

2017



# MEAT INDUSTRY STANDARD: WORKING AT HEIGHT

**mia**

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# 1 Introduction



## Working at Height

The meat industry has many tasks with risks of falls. These include risk of:

- Falls from trucks during unloading or stock inspection
- Slips, trips, and falls from legging stands
- Falls as a result of bending and reaching over guard rails
- Falls in association with rise and fall platforms
- Falls while conducting maintenance or cleaning
- Falls into pits or holes, especially those with augers or other machinery at the bottom.

This standard lays out the basic processes for clarifying roles and responsibilities, identifying hazards, assessing risks, and implementing controls to eliminate or minimise the risks of working at height.

This standard draws on international experience and merges this with the relevant New Zealand regulations coming into force under the Health and Safety at Work Act 2015.

Please note that these are minimum standards and companies may (and are encouraged to) go beyond any or all of the standards in order to control risks 'so far as is reasonably practicable'.

This is a working document. This document and the subsequent family of documents will evolve over time for example to reflect changes in industry practice and regulation.

**Note:** This document represents **guidance only** for managers and supervisors in managing workplace health and safety in the meat industry. It is not legal advice and does not replace or amend an individual or collective employment agreement or a PCBU health and safety policy. If a member company of MIA cannot achieve a particular standard it is recommended that they conduct a risk assessment outlining their additional controls that will be used to manage the hazard.

Neither the Meat Industry Association Inc or its members, take responsibility for the results or any actions taken on the basis of the information contained in these Standards, or for any error or omissions.

## 1.1 Basic principles

Avoid work at height where you can (i.e. lower work or equipment, such as air handling plant, to ground level rather than require working at height); if it cannot be avoided:

- Select and use appropriate work equipment or other measures to prevent falls where they cannot avoid working at height (i.e. such as barriers, scaffold, EWP); and
- Where they cannot eliminate the risk of a fall, use work equipment or other measures to prevent the fall or minimise the distance and consequences of a fall should one occur (i.e. such as fall restraint harnesses).

Work at height includes the risk of low falls as well as high falls and hence encompasses a range of situations from access to stock trucks and delivery vehicles, on the slaughter floor, roof mounted plant, working over pits and tanks, from ladders, steps and platforms, etc. There is no 'safe' height.

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## 2 Roles & Responsibilities

### 2.1 Duties of the PCBU

The person conducting a business or undertaking (PCBU), generally the company, has a general duty of care set under the Health and Safety at Work Act 2015. There are also specific requirements relating to risks of falls.

The PCBU must manage risks to health and safety associated with a fall by a person from one level to another that is reasonably likely to cause injury to the person or any other person. This includes the risk of a fall:

- a) in or on an elevated workplace from which a person could fall; or
- b) in the vicinity of an opening through which a person could fall; or
- c) in the vicinity of an edge over which a person could fall;
- d) on a surface through which a person could fall; or
- e) in any other place from which a person could fall.

The PCBU must ensure, so far as reasonably practicable, that any work that involves the risk of a fall is carried out on the ground or on a solid construction. This means

- a) A surface that is structurally capable of supporting all persons and things that may be located or placed on it; and
- b) Barriers around its perimeter and any openings to prevent a fall; and
- c) An even and readily negotiable surface and gradient; and
- d) A safe means of entry and exit.

The PCBU must minimise the risk of a fall by providing adequate protection against the risk. The person provides adequate protection against the risk if the person provides and maintains a safe system of work, including by:

- a) Providing a fall prevention device if it is reasonably practicable to do so; or
- b) If it is not reasonably practicable to provide a fall prevention device, providing a work positioning system; or
- c) If it is not reasonably practicable to comply with the above, providing a fall arrest system, so far as is reasonably practicable.
- d) Providing appropriate training of workers regarding the dangers and risks in all aspects of the tasks required.
- e) Provide mechanisms for the safe evacuation of workers (in the event of an emergency alert/site evacuation) when working at heights.

The company is responsible for assigning someone to ensure the PCBU complies with its health and safety duties towards workers at a site – depending on the company, this can be the senior manager at that site.

### 2.2 Responsibilities by role

Role	Responsibilities
PCBU	As above

Role	Responsibilities
Officers	Officers must exercise due diligence to make sure that the PCBU complies with its health and safety duties.
General Manager	<p>The General Manager must ensure:</p> <ul style="list-style-type: none"> <li>• This Standard is kept up to date and distributed to all relevant staff.</li> <li>• The requirements of this standard are adhered to.</li> </ul>
Line Managers / Team Leaders	<p>Line Managers and Team Leaders are responsible for the immediate actions required to control health and safety risk in their areas of control, in particular:</p> <ul style="list-style-type: none"> <li>• Ensure the levels of training and effectiveness of implementation of this procedure are consistent and appropriate.</li> <li>• Ensure that adequate safety equipment and devices (e.g. EWPs, scaffolding, guarded walkways, edge protection equipment etc) and personal protective equipment (e.g. harnesses, work at height helmets, lanyards etc) are available to all relevant personnel</li> </ul>
Health and Safety Manager/Advisor	<p>The Health and Safety Manager/Advisor are responsible for:</p> <ul style="list-style-type: none"> <li>• Providing assistance, advice and guidance on hazard and risk management requirements.</li> </ul>
All workers	<p>Workers (including contractors and subcontractors) at processing sites must comply with all requirements of this Standard; and</p> <ul style="list-style-type: none"> <li>• Never perform any task where fall risks exist if there is a risk of harm to themselves or other workers – seek further advice from a Supervisor or Manager before commencing</li> <li>• Follow all working at height procedures correctly and consistently</li> <li>• Follow safe work practices they have been trained in</li> <li>• Report any uncontrolled hazards they see to their immediate supervisor</li> <li>• Use safety equipment provided. If protective safety devices and/or equipment are provided, these must be used</li> <li>• Report any working at height incidents (including near misses) using their site's incident reporting system.</li> <li>• Never work alone when working at heights – ask the supervisor for a support person or observer</li> </ul>

### 3 Identify Hazards and Assess the Risk

The work should then be assessed in order to fully understand the nature of the risk and to consider the various options around how the work can be done safely. This includes access to the areas where work is to be carried out. Consideration should also be given to the associated risks of objects falling from an elevated work position.

#### Tasks that need particular attention are those carried out:

- on any structure or plant being constructed or installed, demolished or dismantled, inspected, tested, repaired or cleaned (especially where workers are unfamiliar with the layout)
- anything where there is maintenance and where there is a changed layout or workers are unfamiliar with the layout
- on a potentially fragile or unstable surface
- using equipment to work at the elevated level (for example, when using elevating work platforms or portable ladders)
- on a sloping or slippery surface where it is difficult for people to maintain their balance or steps (for example, on ramps that are wet or have fat or blood on them)
- near an unprotected open edge (for example, legging stands)
- near a hole, shaft or pit into which a worker could fall (for example, lift shafts or service pits)
- tops of trucks
- near large tanks or vessels

PCBUs should also check records of previous injuries and 'near miss' incidents related to falls.

#### 3.1 Assess the risk

**Any height off the ground must be considered.** While the height is an important risk factor to be considered, other risk factors need to be considered as well.

#### 3.2 How to assess the risk

A suitable assessment of risk must be made for each hazard identified. When assessing the risks arising from each fall hazard, the following matters should be considered:

- Height of the potential fall
- Potential severity of injury (including landing on unguarded machinery or pipes)
- Risk to others
- Design of the platform, including size, condition, slipperiness, edge protection, etc
- Distance between the carcass and the leading edge of the platform, and extent worker is reaching or leaning over
- Off-cuts and body fluids (blood, grease, fat, etc) and water on platform
- Type of footwear provided
- Access and egress from platforms

- Application of force, such as pulling, pushing, or downwards forceful cutting
- Access to areas underneath where persons are working (such as rise and fall stands)
- Hand grip – places where hand grip may be absent or easily lost or both hands are required for the task
- Where there is a risk of objects falling and striking people below
- Need to handle livestock safely

Also consider other factors, such as:

- Ergonomics – reach distances, barrier heights and comfort
- Production requirements (such as need to cut down the length of the carcass)
- Meat hygiene requirements (such as carcass rubbing against a barrier). However, it is important to note that food hygiene requirements do not negate the need to protect workers, and if one type of control cannot be used, other controls must be used.

Identification of hazards, assessment of risk, and controls, should be determined in conjunction with the site Health and Safety Committee and/or relevant Health and Safety Representative.

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## 4 Implement Controls

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If it is not reasonably practicable for a PCBU to eliminate identified risks, the PCBU must implement risk-control measures.

A manager should use the following hierarchy for managing work at height and selecting equipment:

- **Eliminate the risks:** Good design is essential and provides the most effective opportunity to **eliminate risk**, for example by designing the plant so the hazard is eliminated or human interaction is eliminated (e.g. does not require any worker to work at height). Even where this cannot be done the safety of the users should be a foremost consideration and the plant and equipment designed to promote safety (rather than safety systems designed to accommodate the plant and equipment) wherever possible. Other methods of elimination include: lowering work to ground level rather than require working at height, or assembling components on the ground and have lifted to the height rather than work at the height.
- **Minimise the risks:** Use work equipment or other measures to prevent falls where they cannot avoid working at height (i.e. such as guard rails and barriers or mobile elevated platforms). Where they cannot eliminate the risk of a fall, use work equipment or other measures to minimise the distance and consequences of a fall should one occur (i.e. such as harnesses). Please note that this is a far lower level of protection and requires a high level of worker competency and must be performed under authorisation only.

Irrespective of the type of controls, they should be supported with measures to make sure:

- Everyone on site understands and uses the controls
- The controls are working
- The controls remain effective

Good workplace design is essential and provides the most effective opportunity to eliminate risk, for example by designing in safe access to plant or positioning it at ground level. Even where this cannot be done the fitting of anchor points or running lines makes it easier for those having to undertake work at height to implement a safe system of work.

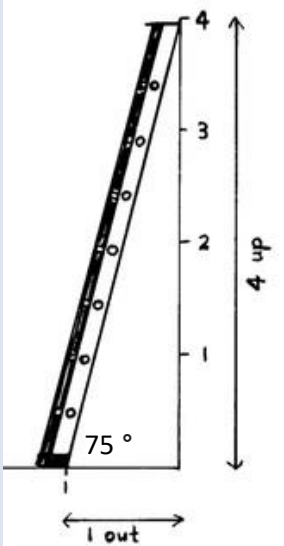

A PCBU must ensure through effective supervision and monitoring that the control measures are effective and are maintained. There must be regular reviews of the risks and controls which should include worker H&S representatives and H&S committees.



### 4.1 Typical risks and controls



This section outlines some practical controls for some of the typical heights in processing plants. This is voluntary advice and does not preclude sites from developing their own controls appropriate to the situation.

Each site will have to determine what is appropriate for its operations, subject to its own risk analysis. For example, in some risk areas barriers may not be practicable, but other control(s) such as fall arrest systems, or markings should be considered.




Table 1. Typical risks and controls

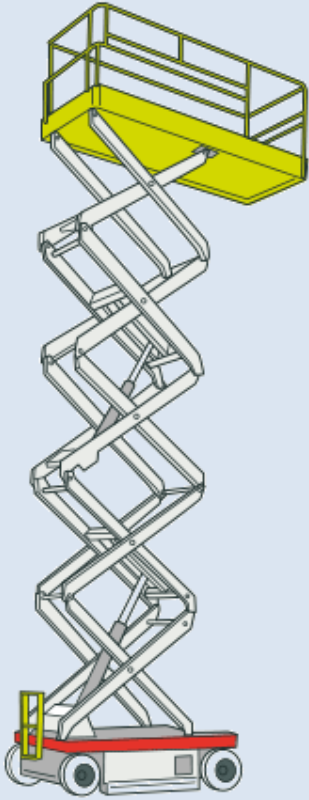
Typical Risk Areas	Typical Controls
<p><b>Portable ladders</b></p> 	<p><b>Portable ladders should only be used when other means of access or work method is not practical. The work should be only of a short duration and low risk.</b></p> <p>Only industrial quality ladders (AS/NZS 1892.1) should be used. It is recommended practice to use a platform ladder rather than a step ladder.</p> <p>Ladders should be properly stored away after use.</p> <p>A pre-use check (including the stiles, rungs, feet and locking mechanisms) should be made of the ladder and checked after it has been dropped or cleaned.</p> <p>A leaning ladder should be at 75° (1 unit of distance out for every 4 units high, or arms-length away when standing upright). Three points of contact should be made on the ladder (i.e. a hand and two feet).</p> <p>Ladders should have the ground contact secure (i.e. not on a movable surface, and try to tie the ladder to prevent it slipping either outwards or sideways or have a second person holding the ladder).</p> <p>Do not overreach (the centre of the body must be within the stiles), and carry only light materials and tools.</p> <p>Only one person can be on a ladder at any one time.</p>
<p><b>Cat walks in yards</b></p> 	<p>There should be railings along cat walks in yards. Consideration should be given for a gap at the bottom of the railing to allow for a person to climb out of the yard quickly.</p>

Typical Risk Areas	Typical Controls
<div>Fixed steps and ladders</div> <div></div>	<p>Ladders that are to be a permanent access should be designed, constructed and erected in accordance with AS/NZ 1657:1992. Hand rails, hand holds etc.</p> <p>Non-slip surfaces should be considered, especially if there is likely to be fat, grease, blood and water on the steps or ladder rungs. Hoops and platforms for vertical ladders.</p>
<div>Access to tanks</div> <div></div>	<p>Access to tanks may be eliminated or at least reduced by installing monitoring equipment and filling points that can be accessed at ground level. Portable ladders should not be used, but fixed steps or ladders provided with handrails. Rungs and surfaces should have anti-slip surfaces.</p> <p>Access to tanks may be restricted by physically locking out access (example shown with access control padlocked in place).</p>

Typical Risk Areas	Typical Controls
<p><b>Fixed work platforms (legging stands)</b></p> 	<p>A rail at least 900mm high, with gaps no more than 470mm.</p> <p>Platform surfaces if likely to have fat, grease, blood and water on them should have anti-slip grating or anti-slip material. There should also be a means of closing the rail opening at the top of the steps, such as a solid bar which falls back into the horizontal position after opening.</p> <p>Toe guards on the edges should be considered.</p>
	<p>Where the above standards cannot be fitted because, for example, working down the carcass in production, then consideration should be given to a fall restraint or fall arrest harness.</p>



Typical Risk Areas	Typical Controls
<p><b>Rise and fall platforms</b></p> 	<p>Same as Fixed Work Platforms (legging stands).</p> <p>Where it is not practical to fit front rails and toe guards a harness and lanyard should be provided and used by the operator. If there is a significant risk of the platform failing then a fall restraint system should be securely anchored to the steel work above the platform.</p> <p>Any fall of the platform must be controlled, and valves should prevent any freefall. Automatic check or blocking valves should be fitted to cylinders and tested regularly as part of a preventive maintenance schedule. In addition to checking the air or hydraulic systems it is also important to ensure all mechanical parts of the lifting system, cylinders, rods, anchor points, locking butts and locking pins, etc, are correctly installed and in good condition.</p>
	<p>Personnel are excluded from under the area of operation. Rise and fall platforms can drop without warning so it is essential that access to the area below the platform is restricted. If possible the area should be fenced to restrict access or 'trip bars' or chains can be fitted underside. If trip bars are chosen as a solution the associated control system should operate as part of a 'failsafe' system.</p>
<p><b>Roofs</b></p> 	<p>Routine access to the roof must be by permanent ladder with hoops or fixed steps. Edge guarding or fixed anchor points on roofs where cleaning or maintenance is routinely undertaken. If access is required across panel ceilings, catwalks or crawling boards should be used.</p> <p>Hazards must be assessed not only for the work on the roof but also for materials that may fall off onto someone below. In general, construction, replacement or significant repairs must be done by a competent person (such as a specialist contractor).</p>

Typical Risk Areas	Typical Controls
<p><b>Elevated work platforms (including forklift safety cages, cherry pickers, and scissor lifts)</b></p> 	<p>See Worksafe NZ Mobile Elevating Work Platforms - Best Practice Guidelines.</p> <p>Platforms are used for raising and lowering workers to a height, and are not for transport around the site.</p> <p>Before use, the elevated work platform must be checked and inspected in the last 6 months, is the correct type for the job and not overloaded, is on a firm base, and any stabilisers and outriggers extended.</p> <p>Only workers considered competent may operate these types of lifting equipment. All workers on an elevated working platform shall wear a harness, and secured to the inside of the platform so they cannot climb or fall out of the cage. If a forklift safety cage is used, the authorised forklift operator must remain with the forklift at all times when the platform is raised.</p> <p>Spotter/Safety observer shall be used during travel and for the entirety of any moderate-high risk jobs.</p> <p>Precautions must be taken if operating within 4m of power lines or other electrical equipment.</p> <p>A worker must never be raised or transported on the tynes of a forklift.</p> <p>For more detail refer to section 4.11 Elevated Work Platforms.</p>
<p><b>Dropped items</b></p>	<p>The area around an elevated work area should be marked with fixed or temporary barrier, tape, or plastic cones to ensure access underneath is controlled if there is a risk of harm to any person from falling objects e.g. tools, animal products.</p> <p>Other controls such as nets or tool lanyards should also be applied as required.</p>

## 4.2 Work platforms, stairways and ladders

Work platforms, stairways and ladders should be constructed and designed to AS/NZS 1657, with appropriate fencing and/or guard railing to prevent the fall of a person, where practicable.

Surfaces should be non-slip, free from trip hazards and should generally not exceed 7 degrees (1 in 8 gradient). Cleated surfaces, which provide greater slip-resistance, should not be steeper than 20 degrees (1 in 3 gradient).



Photo 1. Access to platform



Photo 2. Access over plant obstacle



Photo 3. Fixed vertical ladder\*



Photo 4. Emergency exit platform\*

\*Note: While fixed vertical ladders may be built to AS/NZS 1657 this does not reduce the risk of fall. Other controls must be in place to minimise risk of fall e.g. access control, PPE use, vertical lines authorisation, competency levels, etc



### 4.3 Barriers

Barriers (or edge protection) to prevent a person falling over edges should be provided on relevant parts of a solid construction. These include:

- legging stands and raised platforms
- cat-walks over stockyards
- the perimeters of buildings or other structures
- mezzanine floors
- openings in floors and pits
- the open edge of a stair, landing, platform or shaft opening.



**Photo 5. Barrier edge protection**

The barrier should be designed and constructed to withstand the force of someone falling against it or should be placed sufficiently far away from the fall hazard (2m) to act as a warning.

The top of the guard rail or component should be between 900 mm and 1100 mm above the working surface. If a guard rail system is used, it should also have mid-rails and toe boards or wire mesh infill panels.

In stockyards, rails should be designed to allow for a worker to make a rapid exit from the yard, so mid-rails may not be appropriate.

Meat hygiene (such as carcasses rubbing on rails) and cleaning should be considered in design.

Toe-boards should be considered to prevent feet from stepping over the edge and tools/knives from falling off.

Any scaffolding must only be erected or dismantled by a competent person for such work.



#### 4.4 Personal Fall Protection Equipment

This standard differentiates between full fall restraint harness (which prevents a person from falling by a short, fixed line to a fixed anchor point), and a fall arrest harness (which arrests a fall). A restraint harness is preferable as it prevents a fall from occurring rather than mitigating injury from a fall.



**Photo 6. Restraint harness**

A restraint harness is a fixed line that prevents a worker from falling or moving over the edge of a platform. It can be a safety belt around the waist, a harness around the shoulders, or a full body harness. The line should be long enough so as to permit movement, but short enough to prevent a fall.



**Photo 7. Restraint system**

A fall arrest harness is intended to safely stop a worker falling an uncontrolled distance and reduce the impact of the fall. Only when a restraint system is not practicable, should a fall arrest harness be considered.

All equipment used for fall arrest should be designed, manufactured, selected and used in compliance with the AS/NZS 1891 series of standards.

##### 4.4.1 Harness use

Key safety considerations in using harnesses are:

- the correct selection, installation and use of the equipment.
- that the equipment and anchorages are designed, manufactured, installed and periodically tested to be capable of withstanding the force applied to them as a result of a person's fall.
- fall arrest harnesses should be full-body or upper body (including shoulders). Do not use a safety belt around the waist in a fall arrest situation – if you fall in a safety belt around the waist, back and abdominal injuries may occur. Safety belts around the waist should be for fall restraint systems only.
- that the harness is designed and installed so that the person travels the shortest possible distance before having the fall stopped. It must be shortened by an approved way - the line must not be shortened by tying a knot in it (see Photo 8).
- **that workers using a fall arrest harness wear helmets with chinstraps to protect them in the event of a fall (see section 4.4.2).**
- the harness is cleaned with pure soap and water, and hung to dry out of direct sunlight, and connectors checked for cracks and grit.
- that if the equipment has been used to arrest a fall it is not used again until it has been inspected and certified by a competent person as safe to use.
- anchor points are put in by a certified person and are regularly checked for rust.



**Photo 8. Do not use equipment incorrectly**

Individual harnesses rely on workers wearing and using them correctly, and therefore workers who will use such a harness must be fully trained in its safe use. They should only be used where it is not reasonably practicable to use higher level control measures.

A fall arrest harness must have emergency and rescue procedures. The rescue of a worker who is suspended in a harness must occur promptly to prevent suspension intolerance. A worker should not use a fall arrest harness unless there is at least one other person on the site who can rescue them if they fall. The PCBU must ensure that the equipment and skills required to implement the emergency procedures are readily available and are tested so they are effective.

#### 4.4.2 Head protection

Personnel working at heights must wear an appropriate Safety helmet to protect the worker from head injury during an uncontrolled fall, conforming to the following standards, EN 397, EN 12492, ANSI Z891.1 2003, or equivalent standards. (This excludes the use of construction hard hats while working at heights).

#### 4.4.3 PPE Storage

All personal protective equipment must be stored as recommended by the manufacturer and regularly checked, cleaned (as recommended) and maintained. An example of a storage system is shown below.



**Photo 9. Working at heights helmet**



**Photo 10. Storage of working at height equipment**

#### 4.5 Edge markings

Where barriers or railings are not feasible, the edge of a platform should be marked in a bright contrasting colour in addition to other controls. PPE (such as harnesses) must be used so there is no risk of fall.

Underneath a platform or ladder should be clearly marked. A temporary platform (such as a cherry picker) should be marked by temporary barrier or cones.

#### 4.6 Safety Signs

Signs must be visible to those entering or operating in the area. The size of the signage should be proportional to the level of risk of the hazard.

Platforms with restricted access should be appropriately signed, and cordoned off or locked out by a chain or gate when not in use.

#### 4.7 'No go' areas or restricted access areas

Require clear signs warning people not to access the hazardous area. Relevant information and instruction should be provided about 'no go' areas with adequate supervision or doors and locking systems to ensure that no unauthorised worker enters the 'no go' area.

Barriers should be used in conjunction with signs to cordon-off areas where there is a risk of falling or being hit by falling objects. They should be highly visible and securely fixed to prevent displacement.

#### 4.8 Permit systems

Extra controls, such as permits, should be used where there is working at height that is higher risk, such as during cleaning or maintenance when there are workers unfamiliar with the layout or equipment, the environment has been changed, or controls such as barriers or harnesses have been moved or disengaged. Where permits are not used, systems should be in place to ensure that risks are evaluated and only appropriately trained personnel perform the work.

An example of a Working at Height Permit is included in Section 8, Appendix 2: Permit to work at height (example only).



**Photo 11. Workers discuss risks at a Permit station**

#### 4.9 Organising and sequencing of work

Work should be organised so that people do not interfere with other workers or increase the risk to themselves or others. For example, sequence jobs so that different trades are not working above or below each other at the same time. Plan the work so work at height is minimised in extremely hot or cold weather/working environment.

#### 4.10 Administrative controls

An administrative control may be as simple as a safe work procedure that describes the steps involved in safely undertaking a task. It may also include any particular training, instruction and the level of supervision required. For example, a safe work procedure could be written for a task to reduce the risk of falls, when entering or exiting vehicles may include instructing drivers to not jump down from the cab and always maintain three points of contact when climbing into or out of the cab.

Higher risk work such as during construction, cleaning or maintenance at height and normal or fixed controls are not in place should require a permit. An example of a Working at height Permit is included in Section 8, Appendix 2: Permit to work at height (example only).

A reliance on administrative can result in serious injury or death and would in no way meet the requirement to reduce risk of harm 'so far as is reasonably practicable'.

**High risk work at height must have higher levels of control applied**, such as scaffolding, harnesses, barriers, etc.

#### 4.11 Elevated Work Platforms

Power operated elevated work platforms, which include cherry picker, scissor hoists, etc. are specialised pieces of equipment. It is essential that the correct type of machine is used for the job, and that it is set up and used by a full trained, competent person.

Only EWP's with certified anchor points may be used.

Operators in EWP's shall wear a safety harness with a lanyard – fitted with an energy absorber or self-retracting lifeline (SRL). The harness must be attached to a certified anchor point. If using an adjustable lanyard, the lanyard shall be as short as practicable while allowing free movement within the confines of the man cage.

Select a lanyard length based on the size of the platform of the EWP being used.

The operator must be fully trained in the specific NZQA unit standard requirement for the EWP type they are operating.

##### 4.11.1 Cherry Picker

- The cherry picker must have valid certification.
- There must be a person present, acting as a Safety Observer, when a cherry picker is in operation.
- All personnel who operate or work in EWP's shall wear a suitable safety helmet (conforming to the following standards, EN 397, EN 12492, ANSI Z89.1 2003, or equivalent standards) and a safety harness with a short lanyard incorporating an energy absorber.
- The lanyard should be just long enough to provide free movement within the confines of the EWP without allowing the wearer to stand on the mid or top rail or lean so far out of the platform that they risk a fall. (The manufacturer's operating instructions shall be followed.)
- Signage shall be fitted to all MEWP's to indicate this requirement.
- The Operator must be fully trained and competent to use the cherry picker.

##### 4.11.2 Scissor Lifts

- The scissor lift must have valid certification.
- Scissor lifts and other elevating work platforms can be used to access work areas. Where the MEWP's platform is next to the work area landing and the MEWP is used to access the work area, the landing and platform must be no more than 100mm apart.
- If work needs to be done with the guardrails removed and a requirement to access a work area (i.e. roof top), the use of a lanyard fixed to a secondary anchor point (on the roof) will provide safe access. Workers should not reach outside the platform without adequate fall protection.
- The Operator must be fully trained and competent to use the scissor lift. See training matrix in section 5.2.



#### 4.11.3 Forklift Safety Cages

**Forklift safety cages must be manufactured in accordance AS/NZS 2359 Powered industrial trucks (Man cage attachments) or equivalent standard.**

Prior to using a safety cage, ensure that:

- The safety cage has current certification
- The safety cage may only be used by a trained & competent forklift operator
- Have the safe working load displayed in a prominent position
- The safety cage is attached and secured to the vehicle
- Have a two-metre-high guard that is sufficiently wide to prevent any contact with the lifting mechanism fitted to the back of the platform
- The forks are inserted into pockets / slots with safety platform hard against backrest in such a way that it cannot tilt, slide or be displaced.
- The safety chain and fastening device is correctly attached.
- The safety cage must be fitted with guardrails, mid rails and kickboards
- Only have any gates that open inwards and that are installed with a spring loaded latch
- The person in the safety cage is wearing a safety harness attached to a certified anchor point of the safety cage for the purpose of fall restraint.
- The lanyard and harness is secured to the anchor points on the platform. The lanyard shall be as short as practicable while allowing free movement within the confines of the man cage.
- Any equipment in the safety platform is secured
- Transport of personnel within the safety cage is not permitted and the forklift / vehicle shall be stationary during lifting of the platform
- The safety cage is only to be used while an operator is at the controls of the forklift. The forklift driver remains seated in the forklift at ALL times
- **Personnel lifts in safety cages should always be permitted**

#### 4.11.4 Crane Safety Cages

- Where no other practical and suitable method is available, a working platform may be suspended from a crane and the worker must be attached to the hook block.
- The crane operator and the person using the platform shall discuss the operation and maintain direct communication by direct line of sight or by hand held radio at all times.
- A Safety Observer shall always be present when personnel are being lifted into position to ensure safe clearances from obstructions such as power wires, buildings etc.
- When using a safety cage attached to a crane, occupants of the cage shall wear a safety harness and lanyard, the lanyard shall be attached to the crane hook block in such a way that it cannot be dislodged, it is recommended that the use of a (SRL) self-retracting lanyard (Type II retractable) be used to attach the harness wear to the crane hook block.
- The load including personnel and equipment must not exceed the rating of the safety cage
- **Personnel lifts in safety cages should always be permitted**

### 4.12 Scaffolding

“Everyone involved in the scaffolding process must have the knowledge, training and skills to perform the work safely, regardless of the height of the scaffold, and must have certification under the HSE regulations where appropriate.” *Good Practice Guidelines: Scaffolding in New Zealand, Worksafe 2016*

- Scaffolding shall be designed and erected to suit the type of work to be carried out, the site conditions and the anticipated workload.
- All scaffolds from which a person or object could fall more than five metres, as well as all suspended scaffolds, shall be erected, altered and dismantled by or under the direct supervision of a person with an appropriate Certificate of Competency. This work must be notified to WorkSafe NZ
- The scaffolding shall be “tagged” or certified as being safe and up dated weekly or as required by the scaffolder.
- If working around live process equipment, all equipment shall be protected from falling objects or suitably safeguarded to prevent damage. No items shall be left unsecured.
- Ground stability shall be checked before erecting a scaffold
- Persons erecting the scaffold, and not within the confines of the scaffold, shall use adequate fall protection, i.e. restraint system comprising of a safety harness & lanyard.
- Scaffold ladders shall be installed as per the Scaffold standards
  - AS/NZS 4576.1 Scaffolding
  - AS/NZS 1576.1 Scaffolding: General Requirements
- Mobile scaffold – **regardless of height** (e.g. under 3 metres) any person who erects a scaffold must be fully trained and competent to do so.



**Photo 12. Mobile scaffold storage**

#### 4.12.1 Scaffold register/inspection requirements

- For all scaffolding from which a person could fall 5m or more, a scaffold register or similar must be kept on site and be available for inspection.
- When complete the inspection records should show:
- Project name, address, or other clear identification.

- The location of the scaffold with respect to site coordinates or the location at the building or structure, so that the scaffolding can be clearly located.
- Miscellaneous details of the scaffold e.g. duty rating of working decks.
- A record of each inspection carried out.
- The inspections must be carried out at the following intervals:
  - Before the scaffold is first put to into use.
  - Weekly while the scaffold is in use.
  - After each structural alteration or addition.
  - Monthly while the scaffold is set up but not in use.
  - After any storm or occurrence that could adversely affect the safety of the scaffold.
  - The inspection must be carried out by either:
    - A certificated scaffolder of the appropriate class; or
    - A competent person such as a chartered engineer.
- The entries of each inspection in the scaffold register must be made and signed by the person who carried out the inspection.
- See also the Notifiable Work section **Error! Reference source not found..**

**Further information**

For further information about safe scaffolding refer to:

Scaffolding in New Zealand - Good Practice Guidelines – WorkSafe 2016

<http://construction.worksafe.govt.nz/assets/guides/scaffolding/scaffolding.pdf>



## 5 Training & competency

### 5.1 Use of safety harnesses and fall arrest systems

Working at heights training is required and persons who are required to use a safety harness and fall arrest system must provide evidence of their training and competence.

**WorkSafe's Good Practice guidelines for Working at height in New Zealand (April 2012)** states:

"A recommended means of obtaining competence for workers who are involved in planning, installing, operating fall arrest systems and supervising staff is:

- 'NZQA Unit Standard 15757 – Use, install and disestablish proprietary fall arrest systems when working at height' or an equivalent or higher level of qualification.
- 'NZQA Unit Standard 23229 - Use safety harness system when working at height' is a prerequisite for achieving NZQA Unit Standard 15757."

The following unit is also recommended:

- NZQA Unit Standard 17600 explain safe work practices for work at heights.

This unit provides a higher level allowing personnel to rig anchors and access work areas using fall arrest and restraint systems in the work place. It includes subjects including, but not limited to, risk assessment, anchor points, static lines, EWP's, planning, rescue and recovery.

### 5.2 Use of Elevated Work Platforms (EWPS)

Power operated elevated work platforms, which include cherry picker, scissor hoists, etc. are specialised pieces of equipment. It is essential that the correct type of machine is used for the job, and that it is set up and used by a competent person.

**WorkSafe's Good Practice guidelines for Mobile Elevating Work Platforms (August 2014)** sets out the following training recommendation, however there may be other ways to ensure competency:

MEWP TYPE	23960	23961	23962	23963	23964	23966
Scissor Lift (SL)						
Truck Mounted (TM)						
Self-Propelled Boom Lift (BM)						
Trailer Mounted (TL)						
Vertical Lift (VL)						

**Figure 1 - EWP NZQA registered unit standards**

### 5.3 Scaffolding

**WorkSafe's Good Practice guidelines for Scaffolding in New Zealand (November 2016)** sets out the following competency requirements:

#### 4.1 COMPETENCY REQUIREMENTS BASED ON HEIGHT OF SCAFFOLD

HEIGHT OF SCAFFOLD <i>Measured from the highest component</i>	PERSON PERMITTED TO ERECT THE SCAFFOLD
Up to 5 m	Competent person: someone who has the knowledge and skills to carry out a particular task. Skills and knowledge may be acquired through training, qualification, or experience, or a combination of these. NZQA registered unit standards may assist in fulfilling the qualification requirement.
5 m and above	Holder of appropriate class of certificate of competence

Table 3: Competency requirements based on height of scaffold

Design (or verification of the design) of some types of scaffolding should be undertaken or verified by a chartered professional engineer (CPEng). See Section 7.3 for more information.

#### UNIT STANDARDS

Some unit standards may assist in demonstrating competence to erect scaffolds less than 5 m high.

UNIT STANDARD	TITLE
9184	Erect and dismantle non-notifiable prefabricated frame scaffolding up to five metres in height
13016	Demonstrate knowledge of the erection and dismantling of scaffolding up to five metres in height
13053	Erect and dismantle scaffolding up to five metres in height

Table 4: NZQA registered unit standards

Figure 2. Scaffolding NZQA registered unit standards

## 6 Reference Documents



### Further information

- New Zealand's key work health and safety legislation is the Health and Safety at Work Act 2015 (HSWA) and regulations made under that Act. Compliance with all statutory requirements with the HSWA Act 2015 and other applicable acts and/or regulations is mandatory.
- New Zealand 'Codes of practice' (CoP or ACoP) are documents that offer an approved method of achieving compliance with regulatory requirements. A code of practice will tell you how to meet the Act or regulation requirements and controls in a way that is legally defensible. They are not mandatory and you can adopt other ways of meeting the requirements instead.
- 'Good Practice Guidelines' (GPG) are a guide to what WorkSafe New Zealand considers good practice. Health and safety inspectors may use these guidelines when visiting workplaces or conducting investigations.
- Other types of guidance including webpages, fact sheets or brochures is provided for information only. Compliance to these forms of guidance may have **limited** bearing under the law.

### 6.1 Relevant legislation & regulations

Compliance with all statutory requirements is mandatory. This includes requirements associated with safety, contracting work, equipment and system design, supply, testing, installation and maintenance.

Relevant legislation includes, but is not limited to:

Health and Safety At Work Act 2015 (HSAW Act 2015)

<http://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.html>

Health and Safety at Work (General Risk and Workplace Management) Regulations 2016

<http://www.legislation.govt.nz/regulation/public/2016/0013/latest/DLM6727530.html>

### 6.2 Codes, Standards & Guidance

#### 6.2.1 New Zealand/Australia

Height - Best practice guidelines for working at height in New Zealand – WorkSafe 2014

<http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/best-practice-guidelines-for-working-at-height-in-new-zealand/working-height.pdf>

Mobile Elevating Work Platforms - Best practice guidelines – WorkSafe 2014

<http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/mewp>

Scaffolding in New Zealand - Good Practice Guidelines – WorkSafe 2016

<http://construction.worksafe.govt.nz/assets/guides/scaffolding/scaffolding.pdf>

Standards: New Zealand <http://www.standards.co.nz> and Australia <https://infostore.saiglobal.com/>

AS 1418.13 Cranes (including Hoists and Winches) – Building Maintenance Units

AS/NZS 1576 *Scaffolding* series

AS/NZS 1657 Fixed platforms, walkways, stairways and ladders—Design, construction and installation

AS/NZS 1891.1 Industrial fall arrest systems and devices—Harnesses and ancillary equipment

AS/NZS 1891.2 supp:1-2001 Industrial fall arrest systems and devices—Horizontal lifeline and rail systems—Prescribed configurations for horizontal lifelines (Supplement to AS/NZS 1891.2:2001)

AS/NZS 1891.3 Industrial fall arrest systems and devices—Fall arrest devices

AS/NZS 1891.4 Industrial fall arrest systems and devices—Selection, use and maintenance

AS/NZS 1892 *Portable ladders* series

AS/NZS 4142.3 Fibre ropes—Man-made fibre rope for static life rescue lines

AS/NZS 4389 *Safety mesh*

AS/NZS 4488 Industrial rope access systems series

AS/NZS 4488.2 Industrial rope access systems—Selection, use and maintenance

AS/NZS 4576 Guidelines for scaffolding

AS 2550.16 Cranes—Safe Use—Mast climbing work platforms

AS/NZS 4994 Temporary edge protection series

### 6.3 Other countries

*British Standards Institution*

Internet address: [www.bsi-global.com](http://www.bsi-global.com)

BSEN 1263-1:2002 Safety nets: Safety requirements, test methods

BSEN 1263-2:2002 Safety nets: Safety requirements for the positioning limits

## 7 Appendix 1: Working at Heights Check List

(Example only)

Working at heights	Yes	No	N/A
<b>Process</b>			
Has the PCBU identified all the hazards of anyone falling from a height?			
Has the PCBU undertaken a risk assessment of the hazards?			
Has the PCBU identified and documented controls?			
Has the PCBU undertaken a regular review of the hazards and controls?			
Has the hazard identification, risk assessment and identification of controls been documented?			
Is there an up-to-date register of accidents and near misses?			
Was the Health and Safety Representative/Health and Safety Committee consulted on identification of hazards, risk assessment and control measures?			
<b>Controls</b>			
<b>Competency and supervision</b>			
Is there a training matrix showing who has been trained in safe work at height including harness set up and use?			
<b>Ladders</b>			
Ladders are only used where more suitable equipment (scaffolding, cherry pickers) are not justified by low risk and short duration			
Are ladders in good condition and of the appropriate type for the work activity?			
<b>Lifts and rise and fall platforms and mobile equipment</b>			
Are controls on lifts/rise and fall platforms labelled?			
Are emergency controls functioning on lifts/rise and fall platforms?			
Have lifts/rise and fall platforms been checked by a competent person in the past 6 months?			

Working at heights	Yes	No	N/A
<b>Surfaces</b>			
Have the surfaces on platforms or areas where workers are at heights been checked for strength, stability, fragility, and slip potential?			
Have non-slip surfaces been cleaned and maintained?			
Where there is blood, fat or water, do these have non-slip surfaces where workers stand/walk?			
<b>Holes/openings</b>			
Do these have barriers around them, or properly signed?			
<b>Powerlines/overhead cables and pipes</b>			
Have powerlines/cables and overhead pipes been moved out of harm, or signed?			
<b>Manual handling</b>			
Is a barrier or harness/restraint provided where workers have to lean out over a height to work?			
Do edges of raised surfaces have toe-boards?			
<b>Barriers</b>			
Edges of platform have either a barrier or workers have fall arrest harness			
Sufficiently strong and high (at least 90cm) to prevent a fall			
Placed or secured to prevent it being misplaced or not returned to position			
<b>Restraint harnesses and fall arrest harnesses</b>			
Do harnesses, lines and anchor points meet the appropriate standard (including able to meet shock load of a fall) and within the test date?			
Are harnesses and restraints in good condition?			
Have anchor points been checked by a competent person in the past 12 months?			
Have workers been fully trained in the use of harnesses/restraints?			
Are regular checks made to ensure employees wear their harnesses/restraints when and as required?			

## 8 Appendix 2: Permit to work at height (example only)

Site Location			Permit Number:	
Date:		Start time:		Est Finish time:

Company Name:	Phone:
	Email:
Detailed Description of Work:	
Estimated Height of Work:	Maximum Time at Height:
Number of Persons Working at Height:	Names of Persons at Height:
Is WorkSafe NZ required to be notified? Yes <input type="checkbox"/> No <input type="checkbox"/>	Notification form attached: Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
This permit form should be filled out by a competent person before a person can work at a height where there may be a risk of fall.	

Access to Work Area/Work Platform to be Used:		
Access to work area	Work platform to be used	Guarding
<input type="checkbox"/> Stairway <input type="checkbox"/> Ladder <input type="checkbox"/> Safety cage	<input type="checkbox"/> Safety cage <input type="checkbox"/> Scaffolding <input type="checkbox"/> Other	<input type="checkbox"/> Guard rails <input type="checkbox"/> Toe boards <input type="checkbox"/> Safety harness

Task Type:
<input type="checkbox"/> Work at any height requiring the use of a cherry-picker, mobile elevated platform, safety cage on a forklift, or suspended on a crane. <input type="checkbox"/> Work where there is a risk of a fall from height because of the lack of secure permanent handrailing or properly constructed temporary scaffolding. <input type="checkbox"/> Work at height associated with a confined space. <input type="checkbox"/> None of the above but permit issuer and/or receiver consider the risk of a fall is a significant hazard.

Controls:	
<b>Scaffold check/Site visit</b> <input type="checkbox"/> Scaffold check – scaffold certified and erected correctly <input type="checkbox"/> Surface stable <input type="checkbox"/> Area (on same level) clear of people or controlled <input type="checkbox"/> Drop zone (all levels below) communicated and access restricted <input type="checkbox"/> Toolbox talk held with all workers (and relevant stakeholders) <input type="checkbox"/> Other: <input type="checkbox"/> Other:	<b>Tools</b> <input type="checkbox"/> Two-way radio <input type="checkbox"/> Barriers, cones or tape <input type="checkbox"/> Hazard signs <input type="checkbox"/> Other: <b>Emergency Response Plan</b> <input type="checkbox"/> Fire Service <input type="checkbox"/> Rescue/Emergency Coordinator <input type="checkbox"/> First aider <input type="checkbox"/> User knows how to contact these people (numbers/comms) <input type="checkbox"/> Rescue plan documented for unconscious/conscious rescue <input type="checkbox"/> Any factors that might make rescue difficult <input type="checkbox"/> Other:
<b>Competency of Person</b> <input type="checkbox"/> User has relevant certification/qualifications <input type="checkbox"/> User has shown complete understanding of equipment and controls <input type="checkbox"/> User is supervised by an experienced person <input type="checkbox"/> Spotter used	
<b>PPE</b> <input type="checkbox"/> Fall restraint harness checked and fitted correctly <input type="checkbox"/> Fall arrest full body harness checked and fitted correctly <input type="checkbox"/> Line at correct length	<b>Reminders to workers</b> <input type="checkbox"/> Correct working at heights helmet with chinstrap <input type="checkbox"/> Anchor point secure <input type="checkbox"/> Other:
<b>Reminders to workers</b> <input type="checkbox"/> Not to over reach	<input type="checkbox"/> Keep work area clear to prevent tools being dropped

Authorisation:		
Permit Receiver (print name)	Signature	Date
Permit Issuer (print name)	Signature	Date

## 9 Appendix 2: High Risk Work Rescue Plan (example only)

Work details			
Site name		Work order #	
Location on site		GPS coordinates	
Plan developed by		Date	
Related permits	<input type="checkbox"/> Work at Height <input type="checkbox"/> Other:		
Emergency communication requirements			
Emergency phone number:    from a digital mobile phone		Emergency radio channel (if applicable):	
Incident hotline:		Emergency assembly location:	
Potential rescue situations			
<input type="checkbox"/> Engulfment <input type="checkbox"/> Height <input type="checkbox"/> Hazardous atmosphere <input type="checkbox"/> Hazardous chemicals <input type="checkbox"/> Fire <input type="checkbox"/> Electrical <input type="checkbox"/> Other:			
Will entry and exit to the work area impact on any emergency rescue? <input type="checkbox"/> Yes <input type="checkbox"/> No    (if YES must be addressed in rescue plan)			
Emergency equipment requirements			
<div> <input type="checkbox"/> Harness    <input type="checkbox"/> First aid kit    <input type="checkbox"/> Breathing apparatus  <input type="checkbox"/> Life / rescue line    <input type="checkbox"/> Basket stretcher    <input type="checkbox"/> Oxygen resuscitation equipment (Oxy-Viva)  <input type="checkbox"/> Tripod / davit / anchor points    <input type="checkbox"/> Roll-up stretcher    <input type="checkbox"/> Lighting  <input type="checkbox"/> Polycarbonate slide sheet    <input type="checkbox"/> Rescue strop    <input type="checkbox"/> Fire fighting equipment  <input type="checkbox"/> Hazardous chemical suit    <input type="checkbox"/> Satellite / mobile phone    <input type="checkbox"/> Ventilation equipment  <input type="checkbox"/> Crane    <input type="checkbox"/> Gas detector    <input type="checkbox"/> Defibrillator           </div>			
Other rescue equipment requirements:			
Rescue equipment must be available at the job location prior to commencing the work activity.			



Rescue plan (insert photo / drawing and notes)	
DRAFT	Plan includes: <input type="checkbox"/> Entry and exit points <input type="checkbox"/> Location of rescue equipment <input type="checkbox"/> Evacuation point/s <input type="checkbox"/> Emergency assembly area <input type="checkbox"/> Location of identified hazards <input type="checkbox"/> Participants in rescue party <input type="checkbox"/> Role of each participant <input type="checkbox"/> Location of workers involved in rescue <input type="checkbox"/> Other:
Rescue plan notes:	

Briefing requirements			
Participants in the rescue party been briefed on the rescue plan prior to the work commencing	Y <input type="checkbox"/>	Rescue equipment checked	Y <input type="checkbox"/>