's recommendations.
3) Quality tests are conducted in accordance with site procedures, manufacturer's and supplier recommendations.
4) Heat plant is adjusted as a result of tests to meet site and manufacturer's requirements.
5) Continued operation of heat plant is assessed and reported in accordance with site procedures.
6) Adjustments are made to heat plant control settings to maintain safe and efficient operations.
7) Fuel efficiency recordings/calculations are made in accordance with site procedures.
8) Maintenance requirements are identified and reported in accordance with site procedures.
9) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

3 Conduct take/hand over procedures for heat plant

1) Operational status and recent heat plant performance is communicated clearly with others in the workplace in accordance with site procedures.
2) Operating status of heat plant is diagnosed from audible, visual and written information.
3) Operating log is maintained clearly and accurately, in accordance with site procedures and statutory requirements.
4) Production and quality records are recorded in accordance with enterprise procedures.

4 Shut-down heat plant and prepare for inspection

1) Heat plant is shut down in accordance with site procedures, statutory requirements and manufacturer's recommendations.
2) Condition of heat plant is checked after operational shut-down has been completed to ensure equipment can been safely removed.
3) Heat plant is prepared for inspection process in accordance with site procedures, statutory requirements and manufacturer's recommendations.
4) Heat plant is cleaned internally and externally in accordance with site procedures, statutory requirements and manufacturer's recommendations.
5) Heat plant valves and fittings are removed for inspection/maintenance in accordance with site procedures, statutory requirements and manufacturer's recommendations.

5 Store heat plant in shut-down mode

1) Mode of storage is identified for the heat plant in accordance with storage time and conditions of storage.
2) Heat plant is stored in accordance with site procedures, statutory requirements and manufacturers recommendations.
3) All documentation is completed and records stored in accordance with site procedures.

Range of Variables

- Scope of heat plant operations may include type of fuel and fuel supply system.
- Heat plant may be operated in conjunction with other plant operations and drying systems.
- Heat plant operations and maintenance must meet statutory requirements in the applicable State/Territory.
- Heat plants may be operated manually or by computerised systems.
- Calibration methods may include measuring, recording and adjusting.
- Production and Quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include protective clothing and equipment, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for conducting heat plant operations
  - ◊ heat plant operations
  - ◊ current State/Territory OH&S legislation, standards and codes of practice
  - ◊ hierarchy of hazard control measures
  - ◊ inspection procedures as specified in the standard operating procedures and manufacturer's instructions
  - ◊ maintenance of operating log
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for conducting heat plant operations
  - ◊ apply pre-operational and start-up procedures
  - ◊ select and use of personal protective clothing and equipment
  - ◊ apply inspection procedures as specified in the manufacturer's instructions and standard operating procedures
  - ◊ start-up of heat plant
  - ◊ identify maintenance requirements
  - ◊ apply hierarchy of hazard control measures
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely operate and monitor a heat plant
  - ◊ communicate effectively with others in associated areas.
  - ◊ access, interpret, assess and apply technical information
  - ◊ perform pre-operational safety checks
  - ◊ operate and monitor the heat plant
  - ◊ hand over of heat plant
  - ◊ shut down of the heat plant
  - ◊ store heat plant in shut-down mode.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology	•		

FPIS3040A Optimise Timber Treatment Plant Operations

Description

This unit covers the functions required for implementing treatment plant procedures, monitoring performance, reviewing and modifying treatment operations and identifying and assessing technical developments. Its application provides for continuous improvement and to satisfy cost effectiveness measures.

Suggested Pre-Requisites/Co-Requisites

FPI OHS 1A	Follow defined occupational health & safety policies & procedures.
FPI S2007A	Conduct timber treatment plant operations.

1 Implement treatment plant procedures

1) Occupational health and safety regulations, policies and procedures relevant to optimise timber treatment plant operations are to be applied throughout the application of this competency.
2) Variations in timber characteristics are ascertained.
3) Moisture content of timber is determined.
4) Treatment schedules are determined and applied in accordance with site procedures.
5) Water management procedures are determined and applied.
6) Waste minimisation and control measures are determined and applied.
7) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Monitor treatment plant performance

1) Co-ordination activities with others involved in the operations throughout this work cycle are resolved through timely and effective communication.
2) Charge sheets are checked and interpreted to ensure accuracy.
3) Reconciliation statements are checked and interpreted to ensure accuracy.
4) Process trends are checked and analysed for optimum performance.
5) Modifications are made to schedules to ensure optimum performance.
6) Treatment operations and output are monitored to identify possible process improvements and to ensure maximum cost effectiveness.
7) Major problems and equipment faults are reported promptly and fully in accordance with site procedures.

3 Review and modify treatment operations

1) Treatment processes and procedures are reviewed and improvements implemented.
2) Treatment improvement modifications are documented and communicated in accordance with site procedures.
3) Production and quality records are completed in accordance with site procedures.

4 Identify and assess technical developments

1) Developments in treatment processes and related technology are monitored to identify possible improvements.
2) Technical developments are analysed and assessed for potential incorporation into existing plant operations and procedures.
3) Proposed developments are authorised, trialed. documented and introduced into site operations in accordance with site procedures.

Range of Variables

- Treatment processes may include full cell, modified full cell, empty cell, double vacuum, dip diffusion and vat and sprays and other processes developed and documented by the treatment organisation.
- Timber treated may include the full range of density, sizes and species normally encountered in the enterprise.
- Preservatives may include water-borne, oil-based and solvent-based.
- Faults in equipment may include leaking valves, leaking pipes, leaking door, tank overflowing, faulty gauges, PLC's, pumps, computers, controls, data collection and reporting systems.
- Treatment plant operations require compliance with statutory requirements, Australian Standards and other regulations and specifications within the operator's authority.
- Waste minimisation measures may address chemical waste, wood residues, packaging residues and debris, and soil and other foreign matter.
- Water management may include stormwater, contaminated water, bore water, recycled dam water and town mains water.
- Housekeeping may include dust dirt control, tank farm cleaning, rail track cleaning, drip pad cleaning, sump cleaning, domestic refuse, passageway clearance and area cleaning.
- Security of plant site may include all measures to ensure integrity of the site, equipment and environmentally sensitive materials.
- Operator completed maintenance may be site specific and may include cleaning sight glasses, cleaning analytical equipment, in line filters, checking door seals, water/oil supply to vacuum pumps and temporary operational repairs.
- Work requirements - production schedules may be issued by diaries, notice boards, briefings, work group meetings and customer orders.
- Timber moisture content confirmation may include use of capacitance type meters and electrical resistance type meters.
- Preservative solution strength determination may include use of refractometer, hydrometer, titration and XRF.
- Timber presented for treatment may include green (unseasoned), air seasoned, kiln dried, steamed and boultonised.
- Treatment cycle may include the time taken for each stage of the treatment process.
- Monitoring of treatment processes may be by a range of means and technologies such as gauges, sight glasses, VDU's and chart records and computer generated outputs.
- Confirmation of effective treatment may be by net solution absorption, charge sheet retention, sampling, penetration assessment and chemical analysis.
- Branding of product may be by burn, impression (hammer), tag and ink.
- OH&S requirements include manual handling, protective clothing, breathing apparatus, personal hygiene, confined space, dealing with hazardous substances, elimination of hazards and site safety policy and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies & procedures for conducting timber treatment plant operations
  - ◊ an awareness of environmental protection legislation, State and Territory regulations for treating timber with preservatives
  - ◊ processing conditions during treatment
  - ◊ necessary documentation
  - ◊ basic wood properties
  - ◊ seasoning (pre-conditioning methods)
  - ◊ wood preservatives
  - ◊ fundamental treatment technologies
  - ◊ site plant and equipment
  - ◊ site waste/water policies
  - ◊ fault identification process
  - ◊ treatment standards
    - State regulation
    - appropriate Australian standards
    - other specifications and codes of practice.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ identify and interpret signage and emergency information panels (EIP)
  - ◊ safely and effectively operate equipment and material over the full range of processes used by the enterprise for conducting timber treatment plant operations
  - ◊ maintain processing conditions during treatment
  - ◊ complete necessary documentation
  - ◊ calculate solution strength
  - ◊ determine treating solution volume requirements
  - ◊ calculate charge sheet absorption
  - ◊ calculate charge sheet retention
  - ◊ test penetration where required
  - ◊ minimise charge changeover delays
  - ◊ interpret change sheet information
  - ◊ interpret preservative reconciliation statements
  - ◊ accurately compile charge reports
  - ◊ use moisture meters
  - ◊ use various quality control equipment as is appropriate
  - ◊ apply fault identification techniques
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely conduct timber treatment plant operations
  - ◊ effective communication skills in written and oral form
  - ◊ comply with EPA, State and Territory regulations
  - ◊ plan activities
  - ◊ implement treatment plant procedures
  - ◊ monitor treatment plant performance
  - ◊ respond to changing circumstances within authority and scope
  - ◊ review and modify treatment operations
  - ◊ identify and assess technical developments
  - ◊ produce properly treated material.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information		•	
Planning & organising activities		•	
Working with others in teams		•	
Using mathematical ideas & techniques		•	
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the determination of the saw condition, the setting up of the sharpening machine and the sharpening of the saw with a grinder.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Establish saw condition

1) Cutting performance of band saw is assessed against job requirements, where appropriate.
2) Extent of repair and sharpening processes required is determined from assessment of blade.
3) Condition of teeth, set and tension of blade is assessed for suitability to site requirements.
4) Quality of prior repair processes is checked.
5) Blade replacement is recommended to enterprise procedures, where appropriate.
6) Hazardous band saw operating conditions are identified, where appropriate.

2 Set up band saw sharpening machine

1) Occupational health & safety regulations, policies & procedures relevant to sharpening band saws to be followed throughout the application of this competency.
2) Suitability of sharpening machine for sharpening band saw is determined.
3) Grinding wheel is changed or dressed to suit blade.
4) Machine settings are adjusted to suit required blade geometry and manufacturer's recommendations.
5) Blade is set in machine to manufacturer's recommendations.
6) Selected tooth of blade is aligned with machine feed mechanism.
7) Preparation for grinding work is completed to site safety requirements.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

3 Sharpen band saw

1) Tests are made to ensure teeth and machine feed mechanism are aligned.
2) Depth of machine cut and infeed is determined from blade condition.
3) Machine sharpening processes are monitored to ensure correct grinding conditions and geometry.
4) Sharpening process is completed with all teeth in sharp condition, at correct cutting angle(s) and with correct profiles.
5) Band saw is packaged for protection during return to service.

Range of Variables

- Scroll band saws and blades used for cutting timber in the enterprise or by customers of the enterprise.
- Alternative sharpening machines and grinding wheels.
- Wheel dressing and profiling options and methods.
- Sharpening feeds and speeds.
- Problem-solving grinding problems.
- Band saw and tooth geometries.
- Calibration methods may include measuring, recording and adjusting.
- Production and Quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include protective clothing and equipment, manual handling, elimination of hazards, operating of equipment, machine isolation, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for sharpening band saws
  - ◊ band saw processes and blade and tooth geometries
  - ◊ types of hazards
  - ◊ overall blade sharpening and repair processes
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for sharpening band saws
  - ◊ select from a range of suitable grinding alternatives
  - ◊ sharpen new, used and repaired blades over a range of blade types used in the enterprise
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely sharpen band saws
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ establish saw condition
  - ◊ set up band saw sharpening machine
  - ◊ sharpen band saw/s.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

FPIS3042A Sharpen Circular Saws in Manually Controlled Grinder

Description

This unit describes the work involved in the preparation of the saw for sharpening and the grinding of the tooth face and gullet.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare saw for sharpening

1) Occupational health & safety regulations, policies & procedures relevant to sharpening circular saws in manually controlled grinders are to be followed throughout the application of this competency.
2) Condition of teeth, set and tension of blade is assessed for suitability to site requirements.
3) Hazardous circular saw operating conditions are identified from condition of saw.
4) Extent of sharpening processes required is determined from assessment of blade.
5) Quality of prior repair processes is checked to ensure it has met site standards.
6) Saw replacement is recommended to site procedures, where appropriate.
7) Saw is set up in grinder with appropriate attachments for tooth pitch.
8) Grinding wheel is changed and/or dressed to suit saw.

2 Grind tooth face and gullet

1) Hazards are controlled in accordance with OH&S legislation and site requirements.
2) Grinding wheel diameter is selected to suit machine.
3) Each face and gullet are ground in turn to sharpen teeth.
4) Tooth profile and pitch are maintained to industry standards.
5) Variations in tooth height are brought within industry tolerances for concentricity.
6) Hand feeds of wheel and saw are controlled to minimise wear, avoid burn marks and to maintain a smooth surface finish on all surfaces.

Range of Variables

- Manually controlled grinders may include gulleting grind machine, side grind and tungsten tipped.
- Grinder may have manual feed on wheel and saw movements.
- Range of attachments may include those to mechanically assist in maintaining pitch, height and profile.
- Calibration methods may include measuring, recording and adjusting.
- Production and quality records may include quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include protective clothing and equipment, manual handling, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for sharpening circular saws in manually controlled grinders
  - ◊ type and uses of circular saws in sawmilling and processing for various types of timber
  - ◊ the sharpening process
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely sharpen circular saws in manually controlled grinders
  - ◊ set up and grind a range of circular saws
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely sharpen circular saws in manually controlled grinders
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare saws for sharpening
  - ◊ grind tooth face and gullet.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work required for the planning and processing of debarking logs using computerised equipment. It involves the debarking, maintaining the production flow and finalising all documentation prior to handover for the next shift.

Suggested Pre-Requisites

FPI OHS 1A	Follow defined occupational health & safety policies & procedures.
FPI S2 006	Peel and/or debark logs mechanically.

1 Plan and set up processing of logs

1) Occupational health & safety regulations, policies & procedures relevant to debarking logs using automated processes are to be followed throughout the application of this competency.
2) Equipment lock out operations are carried out in accordance with OH&S legislation and site procedures.
3) Work schedule is confirmed for load and entered into computer.
4) Scanner is calibrated in accordance with site procedures.
5) Start- up checks are conducted and machine started in accordance with site procedures.
6) Debarking equipment is set up and adjusted to optimise debarking rate and quality.
7) Storage locations for each diameter range and length are selected and programmed .
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Debark logs

1) Logs are loaded onto infeed and size and condition confirmed as acceptable for processing.
2) Logs to be debarked are visually assessed and butt reduced if required.
3) Conveyors and debarking equipment are monitored to remove bark according to site procedures.
4) Debarked logs are regularly assessed for material removal and surface finish.
5) Equipment adjustments are made to maintain finish quality.
6) Characteristics of blunt and damaged knife tips are recognised and problems reported in accordance with site procedures.
7) Debarked logs are monitored for sorting operation.

3 Maintain production flow

1) Supply of logs is co-ordinated in accordance with site procedures.
2) Supply of logs is communicated with log yard personnel.
3) Debarking problems relating to equipment or to specific logs are identified and reported in accordance with site procedures.
4) Material from filled storage locations is moved (or movement is requested) to prevent interruption to debarking operations.
5) Conveyors are monitored for optimum material flow.
6) Area around debarker is regularly cleared of debris.
7) Problems with transfer of logs and bark are monitored and resolved as required.
8) Equipment faults are reported promptly and fully in accordance with site procedures.
9) Operational problems are assessed and acted on in accordance with standard operating procedures.

4 Assist in maintaining debarking equipment

1) Routine maintenance of debarking equipment is planned and conducted.
2) Equipment faults are recognised from debarking equipment operation and debarked product and acted on, or reported in accordance with site procedures.
3) Debarking operation and output are monitored to identify possible process improvements.
4) Assistance is provided to maintenance personnel to identify equipment faults and resolve problems.

5 Complete operations and handover to new shift operator

1) Production and quality records are completed in accordance with site procedures.
2) Back up files are created in accordance with standard operating procedures.
3) Production and quality records are printed in accordance with site procedures.
4) Documentation is handed over in accordance with site procedures.
5) Briefing is undertaken with changeover operator.

Range of Variables

- Quality log assessment may include diameter range, curvature, faults and species and seasonal conditions.
- The debarking process may include tagging operations, work schedule, logs, calibration of scanner, start up checks, storage locations, trouble shooting, monitoring equipment, equipment adjustments and butt reducer.
- System errors may include non scanning of material (problems with scanner), calibration, tangle on line, decks and storage locations and monitor failure.
- Operator maintenance may include clean and change knives, change shear pins, grease debarking equipment, general housekeeping and trouble shooting.
- Production and Quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine guarding and enterprise safety policy.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for debarking logs using automated processes
  - ◊ industry standard diameter ranges and length dimensions
  - ◊ the requirements for material removal and surface finish
  - ◊ how blunt debarker knife/blade is recognised
  - ◊ the requirements for chip size of bark removed
  - ◊ computer data entry, extraction and printing
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and use material to debark logs using automated processes
  - ◊ visually assess a variety of log samples
  - ◊ identify and segregate logs on the basis of:
    - size
    - defects and species across the full range of features that the mill will debark.
  - ◊ change knives/tips
  - ◊ set up debarking conditions over the full range of diameters, lengths, species and seasonal conditions
  - ◊ clean knives/tips and surrounds
  - ◊ enter, extract and print computer data
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely debark logs using automated processes
  - ◊ apply keyboard skills using a full range of functions
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ plan and set up for processing of logs
  - ◊ debark logs
  - ◊ maintain production flow
  - ◊ assist in maintaining debarking equipment
  - ◊ complete operations and handing over to new shift operator.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the assessment of timber and the estimation of processing required, the planning and control of the drying process and the checking of processed timber.

Suggested Pre-Requisites/Co-Requisites

FPI OHS 1A	Follow defined occupational health & safety policies & procedures.
FPI S2 027A	Dry timber in low temperature kiln, and / or
FPI S3 035A	Dry timber in conventional and high temperature kiln

1 Assess timber conditions and estimate processing requirements

1) Occupational health & safety regulations, policies & procedures relevant to drying timber are to be followed throughout the application of this competency.
2) Moisture content is measured and recorded on timber to be dried to site procedures.
3) Final moisture content required for specific charge is determined according to product.
4) Processing cycles are determined to site specifications.
5) Weight required to minimise warping and meet order requirements is determined.
6) Charge details are recorded, according to site standards.
7) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Plan and control the processing of charges

1) Drying schedules are identified and developed to meet specific product requirements.
2) Kiln seasoning is planned to suit site production requirements.
3) Dried timber is stored under cover or transferred for further processing.
4) When applicable, conditions in air seasoning chambers are checked and controlled to site procedures.
5) Processing cycles are modified and controlled in response to moisture levels in timber being processed.
6) Problems with processing equipment are investigated and resolved or reported to maintenance personnel.
7) Operating logs are maintained to site standards.
8) Seasoning records are completed in accordance with site procedures.

3 Check processed timber

1) Final moisture content is confirmed on finished racks.
2) Racks not meeting specifications are identified and reprocessing options planned.
3) Seasoned board conditions are used to confirm or modify processing cycles.

Range of Variables

- Visual assessment of timber covers species, age, condition and cross-section.
- Processing cycles include drying and reconditioning.
- Drying processes may be either kilns or air seasoning.
- Timber may include any species of softwood and hardwood including treated and untreated.
- Timber processed will cover the full range of cross-sections and species normally produced by the mill.
- Kilns may be automated or manual.
- Calibration methods may include measuring, recording and adjusting.
- Production and quality records may include charge sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include protective clothing and equipment, manual handling, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for drying timber
  - ◊ drying schedules
  - ◊ routine problem-solving approaches
  - ◊ characteristics and effects of chemicals and other materials used in the drying process
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely implement timber drying operations
  - ◊ develop drying schedules
  - ◊ assess and process timber to required finished specifications across the full range of timber which the mill will produce
  - ◊ minimise handling to meet storing, processing and stock rotation requirements
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely implement timber drying operations
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ assess timber conditions
  - ◊ estimate processing requirements
  - ◊ plan and control the processing of charges
  - ◊ check processed timber.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in planning flitch, cant sizes and cutting patterns, the setting up and maintaining of the sawing process and assisting in the maintenance of sawing equipment.

Suggested Pre-Requisites

FPI OHS 1A	Follow defined occupational health & safety policies & procedures.
FPI S2 023	Saw Logs.

1 Plan flitch and cant sizes and cutting patterns

1) Occupational health & safety regulations, policies & procedures relevant to sawing logs are followed throughout the application of this competency.
2) Information on orders is interpreted in accordance with site procedures.
3) Cutting schedules are developed with regard to available logs and orders.
4) Schedules are communicated to personnel in log yard and other sawing operations.
5) Standard cutting patterns are reviewed for suitability to planned schedules.
6) New cutting patterns are developed and programmed.
7) Cutting patterns are communicated to other sawyers.
8) Assistance is provided to other sawyers with the evaluation of logs and sawing problems.
9) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Set up and maintain sawing process

1) Logs are positioned and primary cut made to provide information and maintain available value from sawn timber.
2) Equipment lock out operations are carried out in accordance with OH&S legislation and site procedures.
3) Start-up checks are conducted and equipment started in accordance with site standards and manufacturer's instructions.
4) Sawing equipment and settings are selected to optimise cutting.
5) Sawing problems relating to any breaking down or resawing equipment are identified, investigated and resolved.
6) Need to modify saw blade design is identified from sawing processes or sawn timber dimensions and condition.
7) Assistance is provided to other sawyers with saw set up.
8) Production and quality records are completed and analysed to site procedures.

3 Assist in maintaining sawing equipment

1) Routine maintenance of sawing equipment is planned and conducted.
2) Equipment faults are recognised from sawing equipment operation and sawn product.
3) Assistance is provided to saw doctors and maintenance personnel to identify equipment faults and resolve problems.

Range of Variables

- Log characteristics may include species, diameter, curvature, taper, defects, and moisture content.
- Equipment used may include simple saw benches necessitating significant manual handling of logs and flitches, complex handling arrangements utilising conveyor systems to transfer and position material, breaking down rigs with or without sizing heads including horizontal scribbling saws, standard three headed dog carriage, flat top carriage with head rig, and over head frame saw.
- Sawing equipment and settings may include blade type and set, and blade speed and feed rate .
- Circular or band saws and edge chippers may include single, twin, single edges and twin edges.
- Processes may operate with or without scanning technology.
- Calibration methods may include measuring, recording and adjusting.
- Production and Quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include protective clothing, manual handling, machine guarding, dust extraction and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for sawing logs
  - ◊ troubleshooting and problem-solving approaches
  - ◊ industry standard cross-section and length dimensions
  - ◊ sawing techniques and cutting patterns relevant to available equipment
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for sawing logs
  - ◊ develop and implement cutting schedules
  - ◊ evaluate logs and set up sawing patterns and conditions over the full range of characteristics listed
  - ◊ assist other sawyers with set up and problem-solving
  - ◊ analyse production data
  - ◊ resolve problems over a broad range of material, sawing conditions and equipment faults in simulated situations
  - ◊ carry out lock out procedures
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely saw logs
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ plan flitch, cutting sizes and patterns
  - ◊ set up and maintain sawing processes
  - ◊ assist in maintaining sawing equipment.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams		•	
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology	•		

Description

This unit describes the work involved in the planning of cutting patterns, the setting up and maintenance of the sawing process and assisting in the maintenance of the sawing equipment.

Suggested Pre-Requisites/Co-Requisites

FPI OHS 1A Follow defined occupational health & safety policies & procedures.
FPI S2 024A Produce sawn green boards – intermediate.

1 Plan cutting pattern

1) Information on orders is interpreted, to enterprise procedure.
2) Material supply, cutting schedules and cutting patterns are co-ordinated with breaking down sawyers.
3) Standard cutting patterns are reviewed for suitability to planned schedules.
4) New cutting patterns are developed and programmed.
5) Assistance is provided to other sawyers with the evaluation of cants and sawing problems.
6) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Set up and maintain sawing process

1) Occupational health & safety regulations, policies & procedures relevant to producing sawn green boards are to be followed throughout the application of this competency.
2) Sawing process and finished cants are evaluated taking account of all characteristics.
3) Start-up checks are conducted and equipment started in accordance with site procedures and manufacturer's instructions.
4) Sawing equipment and settings are selected to optimise cutting.
5) Volume recovery rate, sawn finish and dimensional consistency are optimised with adjustments to sawing conditions.
6) Sawing problems relating to any resawing equipment are identified, investigated and resolved.
7) Need to modify saw blade design is identified from sawing processes or sawn timber dimensions and condition.
8) Production and quality records are completed and analysed to site procedures.

3 Assist in maintaining sawing equipment

1) Routine maintenance of sawing equipment is planned and conducted.
2) Equipment faults are recognised from sawing equipment operation and sawn product.
3) Assistance is provided to saw doctors and maintenance personnel to identify equipment faults and resolve problems.

Range of Variables

- Equipment used may include simple saw benches necessitating significant manual handling of cants to more complex handling arrangements utilising conveyor systems to transfer and position material, circular or band saws and single and multiple blades.
- Sawing equipment and settings may include blade type and set, blade speed and feed rate and saw guide adjustment.
- Timber sawn may be hardwood or softwood.
- Material sawn may cover the full range of sizes, lengths, species and conditions.
- Processes may operate with or without scanning technology.
- Calibration methods may include measuring, recording and adjusting.
- Production and quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include protective clothing, manual handling, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for producing sawn green boards
  - ◊ sawing techniques and cutting patterns relevant to available equipment
  - ◊ troubleshooting and problem-solving approaches
  - ◊ industry standard cross-section and length dimensions
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment for producing sawn green boards
  - ◊ evaluate logs and set up sawing patterns and conditions
  - ◊ analyse production data
  - ◊ resolve problems over a broad range of material, sawing conditions and equipment faults in simulated situations
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely produce sawn green boards
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ plan cutting patterns
  - ◊ set up and maintain sawing processes
  - ◊ assist on maintaining sawing equipment.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in shifting material, within a sawmill yard or allied location, using a dozer.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Perform routine checks on equipment

1) Occupational health & safety regulations, policies & procedures relevant to shifting material with dozer are to be followed throughout the application of this competency.
2) Vehicle is cleaned to ensure safe and tidy operation in accordance with site procedures.
3) Cab interior is cleaned to ensure maximum visibility and freedom of movement.
4) Regular checks are made of equipment components according to manufacturer's specifications site procedures.
5) Fluid levels and air pressures are maintained to manufacturer's specification.
6) Damaged components are identified and reported according to site procedures.

2 Apply environment protection measures

1) Legal and other site environment protection measures, including those related to soil and water protection, are identified and applied at all times.
2) Operations are modified to ensure appropriate environment protection during wet or other adverse weather conditions.

3 Select equipment and prepare to shift material

1) Equipment and/or attachments suitable for material are selected.
2) Attachments are fitted to equipment or existing attachments are inspected to ensure correct attachment.
3) External check is made of equipment and attachments in accordance with manufacturer's instructions or equivalent.
4) Job accessories are checked prior to operation to ensure they are available and serviceable.
5) Vehicle operational area is inspected to identify hazards and remove them or plan to control them.
6) Nearby personnel are advised of impending vehicle operation as appropriate.
7) Communication signals to be used are confirmed with other personnel.
8) Engine is started in accordance with manufacturer's guidelines and site start-up procedures.
9) Instruments and gauges are monitored to ensure vehicle operation is safe according to manufacturer's specifications and safety rules.
10) Checks are made of safety equipment and controls to ensure they are operational according to site and manufacturer's documentation and safety rules.

4 Shut down and secure equipment

1) Vehicle is parked to avoid site and equipment hazards.
2) Shut-down procedure is completed to manufacturer's requirements and site procedures.
3) Post-operational checks are completed to manufacturer's requirements.
4) Equipment faults are reported in accordance with site procedures.

5 Identify and engage material

1) Material location is identified from load sheet/instructions in accordance with site procedures.
2) Weight of material is assessed to ensure compliance with equipment load plate specifications.
3) Vehicle is steered, manoeuvred and positioned to ensure efficient and safe operation in co-operation with other personnel.
4) Vehicle speeds and engine power are managed to safe operating limits and manufacturer's specification.
5) Communications with other personnel are maintained according to agreed signals.
6) Materials are engaged so that stability of material and vehicle is maintained.
7) Vehicle is constantly monitored using gauges, warning devices and observation of vehicle performance to determine operating faults.
8) Equipment faults creating hazardous operations are identified, operations suspended and faults reported according to site procedures.

6 Shift material to unloading point

1) Safe operating procedures are followed according to site regulations and in co-operation with other personnel.
2) Vehicle is steered, manoeuvred and positioned to ensure efficient and safe operation in co-operation with other personnel.
3) Vehicle speeds and engine power is managed to safe operating limits and manufacturer's specification.
4) Communications with yard and other personnel are maintained according to agreed signals and site procedures.
5) Material is moved to required location safely with a minimum of effort and relocations.
6) Route and speeds are selected so that loss or contamination of material is minimised.
7) Vehicle is constantly monitored using gauges, warning devices and observation of vehicle performance to determine operating faults.
8) Equipment faults creating hazardous operations are identified, operations suspended and faults reported to site procedures.
9) Minor emergency maintenance is completed where vehicle is away from repair facilities.

7 Place material in required location(s)

1) Communications with yard personnel are maintained according to agreed signals.
2) Materials are placed in stable temporary position where required.
3) Materials are placed to ensure stability of material and avoid site hazards.
4) Location records are updated as required to site procedures.

Range of Variables

- Equipment used may include wheeled dozer or tracked dozer.
- Operations may include mill and roads, even and irregular ground and co-ordination with other personnel at point of engagement, shifting and placement.
- OH&S requirements include protective clothing and equipment, vehicle manuals, vehicle tools, job and vehicle records and writing equipment, first aid kit, breakdown gear and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for shifting material with dozer
  - ◊ manufacturer's and enterprise requirements on equipment operation for yard and road operations
  - ◊ mill, yard and road hazards
  - ◊ the importance of accuracy.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively shift material with a dozer
  - ◊ move a range of materials within yard
  - ◊ control movements to manufacturer's specifications and standard operating procedures
  - ◊ avoid damage to property, equipment or material
  - ◊ utilise available area
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely shift material with dozer
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ perform routine checks on equipment
  - ◊ prepare to shift material
  - ◊ apply environment protection measures
  - ◊ identify and engage material
  - ◊ shift material to unloading point
  - ◊ place material in required location(s)
  - ◊ shut down and secure equipment.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology		•	

FPIS3048A Align Saws, Canter Rings and Chipper Heads

Description

This unit describes the work involved in the preparation, the aligning of wheels and rings and its maintenance, the checking of equipment operation and the application of equipment lockout procedures.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare for alignment

1) Occupational health & safety regulations, policies & procedures relevant to the alignment of saws, canter rings and chipper heads are to be followed throughout the application of this competency.
2) Equipment history and records are accessed and interpreted.
3) Arrangements are made for access to equipment consistent with maintaining optimum production.
4) Safety requirements are identified and implemented.
5) Manufacturer's data and alignment instructions are obtained to plan alignment.
6) Appropriate equipment, tooling and gauges are assembled prior to on-site work, in accordance with manufacturer's instructions and site procedures.
7) Equipment lock out operations are carried out in accordance with OH&S legislation and site procedures.
8) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Align wheels and rings

1) Mechanical and safety components are removed and temporarily stored to provide adequate access to components being aligned, without damage to components.
2) Saw, blade and/or guide is removed and temporarily located in a safe and orderly manner.
3) Alignment procedure follows site and/or manufacturer's instructions.
4) Alignment is completed in a safe and orderly manner.
5) Assistants are given clear duties and instructions.
6) Checks are made to ensure adjustments meet manufacturer's and site specifications.
7) Saw/blade and/or guide is replaced safely and securely and realigned if necessary.
8) Mechanical and safety components are replaced securely in accordance with manufacturer's instructions, OH&S legislation and site requirements.

3 Check operation of equipment

1) Saw is checked for alignment and free operation to manufacturer's specification and site standards.
2) Equipment lockouts are completely removed only when equipment is operating safely and efficiently.
3) Production personnel are notified that equipment is available at completion of work.
4) Documentation and records are completed in accordance with site procedures.

Range of Variables

- Range of saws and machines in the enterprise may include circular saws, canter and chipper blades and knives, wide band saws and gang saws.
- Ancillary equipment may include canter rings and chipper heads.
- Alignments may be on machines and/or saws.
- Alignment may be in one, two and three axes and require the use of gauges, plumb lines, spacer bars and straight edge.
- Use of lifting equipment, such as block & chain, pedestrian operated crane etc.
- Calibration methods may include measuring, recording and adjusting.
- Production and quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include manual handling, use of safety equipment, dealing with hazardous substances, operation of equipment and machine guarding and enterprise safety policy and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for aligning saws, canter rings and chipper heads
  - ◊ manufacturer's instructions and relevant enterprise procedures
  - ◊ basic science of measurement and metrology
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively align saws, canter rings and chipper heads
  - ◊ apply basic fitting skills
  - ◊ co-operate with mill operations personnel
  - ◊ carry out lockout procedure and safe working practices for a range of machines
  - ◊ read technical and/or diagrammatic information
  - ◊ align a range of equipment in the enterprise.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely align saws, canter rings and chipper heads
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare for alignment
  - ◊ align wheels and rings
  - ◊ check operation of equipment
  - ◊ carry out lock out procedures.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information		•	
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the preparation, setting up and grinding of knives and blades, the reconditioning of babbitts and the adjustment of screws as required.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare knife/blade

1) Occupational health & safety regulations, policies & procedures relevant to sharpening and aligning blades and knives are to be followed throughout the application of this competency.
2) Blade/knife is cleaned of mill build-up and babbitts, according to site procedure.
3) Blade/knife is inspected to detect any defects which will not be removed through grinding.
4) Defective blade/knife is put aside and reported according to site procedures.
5) Replacement blade/knife is selected to suit equipment and any manufacturer's instructions for a matched set of blades/knives.

2 Set up knife/blade in grinder

1) Required cutting geometry for blade/knife is determined from manufacturer's instructions or site procedures.
2) Suitable attachments for holding knife/blade in grinder at required angles are selected.
3) Grinder is set up in suitable arrangement to complete grinding efficiently.
4) Grinding wheel is examined and dressed as required.

3 Grind knife/blade

1) Grinding wheel speed and feeds are selected to suit wheel and blade/knife.
2) Wheel is fed across and into cutting edge to obtain clean cutting edge meeting geometric requirements without defects and burns.
3) Coolant is applied to manufacturer's recommendations.
4) Blade/knife is inspected after removal from grinder and cleaning to ensure required sharpening has been completed.
5) Burrs left after grinding are honed to obtain sharp cutting edge.

4 Recondition babbitts as required

1) Babbitt material is heated to required pouring temperature.
2) Blade/knife is set up in pouring jig to required dimensions.
3) Babbitt is poured without excessive material wastage.
4) Cavities and shrinkage are avoided in babbitts through correct pouring procedure.
5) Assembly is allowed to cool in safe location.
6) Excess material is removed to allow blade/knife to locate correctly in mill equipment.

5 Adjust set screws as required

1) Bent and broken screws are replaced.
2) Set screws are adjusted to position knife/blade at correct depth.
3) Set screws are locked into position to avoid knife/blade movement.

Range of Variables

- Lead and non-lead based babbitt materials.
- Range of blades/knives used in enterprise/local industry.
- Use of manual feed and automatic feed grinders.
- Babbitt removal methods.
- Finish required on babbitts for different equipment and finishing methods.
- OH&S requirements include manual handling, protective clothing and equipment, elimination of hazards, machine guarding, and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for sharpening and aligning blades and knives
  - ◊ grinding set-ups for blades/knives
  - ◊ alternative approaches to use of manual feed and automatic feed grinders
  - ◊ alternative babbitting materials/processes
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Critical Underpinning Skills

- Demonstrate the ability to:
  - ◊ safely sharpen and align blades and knives
  - ◊ prepare and inspect blades/knives
  - ◊ sharpen blades/knives using one or more grinder
  - ◊ babbitt using one material for various blades/knives
  - ◊ finish of babbitts to suit tolerances
  - ◊ replace, adjust and lock set screws
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely sharpen and align blades and knives
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare knives/blades
  - ◊ set knife/blade in grinder
  - ◊ grind knife/blade
  - ◊ recondition babbitts
  - ◊ adjust set screws.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the determination of the required setting work, the setting up of the saw in the jig and the setting of the saw.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Determine required setting work

1) Occupational health & safety regulations, policies & procedures relevant to setting saws are to be followed throughout the application of this competency.
2) Type of cutting work required of saw is determined, according to site procedures.
3) Cutting conditions are used to determine required kerf and set, according to site procedures.
4) Required set and current condition of saw are used to determine setting method, according to site procedures.
5) Knowledge of timber sawing processes is used to identify saw problems/saw misuse, according to site procedures.

2 Set up saw in jig

1) Appropriate equipment and jigs are selected.
2) Saw is set up in jig in appropriate position to allow setting work.
3) Position of saw in equipment is adjusted to align tooth profile to equipment, where necessary.

3 Set saw

1) Required kerf and required finish using acceptable motor horsepower are identified for saw.
2) Individual teeth are examined to determine amount of setting required.
3) Appropriate tools are selected.
4) Condition of welding, saw temper and consistency of set between alternate teeth are maintained by setting method.
5) Set is applied to teeth requiring resetting allowing for estimated spring-back.
6) Set of teeth is checked using appropriate gauges.
7) Set is applied to appropriate area of teeth and in appropriate manner.

Range of Variables

- Type of saws may include hand saws of all types, band saws of all types, circular saws for various types of cutting and gangsaws.
- Settings may be for new saws, resharpening, replacement of teeth in saws.
- Timbers, timber products and sawing processes used in the enterprise and local industries to produce range of products.
- Available setting equipment, tools and gauges in the enterprise and local industry.
- OH&S requirements include manual handling, protective clothing and equipment, machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for setting saws
  - ◊ saws, sawing/cutting equipment and processes in the enterprise and local industry
  - ◊ timbers, timber products and processes in the enterprise and local industry
  - ◊ appropriate cutting geometries for different equipment, timbers and timber products
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrate the ability to:
  - ◊ safely set saws
  - ◊ set a range of saws for a range of processes and products in the enterprise
  - ◊ locate, interpret and apply relevant information in written, diagrammatic and/or oral form
  - ◊ convey information in written, sketch and/or oral form
  - ◊ interpret and apply common industry terminology.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely set saws
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ determine the required setting work
  - ◊ set up saw in jig
  - ◊ set saw.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the review, adjustment, machining and replacement of saw guides.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Review guide condition

1) Occupational health & safety regulations, policies & procedures relevant to reconditioning guides are to be followed throughout the application of this competency.
2) Condition of saw guides is reviewed to determine amount of guide wear available after grinding and if sufficient guide adjustment is available.
3) Decision is made to adjust, grind or replace guides.

2 Adjust saw guides

1) Guides are adjusted to clearance according to manufacturer's instructions and site requirements.
2) Clearance and guide security are checked before saw is started.

3 Machine guides

1) Guides are removed from carrier without component damage.
2) Suitable attachments for holding guides flat while machining are selected.
3) Equipment is set up in suitable arrangement to complete machining efficiently.
4) Tooling is examined and dressed/sharpened as required.
5) Scored material is removed from guide according to manufacturer's instructions and site requirements.
6) Machining speeds and feeds are selected to avoid burn marks on guides and to optimise tool wear.
7) Guides are reconditioned to meet geometric requirements of sawing equipment.
8) Guides are replaced in carrier at correct position without component damage.

4 Replace guides

1) Worn guides are removed from carrier without component damage.
2) Replacement guides are selected that meet manufacturer's and site requirements for sawing equipment.
3) Fastening holes are drilled where required.
4) Surfaces around drilled holes are cleaned up.
5) Low stock and shortages of new guides/guide material are advised in accordance with site procedures.
6) New guides are inserted in carrier at correct position and required tolerance without component damage.

Range of Variables

- Range of saws in enterprise/local industry using saw guides.
- Alternative carrier materials and optimum machining conditions.
- OH&S requirements include manual handling, protective clothing and equipment, machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for reconditioning guides
  - ◊ enterprise sawing equipment and guide adjustments available
  - ◊ alternative guides, construction, materials and reconditioning methods
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment for reconditioning guides
  - ◊ grind guides for range of machines in enterprise/local industry
  - ◊ replaces guides for range of machines in enterprise/local industry
  - ◊ adjust guides in machine
  - ◊ read technical and/or diagrammatic information.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely recondition guides
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ review guide condition
  - ◊ adjust saw guides
  - ◊ machine guides
  - ◊ replace guides.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

FPIS3052A Sharpen Tipped Circular Saws by Automated Grinder

Description

This unit describes the work involved in the preparation of the saw for sharpening and grinding of the teeth, tip face and profile and maintenance of the gullet.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare saw for sharpening

1) Occupational health & safety regulations, policies & procedures relevant to sharpening tipped circular saws by an automated grinder are followed throughout the application of this competency.
2) Equipment lock out operations are carried out in accordance with OH&S legislation and site procedures.
3) Condition of teeth, set and tension of blade is assessed for suitability to site requirements.
4) Faces and profiles of all teeth are inspected to determine if profiles and/or faces are to be ground.
5) Hazardous circular saw operating conditions are identified from condition of saw.
6) Extent of sharpening processes required is determined from assessment of blade.
7) Quality of prior repair processes is checked, to ensure it has met site requirements.
8) Saw is set up in grinder with appropriate attachments that ensure tooth profile and geometry are maintained.
9) Saw is set up in accordance with manufacturer's recommendations.
10) Grinding wheel is changed and/or dressed to suit saw.

2 Grind teeth/tip face and top

1) Grinding coolant system is prepared in accordance with site procedures.
2) Saw is set up in appropriate grinder with appropriate attachments that ensure tip face geometry is maintained.
3) Grinding wheel angles, speeds and feeds are selected to suit saw.
4) Saw feeds are selected to suit saw material.
5) Machine movements are set for tooth height and depth of sharpening.
6) Each face and gullet are ground in turn to sharpen teeth.
7) Tooth profile and pitch are maintained to industry standards.
8) Variations in tooth height are brought within industry tolerances.
9) Feeds of wheel and saw are set to minimise wheel wear, and to avoid burn marks.

3 Maintain gullet

1) Depth of gullet is ground to maintain original profile site standards.
2) Documentation and records are completed in accordance with site procedures.

Range of Variables

- Types and sizes of tipped circular saws in enterprise/local industry.
- Grinder may have power feed on wheel and saw movements.
- Grinder may have flexible arrangement to grind teeth, tip face and profile.
- Mechanical assistance is available to maintain tooth pitch and profile.
- Range of attachments to mechanically assist in maintaining pitch, height and profile may include fingers, stops and brackets.
- Tip material may include tungsten carbide and stellite.
- Grinders may be capable of grinding tip faces and tip tops or both.
- Checking devices may include micrometers, verniers and calibrated magnification tools.
- Calibration methods may include measuring, recording and adjusting.
- Production and Quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include, protective clothing and equipment, manual handling, machine guarding, hazard control and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for sharpening tipped circular saws by automated grinder
  - ◊ types and uses of tipped circular saws in sawmilling and processing for various types of timber
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment for sharpening tipped circular saws by automated grinder
  - ◊ setting up and grinding of range of circular saws
  - ◊ carry out lockout procedure and safe working practices for a range of machines
  - ◊ read technical and/or diagrammatic information.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely sharpen tipped circular saws by automated grinder
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare saw for sharpening
  - ◊ grind teeth, tip face and top
  - ◊ maintain gullet.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the cleaning and inspection of saws, the repair of defects such as dished blades, damaged teeth and cracks, the hammering of ridges and lumps and the tensioning of the saw.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Clean and inspect saw

1) Occupational health & safety regulations, policies & procedures relevant to hammering and tensioning circular saws are to be followed throughout the application of this competency.
2) Saws are handled safely without damage to teeth.
3) Mill materials built up on saw surfaces are cleaned for inspection.
4) Saw is inspected to determine condition of teeth and saw plate.
5) Saw is declared unserviceable where hazardous or potentially hazardous defects are found.
6) Tips requiring replacement are identified and marked where applicable.
7) Saws are handled safely without damage to teeth.
8) Mill materials built up on saw surfaces are cleaned for inspection.
9) Saw is inspected to determine condition of teeth and disk.
10) Saw is declared unserviceable where hazardous or potentially hazardous defects are found.
11) Tips requiring replacement are identified and marked where applicable.

2 Remove ridges, lumps and twists

1) Radial and circular ridges/lumps are identified and matched on both sides of saw.
2) Appropriate gauges and straight edges are used in both radial and circular directions.
3) Ridges/lumps are progressively removed through hammering or the use of structure rolls or levelling rolls to enterprise requirements for flatness.
4) Hammering and rolling patterns are controlled to localise stresses to avoid spring-back and re-occurrence of defects.
5) Straight edges and gauges used are monitored for accuracy.
6) Out of tolerance straight edges and gauges are put aside for rework.

3 Tension saw

1) Appropriate curvature for saw is identified.
2) Saw is checked against required curvature using a gauge to determine tensioning work required.
3) Tension curvature is obtained across saw to required standard.

Range of Variables

- Types, sizes and uses of untipped and tipped circular saws in enterprise/local industry.
- Cleaning may be mechanical, such as scraping and/or wire brushing, and/or through application of fluids.
- Saws may be flat or curved to provide tension.
- Saw tension obtained through hammering on appropriate surface, or through saw rollers.
- OH&S requirements including protective clothing and equipment, manual handling, machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explain:
  - ◊ OH&S regulations, policies and procedures for hammering and tensioning circular saws
  - ◊ types and uses of circular saws in enterprise/local industry
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrate ability to:
  - ◊ safely hammer and tension circular saws
  - ◊ clean and inspect saws of different types
  - ◊ identify various aspects of saw condition
  - ◊ remove lumps/ridges and twists for a range of saws
  - ◊ saw tension a range of saws
  - ◊ read technical and/or diagrammatic information.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely hammer and tension circular saws
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ clean and inspect saws
  - ◊ remove ridges, lumps and twists
  - ◊ tension saws.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the preparation and welding of ends and the finishing of the welded surfaces.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare ends

1) Occupational health & safety regulations, policies & procedures relevant to joining/repairing scroll band saws are to be followed throughout the application of this competency.
2) Length of saw blank is obtained to required length for machine, or existing saw is cut at crack.
3) Ends are trimmed to obtain correct saw alignment and pitch.
4) Ends are prepared to assist metal penetration.

2 Weld ends

1) Ends are set up in welder to tolerances specified by manufacturer.
2) Weld is applied to ensure metal penetration throughout blade.
3) Hot metal surfaces are shielded from accidental contact.

3 Finish welded surfaces

1) Surplus weld material is ground from blade without burning or annealing metal.
2) Blade is finished to eliminate bumps in blade surface.
3) Documentation and records are completed in accordance with site standards.

Range of Variables

- Type of weld may include projection/butt weld or oxy-acetylene.
- Manufacturer's tolerances and specification on material temper.
- Type and function of band saw.
- Production and quality records may include tally sheets, quality sheets/forms, downtime sheets, production sheets and calibration.
- OH&S requirements include manual handling, protective clothing and equipment, machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for joining/repairing scroll band saws
  - ◊ suitable welding method and set-up to meet manufacturer's requirements
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely join/repair scroll band saws
  - ◊ join and finish a band saw using one of the welding methods
  - ◊ read technical and/or diagrammatic information.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely join/repair scroll band saws
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare ends
  - ◊ weld ends
  - ◊ finish welded surfaces.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the starting up of the screening and transfer process and its monitoring to maintain the chip flow.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Start up screening and transfer processes

1) Occupational health & safety regulations, policies & procedures relevant to processing wood chips are to be followed throughout the application of this competency.
2) Pre-start-up checks are completed on screens and conveyors according to manufacturer's and site procedures.
3) Equipment lock out operations are carried out in accordance with OH&S legislation and site procedures.
4) Transfer areas or bins are checked to ensure clearance or capacity for start-up.
5) Other operators are informed of impending start-up.
6) Conveyors are started and correct transfer of wood chips confirmed.
7) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Monitor screening process and maintain chip flow

1) Chip conveyors are regularly monitored and material flow problems resolved.
2) Chips on screens are visually assessed and problems reported to chipper operator and others in accordance with site procedures.
3) Coarse screens are regularly raked to spread chips and remove oversize material in accordance with site procedures.
4) Fines screens are cleared regularly in accordance with site procedures.
5) Transfer areas or bins are regularly checked and cleared to ensure chip production is not interrupted.
6) Area around screens and conveyors is regularly cleared of debris in accordance with site procedures.
7) Chip samples are selected and identified for analysis in accordance with site procedures.
8) Equipment condition is monitored and problems reported promptly and fully in accordance with site procedures.
9) Production and quality records are completed in accordance with site procedures.

Range of Variables

- Equipment may include mechanical, automated, digitised and computer assisted.
- Assessment covers conformance to relevant wood chip quality specifications which may include species, size and rot.
- Contamination may include bark, charcoal, steel and rocks.
- Production and quality records may include tally sheets, quality sheets/forms, downtime sheets and production sheets.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine isolation, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for processing wood chips
  - ◊ routine material transfer problems and approaches used to resolve them
  - ◊ enterprise and customer specifications for wood chips
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely operate equipment for processing wood chips
  - ◊ start up and monitor screens and transfer equipment
  - ◊ visually assess wood chips over the range of species and specifications produced by the mill
  - ◊ record production and quality related data
  - ◊ carry out lockout procedure and safe working practices for a range of machines.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely process wood chips
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ start up screen and transfer processes
  - ◊ monitor screening process
  - ◊ maintain chip flow.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the planning of the transfer process, the starting up of the transfer equipment and the loading of chips.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Plan wood chip transfer

1) Occupational health & safety regulations, policies & procedures relevant to transferring and loading wood chips are to be followed throughout the application of this competency.
2) Deposit area for wood chips is inspected for access, cleanliness, water, ventilation and presence of chips.
3) Requirements for specific sequences in filling deposit areas are identified.
4) Filling or distribution patterns are planned to enable maximum wood chip storage density.
5) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Start up transfer equipment and chip slinger

1) Pre-start-up checks are completed for conveyors and chip slinger according to manufacturers' and site procedures.
2) Deposit areas are checked to ensure clearance for start-up.
3) Other operators are informed of impending start-up.
4) Conveyors and chip slinger are started and correct transfer of wood chips confirmed.

3 Load wood chips

1) Slinger is manoeuvred to enable filling or distribution over required area.
2) Need for additional spreading in deposit area is recognised and arranged.
3) Chip conveyors are regularly monitored and material flow problems resolved.
4) Chip samples are selected and identified for analysis in accordance with site procedures.
5) Equipment condition is monitored and problems reported promptly and fully in accordance with site procedures.
6) Production and quality records are completed in accordance with site procedures.

Range of Variables

- Chip slinging equipment may be jet slinger or air blower.
- Loading or transfer area may include stockpile, ship's hold and road or railway truck.
- Production and quality records may include tally sheets, quality sheets/forms, downtime sheets and production sheets.
- OH&S requirements include use of safety equipment, elimination of hazards and enterprise safety policy and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for transferring and loading wood chips
  - ◊ the chip transfer and loading process
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely operate equipment for transferring and loading wood chips
  - ◊ start up and monitor chip transfer equipment
  - ◊ fully utilise available deposit areas or holds
  - ◊ distribute chips with good compaction levels
  - ◊ record production and quality related data.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely transfer and load wood chips
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ plan wood chip transfer
  - ◊ start up transfer equipment and chip slinger
  - ◊ load wood chips.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams		•	
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

Description

This unit describes the work involved in the setting of the hard face machine and hard facing the teeth of a saw.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Set hard facing machine

1) Occupational health & safety regulations, policies & procedures relevant to hard facing saw teeth are to be followed throughout the application of this competency.
2) Material stock to be used for hard facing is selected and set up in machine to manufacturer's instructions and site requirements.
3) Saw is set up in machine to manufacturer's instructions and site requirements.
4) Adjustments are made to machine variables to suit saw and material.

2 Hard face teeth

1) Each tooth is aligned to machine tip to ensure hard facing is applied to cutting surfaces.
2) Machine is operated to manufacturer's instructions and site requirements.
3) Machine variables such as pressure, temperature, current/voltage, weld times and vacuum are adjusted to obtain required material cohesion.
4) Completed facing is checked against specification.

Range of Variables

- Hard facing process is either one form of resistance welding or plasma transfer.
- Saws may be circular or band.
- OH&S requirements include protective clothing and equipment, machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for hard facing saw teeth
  - ◊ the hard facing process
  - ◊ saw uses, defects and reasons for defects
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely hard face saw teeth
  - ◊ hard face on a range of saws
  - ◊ read technical and/or diagrammatic information.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely hard face saw teeth
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ set hard facing machine
  - ◊ hard face teeth.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the removing of worn tungsten tips from saws and the brazing and cleaning and preparing of replacement tips for grinding.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Remove worn tips

1) Occupational health & safety regulations, policies & procedures relevant to replacing tungsten tips are to be followed throughout the application of this competency.
2) Saw is cleaned and checked for defects.
3) Broken tips are identified and marked.
4) Broken tips are removed from seat using appropriate methods and minimising damage to tooth seat.
5) Tooth seats are repaired to specified dimensions and tolerances.

2 Braze replacement tips

1) Saw is set up in brazing jig to manufacturer's instructions or site procedures.
2) Replacement tip is selected to meet application specification.
3) Tip is brazed into position using accepted brazing techniques.
4) Braze material is selected suitable for saw material and application.
5) Brazing technique controlling heating of saw is within specified limits.

3 Perform routine checks and maintenance on equipment

1) Trial weld of one tip is made to check weld pressure, current temperature and anneal settings against documentation.
2) Adjustments are made to bring machine operation within required tolerances.
3) Manual or automatic feeds are set according to number of tips to be welded.
4) Annealing process temperatures are checked and current adjusted to maintain them within specified range.

4 Clean and prepare tip for grinding

1) Surplus braze material is removed from saw surfaces.
2) Tip faces are dressed to prepare them for sharpening.

Range of Variables

- Tungsten tips may be on band and circular saws used for different mill operations.
- Tip faces may include front, top and sides.
- Tooth removal may involve melting of brazed joint or chipping/levering tip off saw.
- Brazing techniques may include gas brazing and oxy-acetylene or equivalent.
- Replacement may be by inserted teeth.
- OH&S requirements include protective clothing and equipment, machine guarding, elimination of hazards, fumes and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for replacing tungsten tips
  - ◊ tungsten tip replacement options and processes
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates ability to:
  - ◊ safely and effectively replace tungsten tips
  - ◊ apply brazing techniques for tip removal and replacement on a range of saws
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely replace tungsten tips
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ remove worn tips
  - ◊ braze replacement tips
  - ◊ perform routine check and maintenance on equipment
  - ◊ clean and prepare tip for grinding.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the preparation of teeth for stellite tips and the setting up, welding, annealing and checking of saw tips.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare tooth for tips

1) Occupational health & safety regulations, policies & procedures relevant to replacing stellite tips are to be followed throughout the application of this competency.
2) Tips requiring replacement are identified by measurement and comparison against manufacturer's tolerances.
3) Saw teeth are treated to provide suitable surface for replacement.
4) Saw and tip surfaces are cleaned to provide good contact surface for brazing/silver soldering.

2 Set up welder

1) Saw is set up in welder dig using appropriate tooling and settings to manufacturer's instructions and site procedures.
2) Automatic feed systems are checked for operation and appropriate settings.
3) Existing saw tolerances are checked to ensure required tolerances will be met.
4) Safety requirements for projection/spot welding are applied to OH&S legislation and site requirements.

3 Perform routine checks and maintenance on equipment

1) Trial weld of one tip is made to check weld pressure, current temperature and anneal settings against documentation.
2) Adjustments are made to bring machine operation within required tolerances.
3) Manual or automatic feeds are set according to number of tips to be welded.
4) Annealing process temperatures are checked and current adjusted to maintain them within specified range.

4 Coach others in load shifting

1) Tolerances of saw tips are checked against specification.
2) Out of tolerance tips are replaced or ground to specified tolerances.

Range of Variables

- Stellite tips may be on band and circular saws.
- Projection/spot-welding equipment and processes.
- Size of stellite tip and tip/saw tolerances.
- Tolerances of tip in relationship to saw and other tips in three axes.
- OH&S requirements include protective clothing and equipment, machine guarding, elimination of hazards and fumes, and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for replacing stellite tips
  - ◊ stellite tip replacement process
  - ◊ settings for welder for different types of saw
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely replace stellite tips
  - ◊ remove worn/out-of-tolerance tips and preparation of saw for re-tipping
  - ◊ weld tips on range of saws to specification
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely replace stellite tips
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare tooth for tips
  - ◊ set up welder
  - ◊ perform routine checks and maintenance on equipment
  - ◊ coach others in load shifting.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

FPIS3068A Identify and Repair Defects in Wide Band/Gang Saws

Description

This unit describes the work involved in the identification and repair of defects and the restoration and replacement of damaged saw teeth in wide band/gang saws.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Clean and inspect saw

1) Occupational health & safety regulations, policies & procedures relevant to the identification and repair of defects in wide band/gang saws are followed throughout the application of this competency.
2) Saws are handled safely and without any damage occurring using assistance and mechanical aids.
3) Mill materials built up on saw surface are cleaned for inspection.
4) Saw is inspected to determine condition of teeth and back.
5) Teeth and tips requiring repair/replacement are identified and marked.
6) Saw is declared unserviceable when hazardous or potential hazardous defects are found.

2 Hammer ridges/lumps

1) Ridges/lumps across and along saw are identified and matched on both sides of saw.
2) Appropriate gauges and straight edges are used in both directions.
3) Ridges/lumps are progressively removed through hammering/rolling in accordance with site requirements for flatness.
4) Hammering/rolling patterns control localised stresses to avoid spring-back and re-occurrence of lumps/ridges.
5) Hammering/rolling patterns and stress removal is consistent with saw tension.
6) Straight edges and gauges used are monitored for accuracy.
7) Out of tolerance straight edges and gauges are put aside for rework.

3 Tension saw

1) Appropriate tension for saw is identified.
2) Saw is checked against required curvature using a gauge to determine tensioning work required.
3) Tension curvature is rolled across/along saw to required standard.

4 Backgauge saw

1) Alignment of saw back is checked against saw tolerances with appropriate gauge.
2) Out of tolerance areas are rolled to obtain required tolerances.

5 Prepare tooth for welding

1) Saw is placed in appropriate welding jig for applying heat and weld material to tooth.
2) Worn/broken surface is prepared for metal build up by appropriate application of heat and pressure to accepted welding and heat treatment practices.

6 Build up tooth

1) Tooth is built up using accepted welding procedures that ensure proper metal penetration and density.
2) Compatibility between filler material and base material is ensured.
3) Appropriate preheating procedures are used to ensure metal penetration.
4) Weld run off tabs are used to limit stresses and hollows at edges of saw.
5) Sufficient surplus metal is built up for tooth to be finished to correct shape.
6) Welder settings are made to manufacturer's instructions and accepted welding practice.

7 Finish tooth

1) Tooth is ground or filed to required shape and tolerances.
2) Metal is heat treated to temper specified by manufacturer or enterprise procedures.
3) Tooth pitch is maintained during finishing process.

8 Remove damaged tooth

1) Proposed weld line is marked out to determine amount of material to be removed.
2) Weld line is selected to minimise stresses.
3) Metal is removed to proposed weld line.
4) Metal edge is prepared to suit welding process and material to accepted welding practice.
5) Metal edge is clean and free of burn marks.

9 Prepare replacement tooth

1) Replacement tooth is selected from saw stock to match profile, material and thickness.
2) Replacement tooth is marked out and cut to match gap dimensions in damaged saw.

10 Insert replacement tooth

1) Replacement tooth is aligned to saw pitch.
2) Welding set-up secures components to accepted practice and welder manufacturer's instructions.
3) Appropriate preheating procedures are used to ensure metal penetration, and to limit stresses and distortion.
4) Weld run-off tabs are used to limit stresses and hollows at saw edges.
5) Weld tacks are made to ensure tooth alignment to required dimensions.
6) Tooth weld is made to manufacturer's instructions, site procedures and accepted welding practice.
7) Welder settings are to manufacturer's instructions and accepted welding practice.
8) Weld material is compatible with base material.
9) Weld thickness is adequate for finishing operations.
10) Weld has required material density and is without holes and inclusions.
11) Documentation and/or records are completed in accordance with site procedures.

Range of Variables

- Types, sizes and uses of wide band/gang saws in enterprise/local industry.
- Cleaning may include mechanical, scraping and/or wire brushing and application of fluids.
- Saw tension/tolerances may be obtained through hammering and saw rollers.
- Welding processes may include oxy-acetylene and gas tungsten arc.
- Saw types and tooth geometries may include band and gang circular .
- Teeth may include tipped and untipped.
- Tooth tolerances on profile, pitch, set and material thickness are to enterprise and manufacturer's specifications.
- OH&S requirements include manual handling, use of safety equipment, dealing with hazardous substances, operation of equipment, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for the identification and repair of defects in wide band/gang saws
  - ◊ mill and associated transport operations
  - ◊ wheeled lifting equipment in mill and associated sites
  - ◊ saw types, materials and uses in enterprise/local industry
  - ◊ alternative welding and heat treatment processes
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for repairing defects in wide band/gang saws
  - ◊ handle saws safely and without any damage occurring
  - ◊ use gauges and straight edges in both directions
  - ◊ roll material
  - ◊ weld using various techniques and heat treatment processes
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely repair defects in wide band/gang saws
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ clean and inspect saws
  - ◊ hammer ridges/lumps
  - ◊ tension saws
  - ◊ backgauge saws
  - ◊ prepare teeth for welding
  - ◊ build up teeth
  - ◊ remove damaged teeth
  - ◊ prepare replacement teeth
  - ◊ insert replacement teeth.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level		
	1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the determination of saw dimensions, the punching of tooth outlines and the welding and joining of a saw.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Establish saw dimensions

1) Occupational health & safety regulations, policies & procedures relevant to manufacturing wide band/gang saw blank are to be followed throughout the application of this competency.
2) Key dimensions of saw are determined from:
- manufacturer's specifications
- existing saws and site documentation
- knowledge of timber processing requirements and sawmill

3) Performance and wear of existing saws is assessed to determine if changes should be recommended.
4) Suitable length of blank is obtained or cut from ribbon stock.

2 Punch tooth outlines

1) Press is set-up with punches to suit saw dimensions.
2) First tooth is punched in blank to provide alignment for other teeth.
3) Remaining teeth are punched to required pitch and tooth profile.

3 Join or weld saw where applicable

1) Blank is sheared to correct length at angle to suit tension and with regard to tooth pitch.
2) Blank is set up in welding jig at correct angle and spacing to maintain pitch, provide gap for weld material and for saw back to be square.
3) Ends are tack welded to maintain angle and minimise distortion.
4) Weld run out tabs are set up to minimise stress at saw edges.
5) Weld is run across blade in pattern that minimises built in stresses.
6) Weld and surrounding surfaces are heat treated to obtain specified material temper.
7) Accuracy of join is checked against specified dimensions and tolerances.
8) Surplus weld material is ground back to saw thickness.

Range of Variables

- Saw dimensions may include width, length, pitch, kerf/set, tension and number of teeth.
- Punching in power or fly press.
- Welding and heat treatment processes may include oxy-acetylene, gas metal arc and gas tungsten arc.
- OH&S requirements include manual handling, protective clothing and equipment, machine guarding, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for manufacturing wide band/gang saw blank
  - ◊ sources of information for saw dimensions
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely manufacture wide band/gang saw blank
  - ◊ manufacture punched blank to required dimensions
  - ◊ join/weld ends using appropriate welding and heat treatment processes
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely manufacture wide band/gang saw blank
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ establish saw dimensions
  - ◊ punch tooth outlines
  - ◊ join or weld saw where applicable.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the preparation of the band mill, the fitting of special grinders, the grinding of the wheel profile and the reassembly of the band mill.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare band mill

1) Occupational health & safety regulations, policies & procedures relevant to reconditioning wide band saw wheels are to be followed throughout the application of this competency.
2) Arrangements are made for access to band mill.
3) Equipment lock out operations are applied in accordance with OH&S legislation and site procedures.
4) Saw is removed and safely stored.
5) Cleaning of band mill is carried out to aid removal of components.
6) Mill components restricting access to wheels are disassembled and cleared from working area, according to site procedure.
7) Wheel is inspected and measured as required to determine wear and method of grinding.

2 Fit special grinder

1) Wheel grinder is serviced to manufacturer's instructions.
2) Wheel grinder is fitted to band mill to manufacturer's/site specification.
3) Wheel grinder is aligned to wheel to manufacturer's tolerances.

3 Grind wheel profile

1) Trial cut is taken to verify and further align grinder.
2) Wheel is ground to manufacturer's instructions and/or site procedures to obtain required wheel profile and finish.
3) Grinding feeds are controlled to obtain required profile.
4) Wheel is measured to ensure diameter of back and front edges are same.
5) Wheel is checked to ensure face is not hollow.
6) Grinding is continued until all signs of wear are removed.
7) Wheel profile is measured to ensure grinding achieves required profile.
8) Burn marks are removed from wheel to ensure correct material temper.

4 Reassemble band mill

1) Grinder and base plate are removed from band mill at completion of grinding.
2) Band mill components are reassembled to manufacturer's/site specifications.
3) Band saw is set up on mill to specified alignment.
4) Band saw and mill operation are tested to ensure specified operation.
5) Documentation of lockout is completed to site requirements.
6) Isolation padlock/tag is removed when safe to do so, at completion of work, in accordance with OH&S legislation and site procedures.
7) Production personnel are notified that equipment is available at completion of work.

Range of Variables

- Band mills in enterprise.
- Operation of band mill in mill line.
- Type of band saw and timber being processed.
- Wheel grinder limited to unit suitable for band mill and wheels.
- Wheel may be in normal or reversed mode for grinding.
- OH&S requirements include manual handling, use of safety equipment, dealing with hazardous substances, operation of equipment, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for reconditioning wide band saw wheels
  - ◊ band mill theory of operation and function of alternative wheel profiles
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for reconditioning wide band saw wheels
  - ◊ disassemble and assemble mill components
  - ◊ fit and align wheel grinder
  - ◊ grind wheel to profiles used by enterprise
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely recondition wide band saw wheels
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ prepare hand mill
  - ◊ fit special grinder
  - ◊ grind wheel profile
  - ◊ reassemble band mill.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems		•	
Using technology		•	

Description

This unit describes the work involved in the operation of chip producing equipment, the maintenance of production flow and the changing of chipper blades.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Prepare for operations

1) Occupational health & safety regulations, policies & procedures relevant to chipping logs to chip or flake are to be followed throughout the application of this competency.
2) Machinery and transfer system start-up checks are carried out to site procedures.
3) Other operators are informed of impending start-up.
4) Chipper, washing systems and transfer systems are started following site procedures.
5) Chip requirements and specifications are identified in accordance with site procedures.
6) Chipper operation is monitored during chipping of trial logs.
7) Chips are visually assessed for size and appearance.
8) Screening effectiveness is confirmed for chips produced.
9) Chipper and systems are adjusted to correct chip characteristics.
10) Transfer equipment, bins and hoppers are checked to ensure contamination of chips is prevented.
11) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Maintain production flow

1) Log supply is co-ordinated with log yard personnel.
2) Chipping sequence is planned for available logs to minimise jamming and maximise flow continuity.
3) Logs on log deck and conveyors are visually assessed.
4) Log and chip conveyors are regularly monitored for material flow problems and problems with transfer of material are resolved.
5) Logs unsuitable for chipping are removed from transfer system and reported to appropriate personnel.
6) Transfer systems are operated to feed logs to planned sequence.
7) Chipping and transfer equipment condition is monitored and problems reported promptly and fully in accordance with site procedures.
8) Production and quality records are completed in accordance with site procedures.
9) Regular checks are made to ensure woodchips conform to relevant woodchip quality specifications according to order requirements and site standards.
10) Area around infeed is regularly cleared of debris in accordance with site procedures.

3 Change chipper blades

1) Characteristics of blunt or damaged chipper blades are recognised and blade change initiated.
2) Equipment lock out procedures are applied in accordance with OH&S legislation and site procedures.
3) Blades are replaced in chipper to manufacturer's and site procedures.
4) Internal chipper faults are identified and reported promptly and fully in accordance with site procedures.
5) Records of blade changes are maintained.

Range of Variables

- Assessment may cover sawmill quality, diameter, curvature, shape and species.
- Contamination may include bark, charcoal, steel, rocks, paint and plastic.
- Documents may include weighbridge docket, tally sheets and order docket.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine isolation, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for converting logs to chip or flake
  - ◊ the conversion process flow
  - ◊ the recording of chip output and downtime
  - ◊ how blade condition is monitored and blunt blades recognised
  - ◊ enterprise requirements and standards for retained bark is required
  - ◊ the purpose of lock out procedures
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely operate equipment for converting logs to chip or flake
  - ◊ start up chipping and transfer systems
  - ◊ assess logs over the full range of sizes, conditions and species that the mill will handle
  - ◊ chip full range of log sizes, conditions and species that the mill will handle
  - ◊ change blades
  - ◊ troubleshoot and resolve problems associated with a broad range of chipping conditions
  - ◊ record production data
  - ◊ carry out lock out procedures.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely convert logs to chip or flake
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ start equipment
  - ◊ produce wood chips
  - ◊ apply environment protection measures
  - ◊ maintain production flow
  - ◊ change chipper blades.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level		
	1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information		•	
Planning & organising activities		•	
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology		•	

Description

This unit describes the work involved in the collection of wood chip samples, their testing and the reporting and follow up of test results.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Collect wood chip samples

1) Occupational health & safety regulations, policies & procedures relevant to assessing wood chips are to be followed throughout the application of this competency.
2) Material being chipped is inspected for contaminants needing follow up in chip testing.
3) Chip production, transport and storage processes are examined for potential sources of contamination.
4) Chips are visually assessed at production, transport and storage locations in accordance with site procedures.
5) Potential problems with chip characteristics and contamination are reported in accordance with site procedures.
6) Chip samples are collected in accordance with locations and methods detailed by site procedures.
7) Chip samples are identified and kept free from mixing and contamination.
8) Sampling records are completed in accordance with site procedures.
9) Communication with others involved with the work is established and maintained to ensure efficient work flow co-ordination, personnel co-operation and safety throughout the application of this competency.

2 Test wood chips

1) Chip specifications are identified from production schedules and order requirements.
2) Chips are tested for moisture content, size distribution, shape and contamination in accordance with site procedures.
3) Chip samples are stored in accordance with customer and site requirements.
4) Test reports are completed to site standards.

3 Report and follow up test results

1) Test results are communicated in accordance with site procedures.
2) Specific faults and defects identified in tests are reported and used to assist identification of production problems.
3) Test sampling is modified in response to problems identified and production changes.

Range of Variables

- Material chipped may include logs, rejected sawn material and sawing off-cuts.
- Contaminants may include disease, infestation or rot in wood, bark, charcoal, steel, rocks, paint and plastic.
- Visual assessment may cover moisture content, size distribution, shape and contamination.
- OH&S requirements include manual handling, protective clothing, elimination of hazards, machine isolation, machine guarding and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for assessing wood chips
  - ◊ wood chip specifications and customer requirements
  - ◊ typical production problems and resulting chip characteristics
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely assess wood chips
  - ◊ safely collect samples
  - ◊ assess chip production, storage and handling
  - ◊ compete test and report procedures
  - ◊ utilise test results to assist production troubleshooting
  - ◊ communicate effectively with others in associated areas
  - ◊ apply mathematical procedures such as estimation and measurement.

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely assess wood chips
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ collect wood chip samples
  - ◊ test wood chips
  - ◊ report and follow up of test results.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level		
	1	2	3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities	•		
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology	•		

FPIS3073A Distribute Stockpiled Wood Chips

Description

This unit describes the work involved in the planning of wood chip movement, the distribution of wood chips over the stockpile and their retrieval during transport loading.

Suggested Pre-Requisite

FPI OHS 1A Follow defined occupational health & safety policies & procedures.

1 Plan necessary movement of wood chips

1) Occupational health & safety regulations, policies & procedures relevant to the distribution of stockpiled wood chips are to be followed throughout the application of this competency.
2) Future wood chip stockpile size is estimated from production and shipping schedules.
3) Direction and extent for spread or contraction of stockpile is planned and confirmed in accordance with site procedures.
4) Chip spreading requirements are estimated considering reach of chip slinging equipment.
5) Communication with supervisor and other workers is maintained to ensure efficient work flow co-ordination and personnel co-operation.

2 Distribute wood chips over stockpile

1) Required wheeled or tracked vehicle is obtained and necessary attachments fitted and/or inspected.
2) Stockpile is inspected to identify hazards within vehicle operational area including fixed transfer equipment, poorly compacted chip surfaces and stockpile faces.
3) Nearby personnel are advised of impending spreading operation as appropriate.
4) Wood chips are spread from slinging area to stockpile edges with minimum vehicle movement.
5) Surface of stockpile is levelled in accordance with site standards.
6) Communication is maintained with other operators to move slinging point and minimise additional spreading required.

3 Retrieve wood chips during loading of transport

1) Required wheeled or tracked vehicle is obtained and necessary attachments fitted and/or inspected.
2) Stockpile is inspected to identify hazards within vehicle operational area including fixed transfer equipment, poorly compacted chip surfaces and stockpile faces.
3) Nearby personnel are advised of impending wood chip movement as appropriate.
4) Wood chips are retrieved from stockpile edges and used to supply loader recovery area with minimum vehicle movement.
5) Wheeled vehicle is used to recover stockpile edges and minimise spreading of stockpile edges.
6) Surface of stockpile is levelled in accordance with site standards.
7) Communication with supervisor and other workers is maintained to ensure efficient work flow co-ordination and personnel co-operation.

Range of Variables

- Planning includes number, type and attendance time required for vehicles.
- Types of vehicles may be either wheeled or tracked dozers.
- OH&S requirements include manual handling, protective clothing, elimination of hazards and enterprise safety policies and procedures.

Evidence Guide

Underpinning Knowledge

- Explains:
  - ◊ OH&S regulations, policies and procedures for distributing stockpiled wood chips
  - ◊ enterprise standards for distributing stockpiled wood chips
  - ◊ the importance of accuracy
  - ◊ the purpose of record keeping.

Underpinning Skills

- Demonstrates the ability to:
  - ◊ safely and effectively operate equipment and material over the full range of processes for distributing stockpiled wood chips
  - ◊ plan wood chip movements in line with future schedules and daily requirements
  - ◊ use all necessary equipment to move chips with minimum vehicle movement
  - ◊ enable uninterrupted stock piling or loading of wood chips

Critical Aspects of Evidence

- Assessment must confirm the application of appropriate knowledge and skills to:
  - ◊ safely distribute stockpiled wood chips
  - ◊ communicate effectively with others in associated areas
  - ◊ access, interpret, assess and apply technical information
  - ◊ plan movement of wood chips
  - ◊ distribute wood chips over stockpile
  - ◊ retrieve wood chips during loading of transport.

Interdependent Assessment of Unit

This unit of competency may be assessed in conjunction with other units which form part of a job role.

Assessment Context

This unit may be assessed in the workplace or under conditions which accurately simulate a realistic workplace.

Key Competencies & Application to Standards

Key Competency	Level 1	Level 2	Level 3
Collecting, analysing & organising information	•		
Communicating ideas & information	•		
Planning & organising activities		•	
Working with others in teams	•		
Using mathematical ideas & techniques	•		
Solving Problems	•		
Using technology		•	