Case for endorsement

FWP Forest and Wood Products Training Package

Version 4.0

Submitted by Skills Impact

on behalf of

Timber and Wood Processing &

Timber Building Solutions

Industry Reference Committees

November 2018

Contents

A. Administrative details

This section provides an overview of the relevant organisations, the case for change and training package components for endorsement.

Industry Reference Committee submitting the Case for Endorsement

This submission is made by the following Industry Reference Committees (IRCs):

- Timber and Wood Processing
- Timber Building Solutions.

Skills Service Organisation supporting the submission

Skills Impact Ltd is the Skills Service Organisation (SSO) supporting this submission.

Components submitted for approval

The components submitted for approval are:

Prefabrication of Panelised Timber Building Systems and On-site Installation

- 4 new units of competency
- 3 revised units of competency.

Manufacturing Solid Engineered Wood Products - Cross Laminated Timber (CLT) and glulam

- 21 revised units of competency.

Please refer to **Appendix 1 Components for Endorsement** for full details of all components.

Case for Change details

Activity Order reference: Skills Impact/TPD/2017-18/002

Activity start date: 1 August 2017

Activity finish date: 16 November 2018

Note: Following advice from the Timber Building Solutions IRC at the IRC Meeting held on 27 November 2017 (documented in the Minutes of Meeting), and a cross-reference between the two FWP Forest and Wood Products Training Package projects covered in this Case for Endorsement, the activity finish date has been extended from 30 June 2018 to 16 November 2018.

This Case for Endorsement covers two FWP Forest and Wood Products Training Package projects:

- Prefabrication of Panelised Timber Building Systems and On-site Installation
- Manufacturing Solid Engineered Wood Products - Cross Laminated Timber (CLT) and glulam.

Requirements set by the Australian Industry and Skills Committee (AISC) for the two projects in relation to the training package development work, and consistent with activity order, are:

- Prefabrication of Panelised Timber Building Systems and On-site Installation
    - Develop up to 5 new units of competency to cover manufacturing and installation of prefabricated timber building systems
    - Review 3 units of competency at AQF level 2, 4 and 5 in timber truss and frame design and manufacture to update specific skills and aspects for prefabrication of timber building systems.
- Manufacturing Solid Engineered Wood Products - Cross Laminated Timber (CLT) and glulam
    - Develop up to 11 new units of competency for Cross Laminated Timber (CLT) and glulam manufacture
    - Review 21 units of competency at AQF level 3, 4, 5 and 6 in wood panel products manufacturing, timber processing and forest industry sustainability to update specific skills and aspects for CLT and glulam manufacturing.

B. Description of work and request for approval

The section describes the work undertaken and the decision being sought from the AISC.

Work undertaken and why

Prefabrication of and construction with timber building systems is an important commercial sector across Europe, Japan, the United States of America and New Zealand and an emerging sector in Australia, with synergies across architecture, timber product manufacturing and construction industries. It is the future of timber and construction industry, improving quality and value within the industry. Currently, there is only one Cross Laminated Timber producer nationally and a small number of companies that produce prefabricated timber building systems. Few of these companies integrate building design, off-site manufacturing and construction operations.

On behalf of the Timber and Wood Processing IRC and Timber Building Solutions IRC, Skills Impact has undertaken the following work on the FWP Forest and Wood Products Training Package with support from Technical Advisory Committees (TACs) and broader industry feedback:

Prefabrication of Panelised Timber Building Systems and On-site Installation

- Revised 3 existing units of competency from the FWP. The range of products has been expanded in relevant units to include Cross Laminated Timber and glulam. Additionally, the units were amended to update the application section, clarify the intent of the units update workplace health and safety requirements in performance criteria and streamline foundation skills in all units to comply with the *Standards for Training Packages 2012*. .
- Developed 4 new units in conjunction with the Manufacture of Cross Laminated Timber and glulam Project in the area of design, manufacture and installation of prefabricated timber building systems as follows:
    - *FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems*
    - *FWPTMM3209 Install prefabricated timber building systems on-site*
    - *FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation*
    - *FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture*

    During the initial consultation with the TACs, the project identified that the job roles in the prefabrication of timber building systems were not new, but highly defined as trade and non-trade occupations. Further, the feedback from the TAC members indicated that the skills and knowledge required in this industry sector were related to design, prefabrication and installation and many of these skills were already covered by existing units of competency from a range of training packages including property services, furnishing, manufacturing and engineering, forest and wood products and construction (carpentry).

    However, this feedback also outlined skill gaps within the training packages and they were defined as specific competencies that enable people to define their capabilities in the prefabrication of timber building systems or perform tasks within the scope of prefabrication processes. Thus, four new units of competency were developed to address the identified skill gaps as detailed below:

    - ***FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems*** - This unit of competency has been developed to cover skills and knowledge required to carry out critical workplace processes in assembling prefabricated timber building systems. Critical workplace processes include workplace health and safety practices, efficient storage and handling of building materials for major timber building subassemblies, quality check requirements at the workstations before and after assembly work and control of waste material for disposal. It targets operators who conduct production tasks on an assembly line for prefabricated timber building systems.
    - ***FWPTMM3209 Install prefabricated timber building systems on-site*** - This unit of competency has been developed to cover the skills and knowledge required to position and connect prefabricated timber building systems safely and correctly during on-site installation. It

targets construction operators, carpenters or joiners and site supervisors who install prefabricated timber building systems.

- ***FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation*** - This unit of competency has been developed to achieve integrated design solutions and detailed specifications for all stages of the system's life cycle, including, off-site manufacture, transportation and on-site installation. It covers skills and knowledge requirements for collaborative prefabricated timber building systems designs to address structural compliance and specifications for safety compliance, system assembly and safe and correct transportation and installation on the construction site. The unit targets high-level design job roles such as architects, design engineers, draftspersons, structural engineers, building services engineers and architectural technicians.
- ***FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture*** – This unit of competency has been developed to cover skills and knowledge required to verify quality compliance and conformance of prefabricated timber building systems in a manufacturing environment and targets compliance officers, supervisors or managers who work in a prefabricated timber building systems manufacturing plant.

The project sought stakeholders' views on the placement of the new units within qualifications from the *FWP Forest and Wood Products Training Package,* proposing that the new units are listed as electives on relevant frame and truss qualifications. As there were no objections received, the four new units of competency will be packaged in the following qualifications:

Code	Qualification	New units of competency			
		FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation	FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems	FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture	FWPTMM3209 Install prefabricated timber building systems on-site
FWP30916	Certificate III in Timber Truss and Frame Design and Manufacture		Group C Elective Units, Field Manufacturing		Group C Elective Units, Field Construction
FWP50216	Diploma of Timber Truss and Frame Manufacture			Elective Units, Field Manufacturing	
FWP50316	Diploma of Timber Truss and Frame Design	Group A Elective Units, Field Forest			

Manufacturing Cross Laminated Timber (CLT) and glulam

- Revised 21 existing units of competency related to timber product design, production planning, Computer Numerical Control (CNC) machining and lamination operations.

  The project determined that the revised units and processes will be used not only within the CLT and glulam manufacturing sector but also within other traditional timber product manufacturing sectors. Thus, the improvements applied to these units are inclusive of all industry subsectors that share similar processes and job functions and will not affect traditional users such as timber and wood panel manufacturers.

The most notable changes to the units include:

- Terminology has been updated in most units to reflect the current terms used within the industry, particularly for products, and to clarify the purpose for which the unit is intended. The purpose of the units have not changed. For example, the word 'boards' has been replaced with 'timber' in most units or 'engineered wood panels' in one unit, as was relevant to the unit content. Within the industry, the term 'board' could mean 'timber board', 'particle board' or 'Oriented Strand Board'. Similarly, the word 'panels' has been replaced with 'engineered wood panels', to use the current industry terminology and eliminate confusion. This could refer to engineered wood panels (such as medium-density fibreboard or particle boards) or engineered timber panels (such as cross-laminated timber or laminated veneer lumber).
- Workplace health and safety requirements have been updated in performance criteria and performance evidence of most units for alignment between sections and consistency
- Application section has been updated in most units to clarify the intent of the units
- The range of products in some units has been expanded to include cross laminated timber and glulam
- Foundation skills have been revised in all units for compliance with the Standards for Training Packages
- 14 of the 24 revised units have had a title and code change to reflect current industry terminology and for compliance with the Standards for Training Packages. The others were minor version changes.

- The project also liaised with the Prefabrication of Panelised Timber Building Systems and On-site Installation Project to develop new units of competency for high-level design, off-site manufacture and on-site installation of prefabricated timber building systems. CLT and glulam are timber components integrated into prefabricated timber building systems through the assembly process. Feedback from the TAC members indicated that the highest skill priority for businesses lies at the interface between CLT manufacturers and the designers who are unfamiliar with working with CLT panels. The new units as described above encapsulates this interface.

Issues identified and how they were resolved

- Feedback from the CLT manufacturing stakeholders suggested that the two current units of competency in the FWP Training Package for the use of CNC equipment (FWPCOT3234 and FWPCOT 3235) are very basic for their operations. A close analysis indicated that:
  - These units are also used across the whole timber industry by stakeholders who have not been involved in consultations due to the project scope, and
  - The FWP units covering CNC operations were based initially on the MSF Furnishing Training Package.

  As the scope of the project involved only a sub-set of the timber and wood products industry (stakeholders representing the CLT and glulam manufacturing) and not the full industry that uses the CNC units under review, the project could not conduct a whole industry review of these units. However, CLT stakeholders were advised to liaise with the new project being carried out by the *Furnishing Industry Reference Committee* (IRC) for the opportunity to review and provide feedback on the units of competency regarding CNC operations in highly automated manufacture processes. The issue has been added to the Skills Impact issue register for being followed up with the *Timber and Wood Processing and Timber Building Solutions Industry Reference Committees*. Contact will also be made with the *Furnishing Industry Reference Committee* with the view to enabling input to the CNC unit review.
- During consultations, stakeholders indicated that many international construction projects use non-linear or curved glulam in their applications. This product achieves different architectural building features than the straight glulam, which is the most common product of this type. Thus, it is expected that the manufacture of curved glulam could also emerge in Australia over the next few years and that the FWP Training Package will need to consider the range of skills needed for curved

glulam. There has been no evidence of companies that are currently producing curved glulam in Australia, and as such, the job roles are not fully understood. Therefore, the project team proposed that the issue be added to the Skills Impact issues register, with the possibility it may become a new project in the future.

Note: The 2017-2021 Forest and Wood Product (FWP) Industry Skills Forecast and Proposed Schedule of Work estimated that up to 11 new units of competency require development within this project. However, feedback received from the industry stakeholders indicated that only four new units were needed to meet the skill gaps across the two projects.

Qualifications affected

As part of this project, 12 qualifications at the AQF level 3, 4, 5 and 6 required IRC minor updates to reflect the release of new and revised units and to replace superseded and deleted imported units It is noted that suitable replacements were found for 6 of the 8 deleted imported units from these qualifications. No replacements were found for 2 deleted imported units. All these revised, superseded and deleted imported units are part of the elective bank within these qualifications and not the core.

The packaging rules of the FWP qualifications allow flexibility to the users to select up to 2 or 3 elective units of competency from the same qualification or any other endorsed Training Package or state/territory accredited course. This feature compensate for any potential skill gaps created by deleted imported units within a qualification.

Decision being sought

This submission proposes the Case for Endorsement of the amended components of the *FWP Forest and Wood Products Training Package Version 4.0:*

The draft components submitted for endorsement by the AISC for the two projects are:

- 4 new Units of Competency
- 24 revised Units of Competency.

The proposed Training Package components are listed in **Appendix 1: Components for endorsement.**

All components submitted for endorsement have been developed and reviewed in accordance with the *Standards for Training Packages 2012*, the *Training Package Products Policy 2012* and the *Training Package Development and Endorsement Policy, 2016*.

C. Evidence of Industry support

This section provides evidence that the *FWP Forest and Wood Products Training Package Version 4.0* is supported by industry.

Support by IRC(s)

Members of the Timber and Wood Processing IRC recorded their support for this submission via emails on 19 October 2018.

Members of the Timber Building Solutions IRC recorded their support for this via emails on 19 October 2018.

Please refer to **Section I. IRC support** for written evidence of support.

Consultation with stakeholders

Stakeholder consultation has been commensurate with the industry size and the level and scope of the projects. The projects covered a niche industry that, based on international and local developments, has the prospect to grow significantly in the coming years. Stakeholders consulted represent more than 90 percent of the current industry.

Twenty-one TAC members (14 and 7 for the individual projects, with 4 memberships across both projects) were consulted during and supported the development of draft components. Sixty-nine industry stakeholders were contacted via email and consulted on the draft units as follows:

- 35 people from timber frame and truss organisations
- 6 industry and employee associations
- 18 businesses involved in prefabrication of timber building systems
- 7 registered training organisations
- 3 universities

Thirteen additional people accessed the links in the Skills Impact news alert about first drafts for feedback and three people accessed the links in the validation news alert.

Stakeholder consultation and validation methodology for both projects included:

- A project page was set up and maintained for each project on the Skills Impact website throughout the project life. The project web pages also invited visitors to register their interest for receiving email alerts about project updates and described opportunities for providing feedback on draft materials. Links to the project pages are provided below.
    - Cross Laminated Timber Building Systems Project - https://www.skillsimpact.com.au/timber-wood-processing/training-package-projects/cross-laminated-timber-building-systems-project/
    - Prefabricated Building Systems Project - https://www.skillsimpact.com.au/timber-building-solutions/training-package-projects/prefabricated-building-systems-project/
- Considerable feedback was received from the TAC members of each project during the project development phase. Telephone calls, surveys and emails were used to discuss and seek guidance regarding aspects of the project and to ask and respond to questions regarding draft materials. The project exchanged over 200 emails with the TAC members for both projects. The projects held one TAC teleconference on 10 July 2018 to discuss the feedback received on the new units and the drafts that were made available for broad industry feedback.
- Draft materials were hosted on the Skills Impact website for a four-week period, with an additional two-week period for validation of final drafts. Broad industry consultation took place for both projects between 6 and 27 August 2018. During this time, the projects received feedback on the draft units via email, the online Feedback Hub and telephone. Further industry consultation was held between 3 and 16 September 2018 to validate the final draft units.
- Articles reflecting project updates were included in both the Skills Impact and ForestWorks newsletters each month during the project period.

- Project updates were also provided to both IRCs.

Please refer to **Appendix 2: Industry support** for a list of activities conducted, organisations and individuals consulted.

State/Territory engagement

State and territory industry stakeholder views were sought, and all feedback was considered during the consultation period. The draft materials were prominent on the Skills Impact website project page for sector-wide consultation.

Regular emails and newsletters were directed to the state and territory training authorities (STAs/TTAs), VET regulators and other stakeholders to keep them informed of the projects' progress.

Please refer to **Appendix 2: Industry support** for a list of activities conducted, organisations and individuals consulted.

Reports by exception

There are no reports by exception.

D. Industry expectations about training delivery

This section explains the advice provided in the Companion Volume Implementation Guide for the *FWP Forest and Wood Products Training Package 4.0,* together with recommendations for delivery of qualifications as traineeships/apprenticeships.

Training delivery

The updated and new units of competency have been developed to address critical skills and knowledge requirements in the design, on-site manufacture and off-site installation of prefabricated timber building systems, to support this important emerging industry.

The industry expectation is that people assessed as competent in these new units will be equipped with the appropriate skills and knowledge to perform jobs effectively, efficiently and to meet compliance requirements in a business that operates within the prefabricated timber building systems industry.

The updated and new units of competency can be delivered and assessed in the workplace or an environment that accurately represents workplace conditions. They support implementation across a range of industry settings by providing guidance that encourages assessment in a variety of contexts and applications.

The FWP Forest and Wood Products Training Package companion volume details information that covers key industry expectations about:

- Qualifications suitable for vocational education and training delivered to secondary students
- Qualifications suitable for delivery as apprenticeships or traineeships
- Amount of training/volume of learning requirements to ensure that the individual can gain the necessary skills and knowledge
- Key legislative requirements
- Essential knowledge requirements.

Delivery as apprenticeship/traineeship

The *FWP Forest and Wood Products Training Package* is designed to facilitate implementation of Australian Apprenticeships / Traineeships.

E. Implementation of the training package components

This section explains how the training package meets occupational and/or licensing requirements and identifies particular implementation issues and strategies to manage these issues.

How training package components meet occupation and licensing requirements

The skills and knowledge covered by the updated and new units of competency are applied in a timber building systems manufacturing facility or a timber construction environment. No licencing requirements are required to conduct the jobs described by these units of competencies.

However, the following two new units, *FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems* and *FWPTMM3209 Install prefabricated timber building systems on-site,* are targeted for occupations such as wood machinists, carpenters, joiners, construction workers or other trade operators, and the learners are required to have a relevant trade qualification or equivalent before undertaking this training.

Likewise, the learners of the *FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation* are expected to be architects, design engineers, draftspersons, structural engineers, building services engineers or architectural technicians and, thus, have an appropriate building design qualification.

Significant industry feedback indicated that the new units of competency should specify that they are intended for people with previous occupational qualifications and skills. As a result, the following statements were included in the Application section of these new units.

> *"In order to undertake this unit, individuals must have a relevant trade qualification or equivalent."*
>
> *or*
>
> *"In order to undertake this unit, individuals must have a relevant building design qualification or equivalent."*

Learners of the updated and new units of competency are also expected to meet workplace and legal obligations related to work health and safety, apply relevant standards and perform activities according to workplace procedures and operational requirements. These requirements are explicitly reflected throughout the units.

Implementation issues and management strategies

VET capacity to implement the proposed training package developments, particularly the new units, was identified by the industry as a potential issue. There is no further support to assist in the development of learning and assessment resources when these components are published. A concerted effort is expected from the industry and interested training providers to develop approaches that support the implementation of new units and drive a rapid training uptake and skills development.

The project ensured that the new units of competency provide sufficient and clear information about the tasks that define the new units, expected outcomes and instruments to perform those tasks including standards, codes, certification, design specifications and production schedule. The Implementation Guide also provides additional information and links to industry standards and codes regarding the prefabricated timber building systems' structural design, test-based design approaches, durability, safety, hydraulics, electrical, heating, ventilation, and air conditioning (HVAC) mechanical and joint/connections involving timber.

F. Quality assurance reports

Skills Impact declares that the proposed components of the *FWP Forest and Wood Products Training Package Version 4.0* meet the requirements of the *Standards for Training Packages 2012* and the *Training Package Development and Endorsement Process Policy*.

The table below provides a statement of evidence that the components meet the Training Package Quality Principles.

Principle	**Evidenced by:**
1. Reflect identified workforce outcomes	• Changes demonstrate a clear link back to relevant AISC decisions commissioning the work and the Case for Change • Training package components are compliant with the *Standards for Training Packages 2012*, the *Training Package Products Policy* and the *Training Package Development and Endorsement Process Policy* • Open and inclusive consultation and validation commensurate with scope and impact has been conducted. • New and improved units clarify terminology and unit intentions in a context of emergent products. • New units expect and assume learners to have trade or building design qualifications prior to undertaking this training,
2. Support portability of skills and competencies including reflecting licensing and regulatory requirements	• Other national and international standards for skills have been considered. • The assessment requirements associated with each unit provide flexibility for conducting assessments to meet the needs of employers and individuals. • No individual units of competency have occupational licensing or certification requirements. • Clarifying text has been included in new units and the CVIG where requirements for relevant trade or building design qualifications (or equivalent) are required by industry.
3. Reflect national agreement about the core transferable skills and core job-specific skills required for job roles as identified by industry	• Active engagement across industry has sought to achieve a national consensus about the advice provided to the AISC.
4. Be flexible to meet the diversity of individual and employer needs, including the capacity to adapt to changing job roles and workplaces	• The new and improved units are flexible so they enable application in different contexts and by multiple industry sectors. • Proposed new units of competency requiring exiting trade or building design qualifications are incorporated as elective units within qualifications, minimising barriers to qualification achievement. They also offer potential pathways for trade or design qualified individuals to add skills in prefabricated building systems.

5. Facilitate recognition of an individual's skills and knowledge and support movement between the school, vocational education and higher education sectors	• Not applicable.
6. Support interpretation by training providers and others through the use of simple, concise language and clear articulation of assessment requirements	• Units of competency and their associated assessment requirements are clearly written and have consistent breadth and depth • Compliance with the TPCMS/National Register requirements for publication • Implementation advice is provided in the *FWP Forest and Wood Products Companion Volume Implementation Guide* that is ready for publication at the same time as the Training Package.

The declaration and statement of evidence are confirmed by the independent Quality Report provided in **Appendix 4: Quality Report**.

The *FWP Forest and Wood Products Training Package* and *FWP Forest and Wood Products Implementation Guide* has been quality assured through Skills Impact's quality processes and is available.

G. Implementation of COAG Industry Skills Council reforms to training packages

The decision being sought from the AISC would support the COAG Industry and Skills Council reforms to training packages.

Completion of training package development work, together with consultation with relevant stakeholders, confirms that the submission:

- Does not duplicate existing units of competency;
- Explains how it meets industry's expectations of training delivery.

H. Evidence of completion

Skills Impact confirms that the proposed components of the *FWP Forest and Wood Products Version 4.0* have been completed according to the work assigned by the AISC in the 2017-2020 Industry Skills Forecast and Proposed Schedule of Work and the subsequent Activity Order.

Evidence that training package component(s) are prepared for publication.

The Quality Report confirms that the draft components meet the *Standards for Training Packages 2012*.

All components have been created to comply with the National Register requirements for publication. The **Mapping Summary** in **Appendix 1: Mapping information** provide details of the changes to the training package components that are required to allow them to be published on the National Register.

I. IRC support

The Timber and Wood Processing IRC and Timber Building Solutions IRC support the submission of the training package components detailed in this Case for Endorsement.

Signed for and on behalf of the Timber and Wood Processing IRC and Timber Building Solutions IRC by the appointed Chair.

Note: the same person fills the Chair position for both the Timber and Wood Processing IRC and Timber Building Solutions IRC.

Name of Chair:	Dave Gover
	 Signature of Chair
Date:	20 November 2018

Appendix 1: Components for endorsement

a. List of unit titles and codes and associated assessment requirements

Units of competency in the *FWP Forest and Wood Products Training Package Version 4.0*	
Code	**Title**
FWPCOT2230	Assemble products
FWPCOT3230	Operate automated stacking equipment
FWPCOT3234	Cut material using CNC sizing machines
FWPCOT3235	Machine material using CNC machining and processing centres
FWPCOT3265	Cut timber or engineered wood product to profile
FWPCOT3266	Dress timber using multi-headed machines
FWPCOT3267	Mechanically stress-grade engineered wood panels
FWPCOT3268	Plane and sand engineered wood products
FWPCOT4203	Plan and coordinate product assembly
FWPCOT6210	Develop engineered wood products to meet energy efficient building design needs
FWPSAW4205	Plan and monitor timber conversion
FWPTMM3208	Apply critical workplace processes in the manufacture of prefabricated timber building systems
FWPTMM3209	Install prefabricated timber building systems on-site
FWPTMM4208	Construct prototypes and samples for timber structures
FWPTMM5203	Generate and transfer complex computer-aided drawings and specifications
FWPTMM5205	Optimise CNC operations
FWPTMM5206	Plan production
FWPTMM5207	Assess timber product designs for feasibility
FWPTMM5208	Manage timber product design
FWPTMM5209	Determine prefabricated timber building systems designs for compliance, manufacture and installation

FWPTMM5210	Verify compliance and conformance of prefabricated timber building systems during manufacture
FWPWPP3209	Prepare resin and additives
FWPWPP3219	Blend and test binding mixes
FWPWPP3232	Operate a heat roll bonding machine to laminate or veneer engineered wood panel surfaces
FWPWPP3233	Operate a laminating press for engineered wood panels
FWPWPP3234	Operate a continuous press for the production of engineered wood panels
FWPWPP3235	Trim new engineered wood panels to size
FWPWPP4203	Plan and coordinate engineered wood panel production

b. Mapping information

Units of competency

Terminology has been updated in unit titles and content to reflect the current terms used within the industry, particularly for products, and to clarify the purpose for which the unit is intended. The purpose of the units have not changed. For example, the word 'boards' has been replaced with 'timber' in most units or 'engineered wood panels' in one unit, as was relevant to the unit content. Within the industry, the term 'board' could mean 'timber board', 'particle board' or 'Oriented Strand Board'. Similarly, the word 'panels' have been replaced with 'engineered wood panels', to use the current industry terminology and eliminate confusion. This could refer to engineered wood panels (such as medium-density fibreboard or particle boards) or engineered timber panels (such as cross-laminated timber or laminated veneer lumber).

FWP Forest and Wood Products Training Package Version 4.0 **Mapping of units of competency**			
Code and title (Version 3)	**Code and title (Version 4)**	**Comments**	**Equivalence statement**
FWPCOT2230 Assemble products Release 1	FWPCOT2230 Assemble products Release 2	Updated workplace health and safety requirements in performance criteria; clarified intent of unit and assessment requirements; updated foundation skills; updated frequency and volume of the performance evidence.	Equivalent
FWPCOT3205 Dress boards using multi-headed machines	FWPCOT3266 Dress timber using multi-headed machines	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent

FWP Forest and Wood Products Training Package Version 4.0 **Mapping of units of competency**			
Code and title (Version 3)	**Code and title (Version 4)**	**Comments**	**Equivalence statement**
FWPCOT3228 Plane/sand panels	FWPCOT3268 Plane and sand engineered wood products	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPCOT3229 Mechanically stress grade panels	FWPCOT3267 Mechanically stress-grade engineered wood panels	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPCOT3230 Operate automated stacking equipment Release 1	FWPCOT3230 Operate automated stacking equipment Release 2	Updated workplace health and safety requirements and foundation skills; and clarified intent of unit and assessment requirements	Equivalent
FWPCOT3234 Cut material using CNC sizing machines Release 1	FWPCOT3234 Cut material using CNC sizing machines Release 2	Updated workplace health and safety requirements and foundation skills; clarified intent of unit and assessment requirements	Equivalent
FWPCOT3235 Machine material using CNC machining and processing centres Release 2	FWPCOT3235 Machine material using CNC machining and processing centres Release 3	Updated workplace health and safety requirements and foundation skills; clarified intent of unit and assessment requirements	Equivalent
FWPCOT3244 Cut material to profile	FWPCOT3265 Cut timber or engineered wood product to profile	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPCOT4203 Plan and coordinate product assembly Release 1	FWPCOT4203 Plan and coordinate product assembly Release 2	Updated workplace health and safety requirements, clarified intent of unit in application and updated foundation skills	Equivalent

FWP Forest and Wood Products Training Package Version 4.0 **Mapping of units of competency**			
Code and title (Version 3)	**Code and title (Version 4)**	**Comments**	**Equivalence statement**
FWPCOT6203 Develop engineered timber products to meet energy efficient building design needs	FWPCOT6210 Develop engineered wood products to meet energy efficient building design needs	Updated industry terminology, range of products in performance evidence and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPSAW4204 Plan and monitor board conversion	FWPSAW4205 Plan and monitor timber conversion	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
Not applicable	FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems	New unit	Not applicable
Not applicable	FWPTMM3209 Install prefabricated timber building systems on-site	New unit	Not applicable
FWPTMM4201 Construct prototypes and samples	FWPTMM4208 Construct prototypes and samples for timber structures	Updated workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPTMM5201 Assess product feasibility of designs	FWPTMM5207 Assess timber product designs for feasibility	Updated range of products in performance evidence and foundation skills; clarified intent of unit; updated frequency and volume of the performance evidence; changed unit title and code for consistency with the updates and compliance	Equivalent

FWP Forest and Wood Products Training Package Version 4.0 **Mapping of units of competency**			
Code and title (Version 3)	**Code and title (Version 4)**	**Comments**	**Equivalence statement**
FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications Release 1	FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications Release 2	Clarified intent of unit in application, updated foundation skills	Equivalent
FWPTMM5204 Manage product design	FWPTMM5208 Manage timber product design	Clarified intent of unit; updated foundation skills; changed unit title and code for consistency with the updates and compliance	Equivalent
FWPTMM5205 Optimise CNC operations Release 1	FWPTMM5205 Optimise CNC operations Release 2	Updated workplace health and safety requirements and foundation skills; clarified intent of unit and assessment requirements	Equivalent
FWPTMM5206 Plan production Release 1	FWPTMM5206 Plan production Release 2	Clarified intent of unit in application; updated foundations skills	Equivalent
Not applicable	FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation	New unit	Not applicable
Not applicable	FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture	New unit	Not applicable
FWPWPP3206 Laminate and veneer board surfaces	FWPWPP3232 Operate a heat roll bonding machine to laminate or veneer engineered wood panel surfaces	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent

FWP Forest and Wood Products Training Package Version 4.0 **Mapping of units of competency**			
Code and title (Version 3)	**Code and title (Version 4)**	**Comments**	**Equivalence statement**
FWPWPP3209 Prepare resin and additives Release 1	FWPWPP3209 Prepare resin and additives Release 2	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements	Equivalent
FWPWPP3210 Laminate board	FWPWPP3233 Operate a laminating press for engineered wood panels	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPWPP3219 Blend and test binding mixes Release 1	FWPWPP3219 Blend and test binding mixes Release 2	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements	Equivalent
FWPWPP3221 Trim new panels to size	FWPWPP3235 Trim new engineered wood panels to size	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPWPP3226 Operate a continuous press	FWPWPP3234 Operate a continuous press for the production of engineered wood panels	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent
FWPWPP4201 Plan and coordinate panel production	FWPWPP4203 Plan and coordinate engineered wood panel production	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates	Equivalent

Appendix 2: Industry support

Members of Technical Advisory Committee

Prefabrication of Panelised Timber Building Systems and On-site Installation Project

Organisation	Member Name
Strongbuild	Adam Strong
Multinail	Stephen Burchard
Multinail	Anita Day
Bliss & Reels	Jason Reints
Chisholm Institute	Stuart Hoxley
Box Hill Institute of TAFE	Stewart Humphreys-Grey
Box Hill Institute of TAFE	Abdul Rauf
TAFE NSW Albury	Dr Hans Porada
University of Tasmania	Prof Gregory Nolan
TPC Solutions (Australia)	Dr Alastair Woodard
Margules Groome Consulting	Dr Mihai Daian
Construction, Forestry, Maritime, Mining and Energy Union (CFMMEU) Construction Division	Stuart Maxwell
Master Builders Victoria	Dr Philip Alviano

Manufacturing Cross Laminated Timber (CLT) and glulam Project

Organisation	Member Name
Xlam Australia Pty Ltd	Nick Hewson
Hyne Timber	Robert Mansell
DTM Timber	John Toole
Margules Groome Consulting Pty Ltd	Dr Mihai Daian
TAFE NSW Albury	Dr Hans Porada
Cadet Timber Design	Judy Barnett
TPC Solutions (Australia)	Dr Alastair Woodard

Industry Stakeholders Consulted Individually (both projects)

A project brief was presented to the Frame and Truss Mid-rise Market Industry Group consisting of more than 35 timber frame and truss organisation members at their meeting on 22 February 2018. The Group was further provided with a project and training development update via email on 9 August 2018, when the members were also invited to give feedback on the draft units of competency for both projects.

The projects also contacted the following industry stakeholders by email to inform about the projects and request feedback on the draft units of competency.

Organisation	State	Name
Industry associations		
prefabAus	NATIONAL	Damien Crough
Frame and Truss Manufacturers Association of Australia	NATIONAL	Phil Ladson
Timber Development Association	NATIONAL	Andrew Dunn
Australian Institute of Quantity Surveyors	NATIONAL	Grant Warner
Timber Queensland	QLD	Colin MacKenzie
Construction, Forestry, Maritime, Mining and Energy Union (CFMMEU) – Manufacturing Division	NATIONAL	Travis Wacey
Businesses		
Drouin West Timber & Truss	VIC	Dean Urwin
Wesbeam	WA	David Bylund
Lendlease	NSW	Karl-Heinz Weiss
Himmelzimmer	VIC	Dirk Zimermann
VISTECK	VIC	Robert Svars
Imagine Kit Homes	QLD	Mario Chetcuti
Modscape	VIC	Jan Gyrn
ARKit	VIC	Kate Nason
Prebuilt	VIC	Rob Colquhoun
Tasbuilt Homes	TAS	Daniel Cunningham
Hoek Modular Homes	QLD	Dean Hoek
Glendale Homes	QLD	Lachlan Smee

Organisation	State	Name
Timber Imagineering	VIC	Robert Nestic
Impresa House	VIC	Andrey Aliev
Timber Building Systems	VIC	Tim Newman
Engenuity	WA	Ian Meachem
Pretect Commercial Modular Buildings	VIC	Justin Lloyd
HOLZ DC	NSW	Theo Pasialis
Training Organisations		
Timber Training Creswick	VIC	Rob Rule
TAFE NSW	NSW	Craig Conway
Workspace Training	NSW	David McElvenny
FITS Training	WA	Karen Bowell
MTO Group	QLD	Warren Dennis Ian McLeod
Southern Training	NSW	Charlie Waites
TABMA	NSW	Steve Cunningham
Universities		
The University of Queensland - Centre for Future Timber Structures	QLD	Prof Sritawat Kitipornchai
The University of Melbourne - Centre for Advanced Manufacturing of Prefabricated Housing	VIC	Prof Priyan Mendis
Monash University (The Modular Construction Code)	VIC	Prof Yu (Barry) Bai

Respondents to broad industry consultation and validation (both projects)

Organisation	State	Name
Hyne Timber	NSW, QLD	Robert Mansell
Timber Training Creswick	VIC	Rob Rule

Organisation	State	Name
Department of Education and Training Victorian Government	VIC	Tony Woolrich
Construction, Forestry, Maritime, Mining and Energy Union (CFMMEU) Construction Division	NATIONAL	Stuart Maxwell
Box Hill Institute of TAFE	VIC	Vince Rio
Margules Groome Consulting Pty Ltd	National	Dr Mihai Daian
Workspace Training	NSW	David McElvenny

People that clicked on the links in the news alert about first drafts for feedback

Organisation	Name	Engagement activity
Western Australia Department of Training and Workforce Development	Frances Parnell	Clicked on both projects
Lendlease	Anna Jacobsen	Clicked on both projects
Integrated Information Service	Lynda Green	Clicked on both projects
Tocal College	Keran Richards	Clicked on both projects
Department of Education and Training Victorian Government	Tony Woolrich	Clicked on both projects
Beaumont Timber Harvesting	Peter Hutton	Clicked on the CLT project
Hyne Timber	Frances Bodie	Clicked on the CLT project
Department of Training and Workforce Development	Paul Muenchow	Clicked on both projects
TAFE NSW	Jennifer Burston	Clicked on the prefabrication project
TAFE NSW	David Priem	Clicked on the CLT project
Industry Skills Advisory Council Northern Territory	Pauline Halse	Clicked on the prefabrication project
Industry Skills Advisory Council, Northern Territory	Alana Treagus	Clicked on both projects
South Australia State Training Authority	Irina Ferouleva	Clicked on the prefabrication project

People that clicked on the links in the validation news alert

Organisation	Name	Engagement activity
Western Australia Department of Training and Workforce Development	Frances Parnell	Clicked on both projects
Industry Skills Advisory Council NT	Debbie Knight	clicked on prefab

Appendix 3: Non-endorsable IRC Minor Updates

The IRC approved the following changes as minor updates. These components are not submitted for endorsement but will be released as part of the *FWP Forest and Wood Products Training Package Version 4.0.*

Units of competency

Mapping of units of competency from FWP Forest and Wood Products Training Package Version 3.0 to Version 4.0			
Code and title (Version 3.0)	**Code and title (Version 4.0)**	**Comments**	**Equivalence statement**
FWPCOR3204 Visually assess materials Release 2	FWPCOR3204 Visually assess materials Release 3	Rectified error in Foundation Skills	Equivalent
FWPHAR3224 Operate crawler tractor Release 1	FWPHAR3224 Operate crawler tractor Release 2	Amended typographical error in Application	Equivalent
FWPSAW3216 Transfer wood chips Release 1	FWPSAW3216 Transfer wood chips Release 2	Metadata mapping corrected	Equivalent
FWPWPP3212 Dry material Release 1	FWPWPP3212 Dry material Release 2	Rectified error in Assessment Conditions	Equivalent

Qualifications

Mapping of qualifications from FWP Forest and Wood Products Training Package Version 3.0 to Version 4.0			
Code and title (Version 3.0)	**Code and title (Version 4.0)**	**Comments**	**Equivalence statement**
FWP30316 Certificate III in Sawmilling and Processing Release 1	FWP30316 Certificate III in Sawmilling and Processing Release 2	Updated to include revised units and superseded and deleted imported units	Equivalent
FWP30416 Certificate III in Wood Panel Products Release 1	FWP30416 Certificate III in Wood Panel Products Release 2	Updated to include revised units and superseded and deleted imported units	Equivalent
FWP30516 Certificate III in Timber Manufactured Products Release 1	FWP30516 Certificate III in Timber Manufactured Products Release 2	Updated to include revised units and superseded and deleted imported units	Equivalent
FWP30816 Certificate III in Woodmachining Release 1	FWP30816 Certificate III in Woodmachining Release 2	Updated to include revised and new units as well as	Equivalent

Mapping of qualifications from FWP Forest and Wood Products Training Package Version 3.0 to Version 4.0			
Code and title (Version 3.0)	**Code and title (Version 4.0)**	**Comments**	**Equivalence statement**
		superseded and deleted imported units	
FWP30916 Certificate III in Timber Truss and Frame Design and Manufacture Release 1	FWP30916 Certificate III in Timber Truss and Frame Design and Manufacture Release 2	Updated to include revised and new units and superseded and deleted imported units	Equivalent
FWP40216 Certificate IV in Timber Processing Release 1	FWP40216 Certificate IV in Timber Processing Release 2	Updated to include revised units and superseded and deleted imported units	Equivalent
FWP40316 Certificate IV in Timber Truss and Frame Manufacture Release 1	FWP40316 Certificate IV in Timber Truss and Frame Manufacture Release 2	Updated to include revised units and superseded and deleted imported units	Equivalent
FWP40416 Certificate IV in Timber Truss and Frame Design Release 1	FWP40416 Certificate IV in Timber Truss and Frame Design Release 2	Updated to include revised units and superseded and deleted imported units	Equivalent
FWP50116 Diploma of Forest and Forest Products Release 2	FWP50116 Diploma of Forest and Forest Products Release 3	Updated to include revised and new units as well as superseded and deleted imported units	Equivalent
FWP50216 Diploma of Timber Truss and Frame Manufacture Release 1	FWP50216 Diploma of Timber Truss and Frame Manufacture Release 2	Updated to include revised and new units and superseded and deleted imported units	Equivalent
FWP50316 Diploma of Timber Truss and Frame Design Release 1	FWP50316 Diploma of Timber Truss and Frame Design Release 2	Updated to include revised and new units and superseded and deleted imported units	Equivalent
FWP60116 Advanced Diploma of Forest Industry Sustainability Release 1	FWP60116 Advanced Diploma of Forest Industry Sustainability Release 2	Updated to include revised units and superseded and deleted imported units	Equivalent

Appendix 4: Quality assurance report

Quality Report for FWP Forest and Wood Products Training Package (Version 4.0)

Section 1 – Cover page

Information required	Detail
Training Package title and code	**FWP Forest and Wood Projects Training Package Version 4.0**
Number of new qualifications and their titles[1]	0
Number of revised qualifications and their titles	0
Number of new units of competency and their titles	4 FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems FWPTMM3209 Install prefabricated timber building systems on-site FWPTMM5209 Develop prefabricated timber building systems designs for compliance, manufacture and installation FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture

[1] When the number of training products is high the t*itles can be presented as an attached list.*

Information required	Detail
Number of revised units of competency and their titles	FWPCOT2230 Assemble products FWPCOT3266 Dress timber using multi-headed machines FWPCOT3268 Plane and sand engineered wood products FWPCOT3267 Mechanically stress-grade engineered wood panels FWPCOT3230 Operate automated stacking equipment FWPCOT3234 Cut material using CNC sizing machines FWPCOT3235 Machine material using CNC machining and processing centres FWPCOT3265 Cut timber or engineered wood product to profile FWPCOT4203 Plan and coordinate product assembly FWPCOT6210 Develop engineered wood products to meet energy efficient building design needs FWPSAW4205 Plan and monitor timber conversion FWPTMM4208 Construct prototypes and samples for timber structures FWPTMM5207 Assess timber product designs for feasibility FWPTMM5203 Generate and transfer complex computer-aided drawings and specifications FWPTMM5208 Manage timber product design FWPTMM5205 Optimise CNC operations FWPTMM5206 Plan production FWPWPP3232 Operate a heat roll bonding machine to laminate or veneer engineered wood panel surfaces FWPWPP3209 Prepare resin and additives FWPWPP3233 Operate a laminating press for engineered wood panels FWPWPP3219 Blend and test binding mixes FWPWPP3235 Trim new engineered wood panels to size FWPWPP3234 Operate a continuous press for the production of engineered wood panels FWPWPP4203 Plan and coordinate engineered wood panel production

Information required	Detail
Confirmation that the panel member is independent of: • the Training Package or Training Package components review ('Yes' or 'No') • development and/or validation activities associated with the Case for Endorsement • ('Yes' or 'No') • undertaking the Equity and/or Editorial Reports for the training package products that are the subject of this quality report ('Yes' or 'No')	I confirm that I, Maree Thorne am independent of: • the Training Package or Training Package components review - YES • development and/or validation activities associated with the Case for Endorsement (CfE) - YES • undertaking the Equity and/or Editorial Reports for the training package products that are the subject of this quality report - YES
Confirmation of the Training Packages or components thereof being compliant with the *Standards for Training Packages 2012*	The Training Package components (4 new and 24 revised units of competency and associated assessment requirements) included in the Case for Endorsement (CfE) are compliant with the *Standards for Training Packages 2012.*
Confirmation of the Training Packages or components thereof being compliant with the *Training Package Products Policy*	The Training Package components in the Case for Endorsement (CfE) comprising 4 new and 24 revised units of competency and their associated assessment requirements as part of the *FWP Forest and Wood Products Training Package Version 4.0,* are compliant with the *Training Package Products Policy.*
Confirmation of the Training Packages or components thereof being compliant with the *Training Package Development and Endorsement Process Policy*	The Training Package components in the Case for Endorsement are compliant with the *Training Package Development and Endorsement Process Policy*
Panel member's view about whether: • the evidence of consultation and validation process being fit for purpose and commensurate with the scope • estimated impact of the proposed changes is sufficient and convincing	All revised units of competency being proposed for endorsement are determined to be equivalent to previous versions, with only minimal changes to industry specific terminology in titles and contents, and other minor changes re clarifying the intent of units, updating WHS requirements and streamlining foundation skills. The CfE refers to the niche, but potentially emergent, nature of the industry covered by the two projects and sites consultation with more than 90% of current industry stakeholders. Given the relatively minor changes to the proposed endorsed components, the level of impact is considered minimal, and as a result the extent of consultation is considered fit for purpose and sufficient.
Name of panel member completing Quality Report	**Maree Thorne**
Date of completion of the Quality Report	29 October 2018

Section 2 – Compliance with the Standards for Training Packages 2012

Standards for Training Packages	Standard met 'yes' or 'no'	Evidence supporting the statement of compliance or noncompliance (including evidence from equity and editorial reports)
Standard 1 Training Packages consist of the following: 1. AISC endorsed components: • qualifications • units of competency • assessment requirements (associated with each unit of competency) • credit arrangements 2. One or more quality assured companion volumes	**Yes**	The proposed components of the FWP Forest and Wood Product Training Package Version 4.0 meet the requirements of Standard 1. The Training Package components in the Case for Endorsement (CfE) include: • 4 new and • 24 revised units of competency each with associated assessment requirements. No qualifications are included in the Case for Endorsement. All new and revised units of competency are elective units in FWP qualifications, hence minor updates made to version releases. No credit arrangements are applicable for units of competency. The FWP Forest and Wood Products Training Package V 4.0 Companion Volume Implementation Guide (CVIG) provides implementation advice, which was quality assured in this process.

Standards for Training Packages	Standard met 'yes' or 'no'	Evidence supporting the statement of compliance or noncompliance (including evidence from equity and editorial reports)
Standard 2 Training Package developers comply with the *Training Package Products Policy*	**Yes**	As indicated in the Equity Report, Skills Impact has complied with the requirements of the *Standards for Training Packages 2012* for the 4 new and 24 revised units of competency. Supporting evidence includes: • Compliance with coding and titling of units of competency (14 of 24 revised units have had minor terminology changes in the unit titles, resulting in being recoded to reflect) and provision of equivalency determination and changes in the mapping. • No evidence of prerequisite units of competency • The FWP Companion Volume Implementation Guide Version 4.0 includes guidance to ensure that learners are not discriminated against, and guidance around reasonable adjustment to accommodate learners with disabilities or particular needs and references the Disability Standards for Education, 2005. • The Companion Volume outlines how Foundation Skills have been addressed in units of competency and emphasises that RTOs must consider them as part of the training and assessment for each unit. • Pathway advice is included in the Companion Volume Implementation Guide (CVIG), as is clear information about qualification and unit mapping to inform users of changes to equivalent training products.

Standards for Training Packages	Standard met 'yes' or 'no'	Evidence supporting the statement of compliance or noncompliance (including evidence from equity and editorial reports)
Standard 3 Training Package developers comply with the AISC *Training Package Development and Endorsement Process Policy*	**Yes**	The CfE provides information about Skills Impact's development and endorsement processes of the draft components including alignment to and compliance with ASIC's Activity Order, undertaken in two projects: **Prefabrication of Panelised Timber Building Systems and On-site Installation** • 4 new units of competency • 3 revised units of competency. Manufacturing Solid Engineered Wood Products - Cross Laminated Timber (CLT) and glulam • 21 revised units of competency The CfE outlines details of IRCs and Technical Advisory Committee (TAC) formation for the project, and wider stakeholder communication strategies. Evidence of consultation and validation strategies inclusive of online project information, direct notifications to identified stakeholders, and online surveys support the provision of a range of opportunities for industry and other stakeholders to engage in the development and validation processes. Project information on the Skills Impact website supports invitations to subject matter experts to assist in development and provides updates of changes made throughout the development and validation processes. The Summary of Feedback, Responses and Actions on the project website indicates feedback was considered by Skills Impact and incorporated in the revision of existing units and development of the new units.
Standard 4 Units of competency specify the standards of performance required in the workplace	**Yes**	All units of competency have been reviewed to ensure they specify the standards of performance required in the workplace.
Standard 5 The structure of units of competency complies with the unit of competency template	**Yes**	The structure of the 4 new and 24 revised units of competency complies with the unit of competency template.

Standards for Training Packages	Standard met 'yes' or 'no'	Evidence supporting the statement of compliance or noncompliance (including evidence from equity and editorial reports)
Standard 6 Assessment requirements specify the evidence and required conditions for assessment	**Yes**	All Assessment requirements associated with the units of competency specify the performance evidence and knowledge evidence to be demonstrated for assessment, along with required conditions for assessment as per the appropriate template. References to volume and frequency of Performance Evidence are clearly stated, as are Assessment Conditions in relation to how evidence may be gathered and provision of necessary resources for assessment conditions. The assessment requirements cross-reference to the unit of competency requirements.
Standard 7 Every unit of competency has associated assessment requirements. The structure of assessment requirements complies with the assessment requirements template	**Yes**	All 4 new and 24 revised units of competency have associated assessment requirements, which comply with the assessment requirements template and the Standards for Training Packages 2012.
Standard 8 Qualifications comply with the Australian Qualifications Framework specification for that qualification type	**Not Applicable**	No qualifications are included in the CfE
Standard 9 The structure of the information for the Australian Qualifications Framework qualification complies with the qualification template	**Not Applicable**	No qualifications are included in the CfE
Standard 10 Credit arrangements existing between Training Package qualifications and Higher Education qualifications are listed in a format that complies with the credit arrangements template	**Not Applicable**	No qualifications are included in the CfE

Standards for Training Packages	Standard met 'yes' or 'no'	Evidence supporting the statement of compliance or noncompliance (including evidence from equity and editorial reports)
Standard 11 A quality assured companion volume implementation guide produced by the Training Package developer is available at the time of endorsement and complies with the companion volume implementation guide template.	**Yes**	The training package components in this submission are accompanied by the FWP Forest and Wood Product Training Package Companion Volume Implementation Guide, V 4.0. The FWP CVIG complies with the companion volume implementation guide template included in the 2012 Standards and was reviewed in this QA process, including for alignment to the CfE and to the proposed endorsed components.
Standard 12 Training Package developers produce other quality assured companion volumes to meet the needs of their stakeholders as required.	**Not Applicable**	No additional companion volumes are produced.

Section 3 – Compliance with the training package quality principles

Note: *not all training package quality principles might be applicable to every training package or its components. Please provide a supporting statement/evidence of compliance or non-compliance against each principle.*

Quality principle 1. Reflect identified workforce outcomes

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance/non compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Driven by industry's needs	Yes	The CfE notes that *'Currently, there is only one Cross Laminated Timber producer nationally and a small number of companies that produce prefabricated timber building systems. Few of these companies integrate building design, off-site manufacturing and construction operations' and consequently identifies 'that the highest skill priority for businesses lies at the interface between CLT manufacturers and the designers who are unfamiliar with working with CLT panels'* with the proposed new units encapsulating this interface. Clarification of terminology (boards and panels to timber or engineered wood panels) and inclusion of CLT and glulam in range of products in revised units reflects industry need to clarify unit intentions in a context of emergent products.
Compliant and responds to government policy initiatives Training package component responds to the COAG Industry and Skills Council's (CISC) training package-related initiatives or directions, in particular the 2015 training package reforms. Please specify which of the following CISC reforms are relevant to the training product and identify supporting evidence: • ensure obsolete and superfluous qualifications are removed from the system • • ensure that more information about industry's expectations of	Yes	The CfE notes that 'the project identified that the job roles in the *prefabrication of timber building systems were not new*, but highly defined as trade and non-trade occupations. Further, the feedback from the TAC members indicated that the skills and knowledge required in this industry sector were related to design, prefabrication and installation and *many of these skills were already covered by existing units of competency from a range of training packages* including property services, furnishing, manufacturing and engineering, forest and wood products and construction (carpentry)'. • **improve the efficiency of the training system by creating units that can be owned and used by multiple industry sectors** Whilst the Activity Order estimated that up to 11 new units of competency required development within the project only four new units were subsequently considered necessary to meet the skill gaps across the two projects, with skills and knowledge in non-linear and curved glulam, currently not used in Australia but prevalent internationally, to be reconsidered in future development work. • **ensure that more information about industry's expectations of training delivery is available to**

training delivery is available to training providers to improve their delivery and to consumers to enable more informed course choices • • ensure that the training system better supports individuals to move easily from one related occupation to another • • improve the efficiency of the training system by creating units that can be owned and used by multiple industry sectors • • foster greater recognition of skill sets		**training providers to improve their delivery and to consumers to enable more informed course choices** Clarification of terminology (boards and panels to timber or engineered wood panels) and inclusion of CLT and glulam in range of products in revised units reflects industry need to clarify unit intentions in a context of emergent products. Three of the four new units expect and assume learners to have trade or building design qualifications prior to undertaking this training, which has been specified in the individual units, as well as in the FWP CVIG v4.0.
Reflect contemporary work organisation and job profiles incorporating a future orientation	Yes	Clarification of terminology (boards and panels to timber or engineered wood panels) and inclusion of CLT and glulam in range of products in revised units reflects industry need to reflect contemporary and emergent products. The CfE acknowledges future industry impacts that are yet to be fully realised in Australia and states that 'stakeholders indicated that many international construction projects use non-linear or curved glulam in their applications. This product achieves different architectural building features than the straight glulam, which is the most common product of this type. Thus, it is expected that the manufacture of curved glulam could also emerge in Australia over the next few years and that the FWP Training Package will need to consider the range of skills needed for curved glulam. There has been no evidence of companies that are currently producing curved glulam in Australia, and as such, the job roles are not fully understood. Therefore, the project team proposed that the issue be added to the Skills Impact issues register, with the possibility it may become a new project in the future'

Quality principle 2: Support portability of skills and competencies including reflecting licensing and regulatory requirements

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Support movement of skills within and across organisations and sectors	Yes	No qualifications are included in this CfE and all revised and new units are electives within existing qualifications, the packaging rules of which enable flexibility of occupational options. The assessment requirements associated with each unit provide flexibility for conducting assessments to meet the needs of employers and individuals.
Promote national and international portability	Yes	Units of competency and associated assessment requirements do not reference specific standards or codes of practice which may vary across jurisdictions, rather they refer to skills according to organisational standard operating procedures and requirements. Information about specific codes and standards is provided in the FWP CVIG V4.0.
Reflect regulatory requirements and licensing	Yes	No individual units of competency have occupational licensing or certification requirements. Clarifying text has been included in new units and the CVIG where requirements for relevant trade or building design qualifications (or equivalent) are required by industry.

Quality principle 3: Reflect national agreement about the core transferable skills and core job-specific skills required for job roles as identified by industry

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Reflect national consensus	Yes	The composition of the Technical Advisory Committee includes individuals and organisations across jurisdictions to enable national consensus in the advice being provided to AISC. As indicated in Standard 3 above, project information, including opportunities to engage in development, consultation and validation was available on the Skills Impact website throughout the project.

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Recognise convergence and connectivity of skills	Yes	As noted in Quality Principle 1, the project has acknowledged existing units of competency from a range of training packages covering design, prefabrication and installation skills and has not duplicated these units, rather identified and addressed the skill gaps in the development of four new units.

Quality principle 4: Be flexible to meet the diversity of individual and employer needs including the capacity to adapt to changing job roles and workplaces

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Meet the diversity of individual and employer needs	Yes	The assessment requirements of all of the units specify that assessment may take place in a workplace, or in a setting that accurately reflects a real workplace. This allows for assessment to occur in a range of different contexts if required.
Support equitable access and progression of learners	Yes	There are no prerequisites for units of competency that could provide barriers for some learners. Proposed new units of competency requiring exiting trade or building design qualifications are incorporated as elective units within qualifications, minimising barriers to qualification achievement, and potential pathways for trade or design qualified individuals to add skills in prefabricated building systems.

Quality principle 5: Facilitate recognition of an individual's skills and knowledge and support movement between the school, vocational education and higher education sectors

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Support learner transition between education sectors	Yes	There are no qualifications included in the CfE. Units range from entry level operator skills and knowledge to higher level specialist skills enabling progression. No units of competency require pre-requisites which might otherwise limit transition between education sectors.

Quality principle 6: Support interpretation by training providers and others through the use of simple, concise language and clear articulation of assessment requirements

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Support implementation across a range of settings	Yes	Industry advice about delivery is provided via the FWP CVIG V4.0 which has been quality assured and is ready for publication at the same time as the proposed endorsed components. The CVIG provides advice about applicable legislation, codes and standards, and delivery requirements including reasonable adjustment and foundation skills.
Support sound assessment practice	Yes	The draft Units of Competency and associated Assessment Requirements include references to volume and frequency of Performance Evidence and include Assessment Conditions specifying how evidence must or may be gathered. Units are written in a manner that allows adaptability and flexibility which enables the units to be contextualised to meet the varied and broad needs of individual enterprises

Key features	Quality principle is met: Yes / No or N/A	Evidence demonstrating compliance with the quality principle Please see examples of evidence in the *Training Package Development and Endorsement Process Policy*
Support implementation	Yes	Proposed components meet the TPCMS/National Register requirements for publication. Implementation advice is provided in the *FWP Forest and Wood Products Companion Volume Implementation Guide V4.0* that is ready for publication at the same time as the Training Package components.