

Safe loading and unloading of long and wide span timber components

Administrative information

Name of IRC(s):	Timber Building Solutions IRC
Name of SSO:	Skills Impact
Name of Training Package (s) examined to determine a change is required:	FWP Forest and Wood Products Training Package TLI Transport and Logistics Training Package RII Resources and Infrastructure Industry Training Package PPM Pulp & Paper Manufacturing Industry Training Package MSS Sustainability Training Package CPP Property Services Training Package

Brief description

This Case for Change demonstrates the need to review and develop new units of competency for safe loading and unloading long and wide span timber components, including timber components and timber wall frames and roof trusses. The skill needs and gaps within the FWP Training Package relate to significant health and safety risks associated with these operations and product structural integrity during unloading and positioning at the construction site.

The project will:

- Review units of competency from related training packages for their applicability in the timber industry and introduction into three FWP qualifications;
- Review and improve two units of competency from the FWP Training Package;
- Develop approximately two new units of competency to reflect the unique skills for loading and unloading special timber components (long and wide span) at both the despatch and receive ends, including construction sites.

Attachment 1 provides the full project scope, including units of competency to be reviewed and developed.

This Case for Change has been developed through consultation with the Timber Building Solutions IRC members and industry stakeholders. The process is outlined in a subsequent section and Attachment 2. Specific skills requirements in this document have also been drawn from industry safety guides and safe work methods statements.

The case for change

The industry supply chain for timber and timber roof truss and wall frames requires suitable skill standards and accredited training programs to ensure that operators can competently perform safe loading and unloading of long and wide span timber components. Correct handling and placement of these products at the construction site is also essential for maintaining the products' structural integrity and represents a skill gap in the FWP Training Package.

Loading and unloading of long-span timber, house frames and house trusses is a high-risk activity. Lack of formal and specific training for the safe conduct of these activities can expose crane and forklift operators and co-workers to severe injuries and fatal hazards. Several fatalities have been attributed in

Case for Change

the industry to the use of inappropriate practices when loading and unloading roof trusses, wall frames and other similar products. The leading cause of death is load falling or moves, workers struck by delivery trucks or misplaced cranes (tipping over), vehicle or load contact with overhead power lines or operators falling from heights.

Increasingly, more timber is being imported from overseas in containers as long timber packs. These usually exceed the standard length of 7.2 metres packs. In many instances, containers are transported at the timber yards where timber yard employees unload the long packs by using a forklift.

Loading and unloading of timber roof trusses and wall frames are conducted with a Hiab or a mobile crane. The person who loads the products may or may not be different from the person who drives the truck and unload the truck.

Involved businesses are currently using organisational health and safety procedures to comply with WHS/OHS legislation. In some states, local safety guides for frame and truss manufacturing and prevention of falls in the transport of roof trusses and wall frames are also used. Often, businesses seek opportunities to upskill operators, yet relevant units of competency are not available in the FWP Training Package.

On this basis, feedback from stakeholders and IRC members have indicated that there is a need for improving skills and training products to support safe and correct:

- Loading and unloading of special (long and wide span) timber components at dispatch and receipt;
- Unloading and placement of timber frame and trusses at the construction site to erect houses.

A preliminary analysis of the training package indicates that the Certificate III in Timber Manufactured Products covers some units of competency, mainly imported from the Transport and Logistics Training Package, which address load handling. Attachment 3 shows a list of these units.

None of the current FWP qualifications, including Certificate III in Timber Truss and Frame Design and Manufacture and Certificate III in Timber Merchandising, contain units of competencies that cover loading and unloading of long timber components or wall frames and roof trusses at the timber yard or the construction site.

There are units of competency relating to the operation of vehicles carrying or moving special loads exist in the Transport and Logistics Training Package and other training packages. Based on some stakeholder feedback, these units could potentially address the skills needs and gaps identified within the FWP Training Package. A list of these units is available in Attachment 4. Other stakeholder feedback has suggested that none of these units are suitable on the basis that they are too generic and do not cover the unique aspects of long timber components.

The following outlines the unique skills for dealing with special (long and wide span) timber components in addition to typical requirements for loading and unloading operations:

Long span packs of timber

- Understand the movement of timber (bearer width, strap tension, coefficient of friction);
- Load restraint techniques;
- Unloading techniques for timber packs of different lengths to ensure the loads are balanced;
- Unloading techniques for timber packs with dimensions beyond the standard length to provide load stability. For operators, this means to find the correct centre of gravity of the load and use the right type of forklift. Skids are unsafely used by some companies to extend the length of the forklift tines to assist with unloading containers.

Wide span timber house trusses and frames

- Assess weight of the timber wall frame and roof trusses loads and use the correct lifting technique or equipment to lift loads in and out of vehicles or move loads to work areas or on wall top plates;
- Apply suitable methods to unload and place timber wall frame and roof trusses loads on site to maintain product integrity;
- Apply appropriate techniques and equipment to unload roof trusses and put them on the top plates;
- Assess weight and location for the stacking of trusses on the top plate so that it does not overload the wall frames.

Attachment 5 shows additional skill requirements for a correct loading and unloading of special timber components as identified through stakeholder consultations.

Based on current analysis and information, this Case for Change proposes the following project activities:

- A thorough content analysis of existing units of competency from a range of related training packages to determine their value for the timber industry. Attachment 4 shows the units of competency proposed for analysis.

The analysis will involve targeted consultations with timber suppliers and timber frame and truss manufacturers.

This activity may result in importing units of competency into FWP qualifications including Certificate III in Timber Manufactured Products, Certificate III in Timber Truss and Frame Design and Manufacture and Certificate III in Timber Manufactured Products.

- Review and improve two (2) units of competency from the FWP Training Package to reflect the current skill requirements for loading and unloading of long and wide span timber loads. Attachment 1 shows the FWP units of competency proposed for review.
- Based on further industry consultation, develop approximately two (2) new units of competency for safe and correct loading and unloading of special (long and wide span) timber components and unloading of timber frame and trusses at the construction site. These units will be listed on Certificate III in Timber Truss and Frame Design and Manufacture. The project will be cognisant of existing units from the Transport and Logistics Training Package and ensure that they are not replicated but complimentary.

Recognising potential synergies, the project will also involve the Transport and Logistics Industry Reference Committee in consultations.

Industry support for change

The Timber Building Solutions IRC has overseen the development of this Case for Change and contributed with considerable feedback during the IRC meetings in March 2018 and November 2017 and on the draft versions of the document.

The document also includes feedback from industry consultations. The process involved news alerts, an online survey and project communication via industry networks. The list of contributing stakeholders, as opposed to consulted stakeholders, is provided in Attachment 2.

Information in this Case for Change also draws on relevant industry documentation including health and safety procedures, codes of practice and guidelines.

Project consultation plan

The Timber Building Solutions IRC has proposed and agreed on the following project consultation plan:

- A Technical Advisory Committee (TAC) will be established for providing technical expertise and guidance to the project during its development stage. Companies suggested to be part of the TAC are provided in Attachment 6;

Case for Change

- Projects updates will be published on the Skills Impact webpage and via news alerts and industry newsletters;
- Two (2) sessions of broad industry consultation will be held on the draft and final draft units and skill sets via online surveys;
- Further project updates and input sessions will be provided during relevant industry events.

Implementing the COAG Industry and Skills Council (CISC) reforms for Training Packages

Priority: Obsolete qualifications removed from the system

Preliminary analysis conducted for this project has not identified obsolete training package components that could potentially be removed from the system.

Priority: More information about industry's expectations of training delivery is available to training providers to improve their delivery and to consumers to enable more informed choices

As part of the project, the Timber Building Solutions IRC will also seek to identify industry's expectations of training delivery and information will be presented in the FWP Training Package Companion Volume and Implementation Guide for training providers to improve their delivery.

Priority: The training system better supports individuals to move more easily between related occupations

The project will consider the review of units of competencies that are native to other training packages for their potential adoption into the forest management and harvesting qualifications. If through consultation these units are considered appropriate for the industry needs, the project will be able to address to some extent this priority for efficiency in the training packages and portability of skills when individuals move between related occupations.

Priority: Improved efficiency of the training system through units that can be owned and used by multiple industry sectors

Preliminary analysis indicates that other industry sectors may not use the new training package components proposed for developed. They are highly specialised for handling and dispatching prefabricated timber products.

Priority: Foster greater recognition of skill sets

The industry has a growing interest in flexible training options, including the provision of specific skill sets rather than completion of a full qualification. The industry is likely to advise on the development and use of new skills sets.

This Case for Change was agreed to by the Timber Building Solutions IRC

Name of Chair

Dave Gover

Signature of Chair

Date

Attachment 1

Scope of project

The project is expected to start in 2018-2019 and will be completed in 12 months from its approval. Based on previous experience, the project should allow sufficient time for engaging industry stakeholders with the project. This process is often lengthy and laborious, and the project outcomes depend on industry participation.

The project will potentially:

- Import units of competency from other training packages into FWP qualifications including Certificate III in Timber Manufactured Products, Certificate III in Timber Truss and Frame Design and Manufacture and Certificate III in Timber Manufactured Products.
- Review two (2) units of competency from the FWP Training Package:
 - FWPCOT4204- Schedule and coordinate load shifting;
 - FWPCOT3203- Weigh loads.
- Develop approximately two (2) new units of competency at the Certificate III level.

Attachment 2

Stakeholder organisations consulted during the course of this review

Note that the list below contains only organisations who responded to the survey for this Case for Change. It does not include organisations who received news or news alerts about this Case for Change.

Organisation Name	State
Dale and Meyers Operations	QLD
Timberlink Australia	VIC, TAS
Parkside Timber	QLD
Timber and Building Materials Association	National
Forestry Industry Council	NSW
Borg Manufacturing	NSW
Hyne Timber	NSW, QLD
Timber Training Creswick	VIC

Attachment 3

Load handling units of competency listed on Certificate III in Timber Manufactured Products

FWPCOT3264 Build and maintain timber stacks

TLIC3063 Operate vehicle carrying special loads

TLID3011 Conduct specialised forklift operations

TLID2012 Operate specialised load shifting equipment

TLID3014 Load and unload vehicles carrying special loads

TLID3043 Shift loads using gantry equipment

Attachment 4

Units of competency from other training packages related to the project scope

TLID3014 Load and unload vehicles carrying special loads

TLID2004 Load and unload goods/cargo

TLIC3063 Operate vehicle carrying special loads

TLID3011 Conduct specialised forklift operations

TLID2012 Operate specialised load shifting equipment

CPCCCM3002A Operate a truck mounted loading crane

RIIHAN307D Operate a vehicle loading crane

ICPSUP235 Lift loads mechanically

ICPSUP236 Shift loads mechanically

MSMSUP205 Transfer loads

Attachment 5

Skill requirements for loading and unloading special (long and large) timber components (preliminary findings)

Long packs of timber

Prepare the area to load vehicle

- Exclusion zones are identified taking into account the turning circle of the long pack or frame and truss and marked using cones or other devices
- All potential pedestrians and other workers in the area have been notified, and the area is to remain clear while loading occurs
- All product and other material that can be removed from the exclusion zone has been or is removed

WHS loading

- The persons completing the loading are correctly attired with the correct PPE including safety vests
- The driver of the truck has been instructed to go to the driver safety zone or remain in the truck while the load is being loaded.
- The exclusion zone is identified with safety cones or other devices
- Should a person enter the exclusion zone, the forklift driver will immediately drop tines (if safe to do so) and stop the forklift until the other person leaves the exclusion zone.

Load shifting

- Before moving the long pack or frame or truss the weight has been determined and checked
- Before moving the long pack or frame or truss, the midpoint has been determined, and the load has been appropriately balanced on the forklift or lifting apparatus
- Before moving the long pack or frame or truss the route the long pack frame or truss will take has been identified and it has been determined what height the load will need to lift to at different points to ensure the load does not come in contact with anything else.
- Before moving the long pack or frame or truss the route the long pack frame or truss will take has either been cleared from pedestrians or the forklift driver and other persons in the area maintain an exclusion zone of at least 2 metres around the forklift and any part of the load

Load vehicle

- Load characteristics are identified and taken into account when determining appropriate loading and procedures
- The vehicle is loaded in accordance with vehicle loading regulations and workplace safety requirements
- Lifting aids and appliances are selected and used to aid loading procedures in accordance with workplace procedures and safety legislation
- Ancillary equipment is operated in accordance with company procedures and manufacturer instructions during loading and unloading operations

Secure and protect vehicle and load

- Vehicle load is secured using correct load restraint and protection equipment for different loads, vehicles and carriage conditions
- The load is protected in accordance with legal and workplace safety requirements
- Load distribution is checked to ensure it is even, legal and within vehicle safe working capacity
- The loaded vehicle is inspected and checked for security to travel

Case for Change

Complete documentation

- Documentation is completed and proofread in accordance with workplace procedures
- All required cargo transportation documentation is completed in accordance with workplace requirements

Prepare the area to unload the vehicle

- The suitability of the area where the long pack or frame or truss is to be unloaded has been identified, tested and determined suitable including factors such as weight, length, traffic and any other conditions that may cause an issue with placing the load on the surface
- Exclusion zones are identified taking into account the turning circle of the long pack or frame and truss and marked using cones or other devices
- All potential pedestrians and other workers in the area have been notified, and the area is to remain clear while loading occurs
- All product and other material that can be removed from the exclusion zone has been or is removed

WHS unloading

- The persons completing the loading are correctly attired with the correct PPE including safety vests
- The driver of the truck has been instructed to go to the driver safety zone or remain in the truck while the load is being loaded.
- The exclusion zone is identified with safety cones or other devices
- Should a person enter the exclusion zone, the forklift driver will immediately drop tines (if safe to do so) and stop the forklift until the other person leaves the exclusion zone.

Load and unload the vehicle

- Load characteristics are identified and taken into account when determining appropriate unloading procedures
- Lifting aids and appliances are selected and used to aid loading procedures in accordance with workplace procedures and safety legislation
- The vehicle is unloaded or partially unloaded in a safe and efficient manner taking into account suitable locations, stowage, safe use of equipment and balance of remaining load
- Ancillary equipment is operated in accordance with company procedures and manufacturer instructions during loading and unloading operations

Timber house trusses and frames

Planning loading and unloading of timber house frames and trusses

- Ensure work zone traffic management, and signage are applied near busy roads, footpaths or schools;
- Ensure site staff are aware of entry and set up area of crane and trucks;
- Crane and truck drivers are aware of the location of personnel other trades and vehicles on sites;
- Wear appropriate PPE equipment (fluoro shirts/vests, hard hats, safety glasses and hearing protection (muffs, plugs), safety boots) at all times when setting up equipment, loading and unloading vehicles and working below or under crane;
- Assess the weight of timber wall frame and frame trusses loads and use the correct lifting technique or equipment (cranes, winch or other mechanical lifting aid) to lift loads in and out of vehicles or move loads to work areas or on wall top plates;

Case for Change

- Use manual handling team lifting techniques only when all other methods were assessed and excluded and ensure all team lifting members are trained in correct lifting techniques.

Setting up equipment to load and unload timber house frames and trusses on-site

- Assess ground conditions (mud, holes water) and overhead obstructions and ensure safe access to the site and placement of crane;
- Conduct pre-operational checks of crane or lifting gear and ensure chains/slings are tagged and fit for purpose;
- Set up equipment on the level ground, avoiding rough and steep terrain, to provide stability of equipment;
- Ensure lifting area is clear of all personnel when the crane is working;
- Unload and place loads as close as possible to work areas and suitably to maintain product quality following standard operating procedures.

Unloading and placement of wall frames to the ground and upper floor

- Ensure site and access area for loading is clear for any debris and obstructions to avoid falls and trips when carrying frames;
- Use designated access via stair void ladder to access the second floor when carrying frames;
- Build or secure ramps or planks for access where necessary;
- Ensure crane and load stay at the allowable distance away from power lines.

Unloading and placement of trusses on the top plate

- Proof check plans that the wall frame is complete and ready for loading and stacking roof trusses;
- Ensure no personnel work underneath the top plate when loading trusses to avoid injuries from wall frames falling over;
- Check sign-offs that all bracing is adequate for the temporary stacking of roof trusses;
- Ensure that the weight and location designated for the stacking of trusses does not overload the wall frames;
- Use the crane to load and place roof trusses on the top plates in a way that minimises the amount of manual handling during truss standing;
- Effectively communicate with crewmembers from the top plate and ground to centre and lay trusses out.

Attachment 6

Stakeholder organisations proposed for the Technical Advisory Committee (TAC)

Note that the list is not exhaustive.

Organisation	State / Region
Dale and Meyers Operations	QLD
Timberlink Australia	VIC/TAS
Parkside	VIC
Timber and Building Materials Association	NATIONAL
Drouin West Timber & Truss	VIC
Dahlsens – Truss & Frame	NSW/VIC