Title	**Set up, monitor, and troubleshoot scanning and optimising systems for a wood sawing machine**		
Level	**5**	**Credits**	**15**

Purpose	People credited with this unit standard are able to, for a wood sawing machine: work safely around the scanning and optimising system; set up and test scanning and optimising systems; monitor and troubleshoot the scanning and optimising system; calibrate and align the scanning and optimising system; communicate with stakeholders regarding the performance of the scanning and optimising system; analyse data and potential solutions to maximise value of the scanning and optimising system; and consult with stakeholders to recommend and manage adjustments for maximising value of the scanning and optimising system.

Classification	Solid Wood Manufacturing > Sawmilling

Available grade	Achieved

Guidance Information

1 Legislation
Health and Safety at Work Act 2015.
Resource Management Act 1991.

2 Definitions
Accepted industry practice – approved codes of practice and standardised procedures accepted by the wider sawmilling industry as examples of best practice.
Workplace procedures refer to documented policies and procedures set by the organisation carrying out the work, and to documented or other directions provided to staff, and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the industry sector.

3 Range
Wood sawing machines include but are not limited to – bucking and log merchandisers, carriages, quads, twins, end dog, edgers, trimmers, dry mill cross cut lines, rip lines;
evidence of one wood sawing machine is required.

4 Assessment information
All activities and evidence must meet workplace procedures and accepted industry practice.

5 Recommended unit standards for entry:
Unit 8006, *Maximise timber recovery in sawmill operations.*
Unit 23440, *Optimise timber for fibre and grade recovery when cutting timber*.

Outcomes and performance criteria

Outcome 1

Work safely around the scanning and optimising system for a wood sawing machine.

Performance criteria

1.1 Hazards associated with working around the scanning and optimising system are identified and actions to be taken to manage the hazards are described.

Range hazards may include but are not limited to – moving equipment, radiation sources, saw dust, mobile plant, noise.

1.2 Safe work practices associated with working around the scanning and optimising system are used.

Range practices may include but are not limited to – isolation procedures, lock-outs, emergency stops, machine guarding, wearing appropriate safety equipment.

Outcome 2

Set up and test scanning and optimising systems for a wood sawing machine.

Performance criteria

2.1 Software parameters of the scanning and optimising system are identified, and their interlinkages and relationships are described.

2.2 Reference sources for information of the software systems are identified and the information available from these is described.

2.3 The prerequisites for good simulation and system testing are described.

2.4 Simulation and test results are compared with actual data to confirm the software is functioning.

2.5 Scanning and optimising system is set up for operation.

Outcome 3

Monitor and troubleshoot the scanning and optimising system for a wood sawing machine.

Performance criteria

3.1 Routine operational checks on the performance of the scanning and optimising system components are completed.

3.2 Volume and grade recovery data are compared to the performance specifications for the scanning and optimising system.

3.3 Products are measured and compared with the scanning and optimising system calculated products, anomalies are investigated to identify root causes, and solutions are implemented.

3.4 Reasons for undesirable solutions are explored, root causes are identified, and improvements are implemented.

Range undesirable solutions include but are not limited to – no solution.

Outcome 4

Calibrate and align the scanning and optimising system for a wood sawing machine.

Performance criteria

4.1 The capability and resolution of the scanning equipment is described in terms of characteristics and defects that are detected and not detected.

Range characteristics and defects may include but are not limited to – thickness, shape, wane, knots, grain angle, colour check, stain.

4.2 Methods are demonstrated for determining that capability and resolution described in performance criterion 4.1 are being achieved during operation.

4.3 Calibration procedures and calibration points are described and demonstrated.

4.4 Site specific and equipment specific tools, and calibration objects, are used to complete calibration and alignment of the scanning and optimising system.

4.5 Scanning and optimising solutions for downstream processes are compared with actual downstream machine results, to ensure that predicted size and recovery optimisation is being realised by downstream scanning and optimising systems.

Outcome 5

Communicate with stakeholders regarding the performance of the scanning and optimising system for a wood sawing machine.

Performance criteria

5.1 Communication with mill management regarding performance, problems, or changes in performance, possible upgrades, and opportunities for improvement is completed.

5.2 Communication with suppliers and support personnel regarding projects, and development or maintenance activities, is completed.

5.3 Communication with operational staff regarding calibration and performance changes, physical machine changes, set up and equipment changes is completed.

5.4 Information needs of the wood sawing machine operators with regard to the scanning and optimising system are identified.

5.5 Information is delivered and reinforced to ensure the scanning and optimising system is operated to achieve size and recovery objectives.

Outcome 6

Analyse data and potential solutions to maximise value of the scanning and optimising system for a wood sawing machine.

Performance criteria

6.1 Scanning data is gathered and analysed to determine best conversion options for maximum value.

6.2 Grade recovery solutions are selected to maximise value.

Outcome 7

Consult with stakeholders to recommend and manage adjustments for maximising value of the scanning and optimising system for a wood sawing machine.

Performance criteria

7.1 Consultation with relevant stakeholders is carried out to ensure the optimum solution is selected to maximise value.

Range stakeholders may include but are not limited to – logistics, sales, production, operations.

7.2 Measurement methods are recommended to ensure selected solution meets expected optimisation target.

Planned review date	31 December 2024

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 August 2008	31 December 2013
Review	2	21 June 2012	N/A
Review	3	23 April 2020	N/A

Consent and Moderation Requirements (CMR) reference	0013

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.