Australian Government

Department of Education, Employment and Workplace Relations

FPISAW3226B Saw logs using CNC optimising systems

Release: 1

FPISAW3226B Saw logs using CNC optimising systems

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to set up, operate and maintain computer numerically controlled (CNC) optimising systems used for the maximisation of timber from every log. The unit includes operator maintenance

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication

This unit replaces FPISAW3226A Saw logs using CNC optimising systems

Application of the Unit

Application of the unit

The unit involves sawing logs using CNC optimising systems in a forest products factory setting

The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

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

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for machining	1.1. Applicable ***Occupational Health and Safety*** (OHS), ***environmental***, ***legislative*** and ***organisational requirements*** relevant to sawing logs using CNC optimising systems are identified and followed
	1.2. ***Work order*** is reviewed and checked with ***appropriate personnel***
	1.3. Type and quantity of ***logs*** to be ***sawn*** are acquired from the ***storage location***
	1.4. ***Equipment*** is selected appropriate to work requirements and checked for operational effectiveness in line with manufacturer's recommendations
	1.5. Log sawing process is planned in line with site procedures and environmental requirements
	1.6. ***Communication*** with others is established and maintained in line with OHS requirements
2. Set up optimising system	2.1. ***CNC optimising program*** is set to job specifications
	2.2. Safety equipment, including emergency stops, gauges, guards and controls are checked
	2.3. ***Saw settings*** and adjustments are made in line with job requirements, and machine and tool manufacturer's instructions
	2.4. Saw and cutting mechanisms are checked for safe and effective operation
	2.5. Trial runs are conducted to check system operation, accuracy and quality of finished work
	2.6. Final adjustments are made to the CNC optimising program and equipment in line with workplace procedures
3. Operate optimising log saw	3.1. ***Pre start-up checks*** are carried out on equipment in line with site requirements
	3.2. Logs are fed into machine in line with manufacturer's instructions, safe handling procedures and standard workplace operating procedures
	3.3. Saw is operated in line with its designed capacity and purpose, tooling requirements and manufacturer's recommendations
	3.4. Saw operation is monitored to ensure product quality and ***output***
	3.5. ***Waste*** quantities are checked and minimised

ELEMENT	PERFORMANCE CRITERIA
	3.6. Items that do not meet quality requirements are repaired, recycled or discarded in line with workplace procedures
	3.7. Sawing process and equipment faults are ***recorded and reported*** to the appropriate personnel
4. Conduct operator maintenance	4.1. Equipment lock-out procedures are followed in line with OHS legislation and site proceduresBlades are checked for blunt or damaged condition in line with site procedures
	4.2. Blunt or damaged saws are identified and ***dealt with*** in line with site procedures, manufacturer's recommendations and environmental requirements
	4.3. Machining area is kept clear of dust, off-cuts and debris in line with OHS requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Technical skills sufficient to use and maintain relevant tools, machinery and equipment; efficiently and safely saw logs using CNC optimising systems
- Communication skills and interpersonal techniques sufficient to interact appropriately with colleagues and others in the workplace
- Literacy skills sufficient to accurately record and report workplace information, and maintain documentation
- Numeracy skills sufficient to estimate, measure and calculate time required to complete a task
- Problem solving skills sufficient to identify problems and equipment faults and demonstrate appropriate response procedures

Required knowledge

- Applicable Commonwealth, State or Territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for sawing logs using CNC optimising systems
- Environmental protection requirements, including the safe disposal of waste material, minimising carbon emissions and the cleaning of plant, tools and equipment
- Organisational and site standards, requirements, policies and procedures for sawing

REQUIRED SKILLS AND KNOWLEDGE

logs using CNC optimising systems

- Environmental risks and hazards
- Characteristics of logs and defects
- Set up and operation of CNC equipment
- Optimising systems
- Computer programs
- Cutting patterns and sequences
- Blade condition assessment
- Industry standard cross-sections and lengths
- Established communication channels and protocols
- Problem identification and resolution strategies and common fault finding techniques
- Types of tools and equipment and procedures for their safe use, operation and maintenance
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can safely and efficiently saw logs using CNC optimising systems within organisational requirements

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

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

- following applicable Commonwealth, State or Territory legislative and regulatory requirements and codes of practice relevant to sawing logs using CNC optimising systems
- following organisational policies and procedures relevant to sawing logs using CNC optimising systems
- sawing logs using CNC optimising systems in line with work order and within prescribed organisational tolerances
- setting computer programs for the CNC optimising system to follow
- conducting operator maintenance on CNC optimising equipment

Context of and specific resources for assessment

- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
    - workplace location or simulated workplace
    - materials and equipment relevant to undertaking work applicable to this unit
    - specifications and work instructions

EVIDENCE GUIDE

Method of assessment

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

Range Statement

RANGE STATEMENT

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

RANGE STATEMENT

OHS requirements: are to be in line with applicable Commonwealth, State or Territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices including required actions relating to forest fire
- manual handling including shifting, lifting and carrying
- machine isolation and guarding

Environmental requirements may include:

- legislation
- organisational policies and procedures
- workplace practices

Legislative requirements: are to be in line with applicable Commonwealth, State or Territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care
- legal

Organisational requirements may include:

- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals

RANGE STATEMENT

	• quality and continuous improvement processes and standards • OHS, emergency and evacuation procedures • ethical standards • recording and reporting requirements • equipment use and maintenance and storage requirements • environmental management requirements (waste minimisation disposal, recycling and re-use guidelines)
Work order is to include:	• instructions for the machining and despatch of logs and cut product from the work site and may include: • type • size • length • angle • quantity • grade • instructions for the environmental monitoring of work and procedures • environmental care requirements relevant to the work
Appropriate personnel may include:	• supervisors • suppliers • clients • colleagues • managers
Logs are to include:	assessment of: • diameter range • curvature • faults • species • moisture content
Sawing is to include:	• sawing operations with CNC optimising systems
Storage locations may include:	• storage racks • storage bays • bins • stacks

RANGE STATEMENT

- pallet boxes
- modularised storage components
- temporary stacking bays (stand, frame or ground)

and may be divided into:

- standard product classification
- product designation
- size
- dimension
- stack number
- weight
- grade
- shelf life
- stock rotation position

Equipment is to include:

- CNC optimising log saws
- procedures for lock-out, ie protecting operators and co-workers from accidental injury by isolating the machine from the power source

Communication may include:

- verbal and non-verbal language
- constructive feedback
- active listening
- questioning to clarify and confirm understanding
- use of positive, confident and cooperative language
- use of language and concepts appropriate to individual social and cultural differences
- control of tone of voice
- body language

CNC optimising program is to include:

- computer generated program, selected by the operator (sub-programs, parametric performance of CAM functions)
- downloading and storing 3D scan data, which translates into the CNC equipment operating automatically to fulfil its programmed instructions

Saw settings may include:

- measurement
- setting equipment to stops, fences, angles, depths, feeds or speeds

RANGE STATEMENT

Pre start-up checks	are conducted to ensure: • equipment has been set-up correctly • blades are installed accurately • machinery is operating to optimum performance
Output is to include:	• the speed at which material is cut • rate at which material is cut
Waste may include:	• off-cuts • shavings • sawdust
Records and reports may include:	• the sawing method • optimising reports • product type • size • inspection • grading and labelling outcomes • storage locations • quality outcomes • hazards • incidents • equipment malfunctions and may be: manualusing a computer-based system or another appropriate organisational communication system
Dealing with may include:	• repairing blunt or damaged saws • disposing of blunt or damaged saws that cannot be repaired

Unit Sector(s)

Unit sector No sector required

Co-requisite units

Co-requisite units

Competency field

Competency field Sawmilling and Processing