Health and Safety in Shearing
On 18 June 2017, the Occupational Health and Safety Regulations 2017 (OHS Regulations 2017) replaced the Occupational Health and Safety Regulations 2007 (OHS Regulations 2007), which expired on this date. This publication has not yet been updated to reflect the changes introduced by the OHS Regulations 2017 and should not be relied upon as a substitute for legal advice.

Information on the key changes introduced by the OHS 2017 Regulations can be found in the guidance titled Occupational Health and Safety Regulations 2017: Summary of changes - available at https://www.worksafe.vic.gov.au/__data/assets/pdf_file/0011/207659/ISBN-OHS-regulations-summary-of-changes-2017-04.pdf. However, this guidance document contains material of a general nature only and is not to be used as a substitute for obtaining legal advice.
Foreword

The wool industry continues to be an important part of the Australian economy. This has been mainly due to the industry's willingness and ability to develop, adapt to change and successfully meet challenges.

This guidance publication is provided to help the industry meet the challenge of improving health and safety in shearing.

The publication was developed by a Shearing Working Party set up by WorkSafe Victoria and was made up of representatives of the Australian Workers Union, the Victorian Farmers Federation, the Shearing Contractors Association of Australia and the Woolclassers Association of Australia.

I thank these the organisations and individuals that have contributed groups for their contribution to the development of the publication and their continuing commitment to improving health and safety in shearing.

Health and safety in shearing has been of long-standing concern to the industry. This concern is shared by shearers and the other members of the shearing team, contractors, managers and property owners. In addition to the direct financial costs of injuries, there is also often the considerable pain and suffering and the high personal cost to those injured. Some injuries are permanent and result in lifelong suffering and disability.

Contractors, managers and property owners are also personally affected by workplace injuries. There are the costs to the industry of losing skilled and valuable employees, effects on workplace relations and increased operating costs for farms and higher workers compensation premiums.

There is a strong link between health and safety, productivity and quality. Risks to employees are frequently also risks to the wool clip. Good health and safety avoids or minimises these problems and improves quality and productivity. It is also an important factor in attracting and retaining good employees.

I urge everyone working in the industry to use this publication and to contribute to improving health and safety in shearing.

Bob Cameron MP
Minister for WorkCover
July 2001
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1 What this document is, who it’s for and how to use it

This document provides practical help to everyone involved in shearing and associated areas to find and fix health and safety problems.

It provides guidance on how health and safety problems can be avoided or minimized by:

• changing work areas, work practices, tools, equipment, machinery and amenities
• employers, contractors and employees understanding and meeting their legal duties in workplace health and safety.
• cooperation between employers and employees

This document may also be used as a guide by WorkSafe Victoria Field Officers when assessing how employers, contractors and employees are meeting their legal duties.

• The document begins by outlining the legal duties of persons involved in shearing and a general consultative approach to finding and fixing health and safety problems in shearing.
• It then provides practical guidance on the risks and hazards involved in shearing and advice on how to remove or reduce those hazards and risks.
• The last section contains a practical checklist and worksheet to find and fix health and safety problems and lists further sources of advice and guidance.

2 Health and safety problems in shearing

There can be many health and safety problems in shearing including:

• sprains, strains and similar injuries to the back, arms, shoulders, hands, knees and other parts of the body,
• cuts and bruising,
• injuries due to machinery,
• injuries due to slipping, tripping and falling
• heat exhaustion and heat stroke,
• exposure to vibration, noise, fumes, dusts and chemicals,
• injuries and diseases arising from working with animals,
• problems with amenities, travel and accommodation

Shearing is recognized as a high risk occupation for injuries and illness and workers compensation claims. WorkSafe Victoria records show:

• the main types of claims are falls/trips/slips, hitting/hit by objects, noise, body stressing. 
• the main types of injuries are fractures, sprain/strains, open wounds, contusion (bruising) or crush, repetitive strain injury (RSI) and digestive system
• “body stressing”, “hit by moving object”, “open wound”, back and arm claims are proportionally higher in shearing than in all other industries
• the major “agencies of injury” for shearing claims are “animal/human factors” and machinery or powered equipment

There is also anecdotal evidence that not all injuries and illnesses are reported.
3 The costs and benefits of health and safety in shearing

In addition to the direct financial costs of injuries (wages, medical treatment and rehabilitation) there is also often the considerable pain and suffering and the high personal cost to those injured. Some injuries are permanent and result in lifelong suffering and disability.

Employers are also personally affected by workplace injuries. There are the costs to the industry of losing skilled and valuable workers, effects on workplace relations, increased operating costs for farms and higher workers compensation premiums.

There is a link between health and safety, productivity and quality. Risks to workers are frequently also risks to the wool clip.

Good health and safety avoids or minimizes these problems and improves quality and productivity. Many industries also find that good workplace health and safety is an important factor in attracting and retaining good workers.

4 The legal duties of persons involved in shearing

4.1 Duties of employers and contractors

The Occupational Health and Safety Act 1985 (Vic.) specifies the legal duties of employers and employees in the area of occupational health and safety. The Act and the duties specified apply to all employers (including farmers, managers, wool growers and shearing contractors) and all employees (including shearer, shed hands, cooks, woolclassers, experts and wool pressers) involved in shearing and associated activities and all workplaces where shearing and associated activities are carried out.

Employers have a general duty of care to provide and maintain for employees a working environment that is safe and without risks to health as far as is practicable.

In addition to this general duty employers must:

- consult the employee health and safety representative, where one exists, of a designated work group on all proposed changes to the workplace, the plant or substances used at the workplace or the conduct of work at the workplace that may affect the health or safety of any member of the designated work group
- maintain plant and systems of work that are safe and without risks to health
- ensure the use, handling, storage and transport of plant and substances are safe and without risks to health
- ensure the workplace is in a condition that is safe and without risks to health
- provide adequate facilities for the welfare of employees
- provide such information, instruction, training and supervision to employees to enable the employees to perform their work in a manner that is safe and without risks to health

The duties of an employer extend to an independent contractor and the independent contractor’s employees.

Employers are required to keep a register of injuries or injury report book. See page 18 of the WorkSafe Victoria publication All about WorkCover for Employers for details.
4.2 Duties of employees

An employee must

• take reasonable care for his or her own health and safety and for the health and safety of anyone else at the workplace
• cooperate with his or her employer with respect to any action taken by the employer to ensure health and safety
• not interfere with or misuse anything provided in the interests of health safety or welfare
• not place at risk the health or safety of any person at the workplace.

4.3 Health and Safety Representatives

The Act provides for a group of employees, a designated work group, to elect a health and safety representative if they want to. A shearing team would constitute a designated work group. A duly elected health and safety representative is authorized by the Act to undertake a range of actions for the purposes of health and safety including the issuing of provisional improvement notices to the employer. Electing a health and safety representative is a good way of ensuring effective consultation on health and safety matters and can be considered part of a ‘best practice’ approach.

If practicable, an employer shall consult the health and safety representative of a designated work group on all proposed changes to the workplace, the plant or substances used at the workplace or the conduct of work at the workplace that may affect the health or safety of any member of the designated work group.

A health and safety representative may be disqualified for failing to meet their duties as prescribed by the Act.

Further information about health and safety representatives is provided in the publications listed in Section 4.4.

4.4 Occupational health and safety regulations and codes of practice

In addition to the legal duties under the Act there are Regulations addressing health and safety issues that employers and employees must comply with. These issues include asbestos, plant users and operators, confined spaces, hazardous substances, incident notification, issue resolution, manual handling, noise and plant.

There are also codes of practice that provide guidance to employers and employees on managing health and safety issues such as confined spaces, first aid, hazardous substances, manual handling, noise, plant and workplaces.

Relevant Regulations and Codes are listed in Appendix 1.

For general information about the legal duties of employers and employees see the WorkSafe Victoria publications:

• All About WorkCover for Workers
• All About WorkCover for Employers
• Contractors and WorkCover
• Getting started with Workplace Health & Safety – Introduction to Health and Safety Responsibilities, Roles and Functions, Training, Information and Records

4.5 Is it practicable?

Employers and employees are required to carry out their duties as far as is practicable.

To decide what is practicable the following need to be considered:

• the severity of the hazard or risk
• what is known about the hazard or risk and how it can be controlled
• the availability and suitability of ways to control the risk
• the cost of controlling the risk

It is important to note that the cost of controlling the risk is only one of the four factors to be considered when deciding what is practicable.
5 How to find and fix health and safety problems

The rest of this document provides help on finding and fixing health and safety problems.

Common shearing health and safety problems are listed and discussed along with ways they can be fixed. A checklist and worksheet in Appendix 2 are provided to help employees, employers and health and safety representatives.

Problems are best addressed by a two step method which can be applied to all areas, jobs, machinery and equipment.

5.1 Step 1 – Identifying hazards and assessing risks

There are several methods of hazard identification and risk assessment.

Consulting with the workers doing the job.

The workers in the woolshed – contractors, woolclassers, shearers, shed hands, cooks, experts and wool pressers – know a lot about the hazards and risks in a particular shed. These workers can offer their experiences of working in a wide range of woolshed types and conditions and will be helpful in working out the best ways of improving health and safety.

It is a legal requirement for employers to consult with health and safety representatives if practicable.

Looking at the work and the work areas

Using the worksheet and checklist provided in Appendix 2 will help with this.

Using existing information

Any past health and safety incidents, problems and hazards that have not been addressed need to be recognized. Examining injury registers and first aid books is helpful. Have there been injuries or compensation claims before? What were they and what caused them? It is important to look at how often and how long someone is exposed to a hazard.

Discussing possible hazards and risks with neighbours and friends on other properties in the district might be helpful. What injuries or incidents have occurred on other properties? How did they occur?

This document is a good source of information and advice about hazards and risks. Other sources of information and advice are listed in Appendix 1.
Regulations and codes of practice on specific hazards and issues cover hazard identification and risk assessment in more detail.

All persons working in and around the woolshed should participate in the identification of hazards. The primary responsibility to ensure that effective control options are implemented falls to the owner/manager in instances where shearing teams are locally engaged, and the contractor in consultation with the owner/manager when contract teams are used.

5.2 Step 2 – Eliminating or reducing the risks – risk control

Any risks assessed must be eliminated as far as is practicable. If risks can’t be eliminated they must be reduced as far as is practicable. The worksheet in Appendix 2 provides help in deciding how to control risks.

<table>
<thead>
<tr>
<th>Method</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminate a hazardous activity altogether or do it in a completely different way or at a different location.*</td>
<td>For a poorly designed and laid out woolshed with many built-in hazards it may be better to abandon the shed and use a neighbouring, safer, better shed or a trailer crutching station.</td>
</tr>
<tr>
<td>Change engineering and design.</td>
<td>A new, well designed wool press can reduce or eliminate hazards of crushing and entrapment. An older press can have a safety bar fitted. Changing woolshed layout by using raised boards, improving pen arrangements, changing bins to eliminate bending and twisting during lifting and handling are all examples of engineering or design controls.</td>
</tr>
<tr>
<td>Alter workplace setup.</td>
<td>Relocating machinery away from work areas reduces or eliminates risks due to noise or exhaust fumes.</td>
</tr>
</tbody>
</table>

*An unguarded machine must have the hazard eliminated by installing an effective guard. Warning someone to be careful when working on or near the machine is not acceptable.
5.3 Practicable risk controls

The legal duty to eliminate or reduce risks and how this will be done is subject to the test of practicability, as discussed in Section 4.5.

Risk controls can vary considerably in the cost, time and effort required to put them in place. Effective risk controls can often be implemented quickly with minimum cost and effort.

Sometimes it may only be practicable in the short term to use interim or temporary controls that rely on training, supervision and changed work practices.

Controls based on:
- engineering or design changes
- the use of safer equipment and machinery
- alteration of workplace setup
- elimination of a hazardous activity or doing it a completely different way or at a different location

Medium or longer term controls have to be put in place if practicable. Interim and temporary controls are just that.

5.4 Planning

Finding and fixing health and safety problems will be more effective if properly planned.

Having a plan that includes what needs to be done, by when, by whom and how ensures all matters are addressed. Adequate records help and the worksheet in Appendix 2 can be used for this.

Measures to improve health and safety are often not ‘set and forget’ and may require checking, maintenance or follow up e.g. risk controls need to checked to see if they’re working, regular consultation with health and safety representatives and other workers in the shed to see if agreed matters are in hand.

5.5 Before shearing starts

Before shearing starts it is recommended that employers meet with workers to discuss health and safety and resolve any particular health and safety matters. Amenities, accommodation and travel (See Section 17) should also be addressed at this time. Employers can advise workers of existing health and safety procedures and measures and workers can raise any health and safety concerns they have.

Agreement can be reached on how particular health and safety matters will be dealt with as they arise e.g. shearing wet sheep.

If necessary the Issue Resolution Regulations (1999) prescribe a procedure for the effective resolution at workplaces of health and safety issues as they arise, where there is no agreed procedure for resolution.

Workers unfamiliar with health and safety measures should be properly briefed before shearing starts to ensure they don’t put themselves or others in the shed at risk. This includes knowing where all emergency stop and cut off/cut out buttons and controls are on the shearing board, in the wool room, grinding area and anywhere else in the shed.
### 6 The shearing shed

#### 6.1 Access to and movement around the shed

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe access to and movement around the shed are essential. There may be risks of injuries from trips, slips, falls, collisions etc. These may be caused by obstacles, tripping hazards, presses, other machinery, working shearers, changes in floor levels.</td>
<td>The layout of the shed should allow adequate space so that collisions with other workers, machinery and plant are avoided. Machinery and plant should be located away from entrances and exits and other high traffic areas. Placement of signs or other warning devices restricting access to some areas may be necessary.</td>
</tr>
<tr>
<td>Getting on and off raised boards and entering and leaving elevated sheds without steps places high stress on the knees.</td>
<td>Steps should be provided for access to elevated sheds or raised boards as required, and they should be properly designed for their purpose. They should be sound, have wide treads and have a non-slip surface. Where the height is over one meter they should be fitted with an adequate handrail.</td>
</tr>
</tbody>
</table>
6.2 Sheep pens and gates

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sometimes sheep pens, races and gates expose the penner-up to risks of injuries from trips, slips and falls.</td>
<td>Gate hinges, catches, railings and stops should be well maintained and in good working order. Pen gates should be able to swing in and out. Penners-up should be adequately trained in their work.</td>
</tr>
<tr>
<td>There may also be sharp edges, protrusions and splinters, exposing the penner to a risk of receiving cuts and embedded objects in the skin.</td>
<td>All parts and components used should be free of sharp edges, protrusions and splinters. Pens and gates should be inspected for protrusions and sharp edges before each shearing and repaired as required.</td>
</tr>
</tbody>
</table>

When designing, building or modifying sheep pens and gates it is recommended that as well as using any published information available, the designer or builder should seek the views of experienced penners-up. They have often penned millions of sheep in hundreds of different pen and gate systems and have useful information to offer.

Further information may be found in *Design of Shearing Sheds and Sheep Yards* by A Barber and B Freeman and the Ballarat Shearing Shed Design Notes listed in Appendix 3.
<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>The physical size of the pens may result in excessive lifting and dragging if</td>
<td>When constructing new sheds or altering the shed layout, catching pen dimensions should provide the best tradeoff between pen-ups and distance of</td>
</tr>
<tr>
<td>too large, or restrict movement if it is too small. Shared pens need to be</td>
<td>drag. The catching pen dimensions providing the best tradeoff between the minimum number of pen-ups per run and minimum distance to drag the sheep</td>
</tr>
<tr>
<td>bigger and therefore the shearer must drag the sheep further.</td>
<td>should be about 2.5 x 2.5 metres, which would hold about 20–25 fully grown sheep. Typically, more energy is spent on catching and moving the sheep</td>
</tr>
<tr>
<td></td>
<td>from the catching pen to the stand than on shearing the sheep. (See the Ballarat Shearing Shed Design Notes in Appendix 3)</td>
</tr>
<tr>
<td>Protrusions in the pen, particularly on or near the gate, can result in</td>
<td>The inside of pens and gates should be examined for protrusions before shearing and repairs made if necessary.</td>
</tr>
<tr>
<td>punctures, cuts and bruising.</td>
<td></td>
</tr>
<tr>
<td>Battens that run across the catching pen allow sheep to gain a foothold,</td>
<td>Battens should run towards the catching pen gate, enabling the shearer to tip the sheep’s back towards the gate more easily, reducing twisting</td>
</tr>
<tr>
<td>restricting the ease of tipping and dragging and increasing the risk of</td>
<td>and the distance it needs to be dragged and reducing friction during dragging. Before shearing, all battens should be inspected and any loose</td>
</tr>
<tr>
<td>back injury to workers. Additionally, rotten or loose battens can result in</td>
<td>and/or rotten battens repaired. Generally all battens must be in sound condition and securely fixed. Light coming up from under the floor should</td>
</tr>
<tr>
<td>sprains, fractures and wounds from exposed nails.</td>
<td>be blocked out if it is causing problems during penning. (See the Ballarat Shearing Shed Design Notes in Appendix 3)</td>
</tr>
</tbody>
</table>

These battens in the catching pen are parallel to the direction of drag and are in good condition. Note there is no light coming up through the boards.

Dragging places strain on the back, arms and legs.
### 6.3 Catching pens, gateways and doors (continued)

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>The size, weight and action of the catching pen doors can create risks. Low doors can strike the shearer in the lower back region when pushed backward by a sheep. Heavy doors can also injure the back when they strike the shearer as they drag the sheep from the pen. Gates that are hard to open may also increase fatigue and back strain while dragging.</td>
<td>The top edge of the pen door should not be able to strike the shearer in the lower back. To minimize the impact of the pen gate on the shearer the catch resistance and inertia of pen gates should be minimized. Broad padding should be fixed on the inside of gates at the height of the lower back. Doors should he made from lightweight material, smooth on both sides and with no protrusions, and the force required to open the gates should be minimized.</td>
</tr>
<tr>
<td>Latching gates open can allow sheep to escape from the catching pen onto the board, resulting in collisions, falls from raised boards and loss of handpiece control.</td>
<td>Pen doors should self closing and allowed to close after catching each sheep.</td>
</tr>
<tr>
<td>Obstructions or steps between the board and catching pen increase the risk of trips and falls and back injury when dragging sheep to the downtube. If the floor is wet and dirty there is a risk of injuries from slips, trips and falls.</td>
<td>There should be no step nor obstruction (e.g. board fixed to the floor across gateway) between the catching pen and the board. The catching pen gate should swing both ways to allow uninterrupted access for the shearer. Double (batwing) gates are most suitable for across-the-board sheds and provide easy access for the shearer, minimal obstruction to the pickers-up on the board and offer equal accessibility to left-handed shearers. Single gates may be more appropriate for same-side catch and let-go designs. Keep the floor as clean as possible. Although it is understood that in some cases a dirty floor is unavoidable, measures can be taken for improvements, such as not leaving sheep in the catching pens overnight.</td>
</tr>
</tbody>
</table>
6.3 Catching pens, gateways and doors (continued)

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strain on the shearer’s back results from poorly located and oriented catching pens and gates. If a shearer is required to turn and twist each sheep through more than 90° as he or she drags it from the pen to the shearing position, the risk of injury, short and long-term, increases. Fatigue and its associated problems also increase. Provision for left-handed shearers needs particular attention here.</td>
<td>The shearer should be able to walk backwards from the catching pen gate to the downtube without needing to twist or turn more than 90°. That is, the shearer or crutcher, having caught the sheep in the catching pen, should be able to walk backwards, carrying or dragging the sheep from the catching pen gateway (e.g. position 12 o’clock) to the shearing starting position beside the downtube, facing 3 o’clock or 9 o’clock depending on whether the shearer is right- or left-handed and whether the board design is across the board or open board. The best design is where the shearer walks backwards to the shearing position through a smaller angle. A very good example can be seen in some new sheds where the catching pen and gate directly face the stand. That is, the gate is at an angle to the wall rather than parallel with it. The distance from the back of the catching pen to the downtube should be kept to a minimum. The distance from the centre of the catching pen gate to 305 mm (1 ft) in front of the downtube (when hanging perpendicular) should be no more than 3050 mm (10 ft). A gradual floor slope in the catching pen toward the downtube will making tipping and dragging easier. Remove any obstructions between pen gates and downtube. Provide one or two stands in each shed for left-handed shearers. One left-handed stand for every four-right handed stands may be a suitable ratio.</td>
</tr>
</tbody>
</table>

*Shared pens can also lead to problems between shearers due to real or imagined snobbing taking place; that is, one shearer leaving his or her pen mate more than their share of snobs. When constructing new sheds or renovating existing ones it is recommended that a catching pen for each shearer is provided.

Further information may be found in Design of Shearing Sheds and Sheep Yards by A Barber and B Freeman and the Ballarat Shearing Shed Design Notes listed in Appendix 3.

See also Section 8 for related hazards, risks and risk controls.
### 6.4 Shearing board

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>The floor of the shearing board is an extremely high use area. It may become</td>
<td>The floor needs to be kept in good condition – even and level. Protruding nails should be countersunk before shearing commences and loose and slippery</td>
</tr>
<tr>
<td>worn and grooved, increasing resistance to drag when handling sheep. Slippery</td>
<td>boards should be repaired or replaced.</td>
</tr>
<tr>
<td>boards increase the effort required by shearsers to hold the sheep and maintain</td>
<td></td>
</tr>
<tr>
<td>stability and increase the risk of back injury. Protruding nails and movement</td>
<td></td>
</tr>
<tr>
<td>in floor boards increase strain on the shearer and the risk of catching.</td>
<td></td>
</tr>
<tr>
<td>Hard floor surfaces increase the risk of comb breakage and injury from handpiece</td>
<td>Softwood is the most common floor material used and is ideal for the job, provided it is in good condition. Combs are also less likely to be damaged</td>
</tr>
<tr>
<td>lockup.</td>
<td>if dropped on softwood boards.</td>
</tr>
<tr>
<td>Insufficient floor space increases the risk of collisions and interference with</td>
<td>Ensure sufficient floor space for all workers to perform their tasks safely and properly. The shearer must be able to work without encroaching on the</td>
</tr>
<tr>
<td>other shearers.</td>
<td>next shearer’s workspace or route in and out of the catching pen. Sufficient workspace is required for the end stand, particularly when it is used by a</td>
</tr>
<tr>
<td></td>
<td>left-handed shearer. Left-handed shearsers should be able to face the rest of the shearers. Board space, the measured distance between downtubes, needs</td>
</tr>
<tr>
<td></td>
<td>to be sufficient to accommodate the size of the sheep. The common board space of 5 ft (1525 mm) may be insufficient due to increases in the size and weight</td>
</tr>
<tr>
<td></td>
<td>of sheep. A minimum dimension of 2000 mm is recommended for new and renovated sheds to provide a safer workstation. Greater distances may be required due to</td>
</tr>
<tr>
<td></td>
<td>factors such as shed layout and sheep size.</td>
</tr>
</tbody>
</table>
Hazard or risk | Risk control
--- | ---
Absence of a suitable fixing point above the board for a shearer's back harness prevents use of the harness. | A secure fixing point, which is free to swivel and therefore remain above the harness throughout shearing, should be provided. It should be clear of the overhead shaft and within reach when standing on the floor. The harness and its mounting must be clear of any electrical wiring, leads or installation.

This raised shearing board has good distance between stands, overhead fans, a good depth, raised edge to help prevent slips and falls, a soft timber floor, a tool and equipment storage shelf for each stand and good back harness suspension points. The overhead lights and windows provide good light. The windows face south to reduce heat. Although not shown there are also ceiling vents above the windows to reduce heat and a solid set of steps up onto the board.

6.4 Shearing board (continued)

This shearing board is in good condition. Back harnesses are in use and are suspended from good fixing points that are well clear of overhead obstructions and machinery. The area is well lit and the light coloured walls and ceiling improve the light.
The pen doors are a good design for across the board doors. The white walls improve the light. The board caters for left hand shearsers.

Back harness. Note the drink container next to the clock, the floor fan just behind the second shearer and the towels hanging well away from the shearing plant.

This board caters for left handed shearsers.
6.5 Let-go area

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstructions to the smooth exit of sheep following shearing or crutching place significant strain on the shearer, and increase the risk of back injury.</td>
<td>The sheep should have an unobstructed exit from the shearing board that requires the least effort from the shearsers. Where chutes are used their entrance should be extended onto the floor of the shearing board by some 100–150 mm, with the front edge 100 mm lower than the floor, for easy release of sheep. Ensure that barriers such as wooden strips at the opening of let-go chutes/doorways are removed. To prevent wool going into the let go area flexible plastic strips or strips of bristles can be fixed at the opening. These save the wool but don’t obstruct the movement of the sheep. The chute/doorway should be located directly in front of the sheep at the completion of shearing. Ensure that chutes/doorways are large enough to allow for easy handling of large-framed sheep. Ensure that dogs are kept away from exit points on let-go areas to reduce baulking of sheep.</td>
</tr>
<tr>
<td>Let-go chutes/doorways in areas that funnel prevailing cold winds can increase muscle fatigue.</td>
<td>If modifying or designing the let-go area consider placement of chutes/doorways in positions that limit drafts and glare. Placement of clear plastic strips at the mouth of chutes will reduce the wind blowing through.</td>
</tr>
</tbody>
</table>

*The wooden strip at the opening of the let go chute obstructs the exit of the sheep. It can be replaced with a flexible plastic strip or a strip of bristles to save wool.*

*This let go chute has no obstruction at the opening.*
### 6.6 Wool and press rooms – hazards and risks

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continual bending and reaching to pick up fleeces off boards increases the</td>
<td>Raised shearing boards reduce back strain when picking up.</td>
</tr>
<tr>
<td>risk of back strain.</td>
<td></td>
</tr>
<tr>
<td>Insufficient space in the wool room may cause collision with other workers</td>
<td>The minimum clear space around the shearing board end and working sides of the wool table should be 1 m, with a minimum of 2 m between any</td>
</tr>
<tr>
<td>and contact with shed machinery, and difficulty in safely and properly</td>
<td>machine and the wool table.</td>
</tr>
<tr>
<td>throwing, skirting, rolling, classing and storing the wool.</td>
<td>A minimum of one metre around the wool press must be kept clear to allow safe operation.</td>
</tr>
<tr>
<td></td>
<td>Ensure there are no obstacles between the board and wool table.</td>
</tr>
<tr>
<td>An increased workload on the shed hand increases risks of sprain and strain</td>
<td>It is recommended that a ratio of one shed hand (excluding the presser) for each 200–250 fleeces shorn per day be employed rather than a shed</td>
</tr>
<tr>
<td>injuries.</td>
<td>hand to shearer ratio. The workload in the wool room is a result of the number of fleeces being shorn not the number of shearers removing the</td>
</tr>
<tr>
<td></td>
<td>fleeces. “A woolclasser shall not perform wool rolling in addition to wool classing in a shed where more than 900 fleeces per day are shorn.”</td>
</tr>
<tr>
<td></td>
<td>(Woolclassers Award 1999, Clause 4.2.2 (b))</td>
</tr>
</tbody>
</table>

This good sized wool table has good clearance around it.
The posture and movement here place strain on the back, shoulders and arms.
### 6.6 Wool and press rooms – hazards and risks (continued)

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small wool tables that are not designed for the size of current fleeces or are the wrong height can cause back strain.</td>
<td>A well designed and constructed wool table is essential for safe work with reduced risk of strain and injury. The height of the tables appropriate to the user is essential in avoiding back pain. The table height should be adjustable. This could be achieved on folding leg tables by provision for adjusting the legs to various angles in relation to the table top. Non-rotating rectangular (1.6 x 3.3 m) wool tables with rounded corners appear to be the most efficient design for two or more wool rollers. Where there is only one wool roller a rotating round table may be more efficient. Contoured-height tables sloping down towards the throwing (shearing board) end may facilitate easier and more accurate throwing. Ensure wool tables are large enough to accommodate fleeces.</td>
</tr>
<tr>
<td>Uneven floor surfaces increase the risk of trips, slips and falls.</td>
<td>The floor needs to be kept in good condition. Protruding nails should be countersunk and uneven, loose and slippery boards should be repaired or replaced.</td>
</tr>
</tbody>
</table>
### 6.6 Wool and press rooms – hazards and risks (continued)

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard (e.g. concrete) floors cause strain and jarring on feet and legs.</td>
<td>If there is a concrete floor, some impact absorbing material is required considering the amount and speed of movement required of wool rollers. Any such material would need to be able to kept free of wool by sweeping and should be washable.</td>
</tr>
<tr>
<td>Sharp edges and protrusions used to support wool packs or on wool bins pose a risk of cuts and puncture wounds, e.g. spikes protruding from wool butt suspension frames. They may also obstruct the removal of wool by the presser.</td>
<td>Sharp items such as nails and spikes, e.g. spikes protruding from wool butt suspension frames or similar, should be covered or removed.</td>
</tr>
<tr>
<td>Wool bins, particularly where they are used for skirtings, bellies or locks, that aren’t oriented and located in the correct way will obstruct access by the wool rollers and classer.</td>
<td>Wool bins, particularly where they are used for skirtings, bellies or locks, should be oriented and located in such a way as to provide easy access for the wool rollers and classer.</td>
</tr>
<tr>
<td>Moving and shifting bales by hand carries a risk of serious injury.</td>
<td>Moving and shifting bales using bale hooks and trolleys and getting help to move the bales will decrease the risk of injury. If a bale trolley is used the floor must be level and of sufficient strength to support the wheels of the trolley. The routes between wool bins and press should be kept short and must be clear of obstructions. Wool bale weights and dimensions are specified by the Code of Practice for the AWEX Quality System. As per the Code of Practice for the AWEX Quality System “… to avoid contamination. all wool preparation and handling areas within the shearing shed must be smoke free work areas”.</td>
</tr>
<tr>
<td>Power leads for movable wool presses must be suspended or similar to ensure there is no risk of the wheels cutting or damaging the leads.</td>
<td></td>
</tr>
</tbody>
</table>
Summary

Good shed design and layout and all related aspects are critical to good health, safety and welfare in the industry. The quality of shed design and construction is directly related to health and safety hazards and risks.

Improvement in the health and safety aspects of shed design can significantly reduce the costs of injury and increase productivity and the quality of the clip.

Consultation by employers with health and safety representatives, where they exist, on health and safety is a legal requirement while consultation with the workers doing the work is best practice.
### 7 Machinery

#### 7.1 Overhead gear and shearing plant

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact with overhead drive shafts, either directly or by contact with clothing, towels or fleeces, can result in serious injuries.</td>
<td>Prohibit the hanging of towels and clothes near overhead gear and provide towel hooks or rails near the stand. Ensure the drive shaft is high enough to avoid physical contact with raised arms or that adequate guards are in place to minimize the risk of clothing, towels or fleece becoming entangled in the shaft.</td>
</tr>
<tr>
<td>Portable stands that are inadequately secured and incorrectly fitted can result in injuries.</td>
<td>Ensure portable stands are safely fitted and secure.</td>
</tr>
<tr>
<td>Absent or inadequate signage of emergency stop controls on machinery (including overhead shaft type shearing machinery) may result in confusion and delays in the event of an emergency. The team may be unfamiliar with the shed and the location of emergency stops.</td>
<td>Existing emergency stop controls should be prominently signposted and a waterproofed chart positioned at the entrance to the shed. The team needs to be alerted to the purpose, operation and location of all controls. Controls should be easily, safely and quickly accessible. Positioning of power points for individual electric power plants between 1 and 1.5 m above floor level is recommended to bring them within reach of the shearer. Where shearing machinery is of the overhead shaft type an emergency stop mechanism should be fitted. Where an emergency stop mechanism is to be fitted to a new or existing shed it should be in a standard location, e.g. between the wool table and the nearest stand. The emergency stop should be easily, safely and quickly accessible from the wool room and shearing board in an emergency.</td>
</tr>
</tbody>
</table>

The red button is an emergency stop on a raised board. A similar button below the board enables anyone below the board to stop the shearing plant as well. The pen door swings both ways but the metal frame and door material makes the door too heavy and increases the risk of injury.
### 7.1 Overhead gear and shearing plant (continue)

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtubes too close together increases the risk of shearers colliding and losing control of the handpiece. Locked or loose handpieces may hit other shearers.</td>
<td>The minimum distance between stands needs to be reviewed because of the increased size and weight of sheep. (See Section 6.4). Downtube positioning and range of movement should be taken into account when designing shearing sheds or altering existing ones. Gear should be positioned so that the downtube is 152–178 mm to the left (for right-handed shearers) of the chute. Posts supporting the main plank to which the overhead gear or shearing plant(s) is attached should be placed midway between the stands.</td>
</tr>
<tr>
<td>Incorrect downtube positioning and inadequate range of movement restrict the workspace of shearers.</td>
<td>The downtube height should be positioned so that the lower end of the short tube describes a circle of 275 mm in diameter on the floor, with the long tube perpendicular and 600 mm away from the wall or any obstruction.</td>
</tr>
<tr>
<td>Downtubes in poor condition or not properly maintained are unsafe. Incorrect spring tension can cause wrist and arm strain; worn downtubes, cogs or handpiece back joints cause vibration and overheating problems.</td>
<td>Ensure that the downtube parts are in good condition and correctly installed. The spring at the top of the downtube should be in good condition and not worn or weak. The downtube should be free of excessive vibration. Spring tension must be checked before shearing.</td>
</tr>
<tr>
<td>The absence of joint guards on downtubes increases the risk of lockup.</td>
<td>Joint guards must be fitted to all joints.</td>
</tr>
<tr>
<td>Handpieces become jammed on such things as burrs, metallic ear tags, fencing wire and wool in the backjoint back joint cogs. Safety clutches that are in poor condition, have been incorrectly adjusted, removed or not been fitted may not protect a shearer from injury if the handpiece becomes jammed. Present safety clutches are reported as problematic because they tend to wear out quickly after slipping the first time. After that they tend to slip unreliably and unpredictably. Some shearers overtighten safety clutches to avoid clutch slippage in dense wool.</td>
<td>Properly adjusted safety clutches and worm drives in good condition should be fitted to all shearing machines. Safety clutches are a spring-loaded drive-breaking (motion disengagement) mechanism located in the short gut. If the driven parts of the handpiece become jammed, the clutch (if in good repair and properly adjusted) will disengage and isolate the drive from the handpiece so long as the handpiece is held firmly. Standard specifications for such drives are necessary to ensure the integrity of this safety mechanism. Employers and shearers should check that compatible components are used. Both the employer and employee should check the condition and adjustment of the safety clutch before shearing. The tension setting of the safety clutch should provide a torque not greater than 2–9 Nm (a load setting of 26 in/lb). A tension wrench that fits the safety clutch should be available at every shearing shed during shearing.</td>
</tr>
</tbody>
</table>
### 7.1 Overhead gear and shearing plant (continue)

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short gut bayonet joints become worn, causing the safety clutch to jam when</td>
<td>It is recommended that the bayonet joint at the drive end of the short gut be eliminated. The bayonet joints can be replaced with “Johnno” joints, i.e. a short gut that screws directly into the drive cog.</td>
</tr>
<tr>
<td>it comes into contact with the short tube.</td>
<td></td>
</tr>
<tr>
<td>Poor location of on–off rope causes twisting of the back and stretching when</td>
<td>The rope, and therefore the start–stop mechanism on the overhead gear, should be positioned so that the shearer, whether left- or right-handed, can reach it without overreaching, twisting or being obstructed by the downtube or any other object. The downtube should not interfere with or obstruct the shearer’s access. The rope should be made of heavy cord strong enough to hang straight down and not be flicked out of reach by the slightest knock. The rope should hang from the machine down to the long tube elbow joint. One solution is to attach the free end of the rope to a piece of 25 mm heavy duty PVC pipe. This pipe is slipped over the long downtube. This allows the shearer to pull the PVC tube or rope to stop the handpiece. The shearer never has to find the rope because, irrespective of his position on the shearing board, the rope is always in easy reach and in the same position. Do not attach the rope to the pipe with a bale fastener.</td>
</tr>
<tr>
<td>used and makes efficient use difficult in an emergency (e.g. a shearer losing</td>
<td></td>
</tr>
<tr>
<td>control of a struggling sheep).</td>
<td></td>
</tr>
</tbody>
</table>

Before shearing starts, it is important to ensure that all machinery including overhead gear, downtube and safety clutch are checked and working effectively.

All electric leads and cables should be in good condition and be routed to ensure there is no risk of them being cut or damaged.

It is recommended that manufacturers consider the factors in the table in this section during design of shearing machines. They have a legal duty to do so. Purchasers of shearing machines should not purchase unsafe machinery.

### 7.2 Handpieces

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>A worn out, poorly adjusted or maintained handpiece will vibrate, heat up,</td>
<td>The handpiece must be in the best possible condition and kept in good working order and worn parts replaced. Where the shearer is paid to supply and maintain his or her own handpiece the shearer is also responsible for keeping it in good order. Ensure that a correctly operating safety clutch is fitted. (See Section 7.1) Consider new technology when replacing handpieces.</td>
</tr>
<tr>
<td>cut poorly and put more physical strain on the shearer, particularly their</td>
<td></td>
</tr>
<tr>
<td>hands and arms.* Effects include increased fatigue and injuries such as</td>
<td></td>
</tr>
<tr>
<td>sprains and strains, cuts, “squeaky wrist” from vibration and burns from</td>
<td></td>
</tr>
<tr>
<td>overheated handpieces.</td>
<td></td>
</tr>
</tbody>
</table>

* Hand, arm and shoulder injuries account for about half of all shearing        |
* compensation claims.                                                        |                                                                                                                                                                   |

### 7.3 Grinders

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combs, cutters or sparks may strike the operator, particularly on the face.</td>
<td>Safety glasses that allow good vision must be provided, used and maintained in good condition. Guards must be provided and maintained.</td>
</tr>
<tr>
<td>Foreign objects propelled from the grinder may lodge in the operator’s eye.</td>
<td></td>
</tr>
<tr>
<td>Rotating discs can fly off the grinder.</td>
<td>The grinder should be mounted so that the direction of the disc rotation is away from busy work areas such as the shearing board and wool room, and flammable materials including wool packs. Operators should check that discs are properly secured before each startup by attempting to simultaneously rotate discs in opposite directions. Discs, nuts and washers should be compatible with the grinder. It is also important to check that discs are rotating in the correct direction. This depends on the manufacturers’ recommendations. Usually there is an arrow on the grinder bearing housing. Except for the one or two persons actively and immediately using the grinder, no one should be within two meters of the grinder.</td>
</tr>
<tr>
<td>Exposure to high noise levels in the vicinity of the grinder can result in</td>
<td>Earmuffs must be provided, used and maintained in good condition. Dust extractors may be necessary in some sheds.</td>
</tr>
<tr>
<td>permanent hearing loss. Dust levels near the grinder may also be high.</td>
<td></td>
</tr>
</tbody>
</table>
### 7.3 Grinders (continued)

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>The poor location of grinders and their use by untrained operators increase the risk of accident and injury.</td>
<td>The grinder must be in a secure, properly lit, enclosed space and securely anchored in position. Unsecured grinders with power leads should not be permitted in the shed. All grinding work should be done by a properly skilled and trained person. This includes not only all grinding but all repairs and maintenance such as changing emery cloths. Alternatively, the employer may change the emery cloths.</td>
</tr>
<tr>
<td>Risk of electrical leads and cables being cut or damaged; leads and cables being tripping hazards.</td>
<td>Electrical leads and cables need to be properly routed to eliminate any risk of them being cut or damaged or being tripping hazards.</td>
</tr>
</tbody>
</table>

This grinder is in a secure, properly lit space and well anchored. Protective glasses are being used as per the sign behind the grinder. The grinder is guarded. Note the fire extinguisher.

This grinder is isolated in a well lit area and sits behind a perspex partition. The disks are guarded, safety glasses are on the table and the sign at the right directs they must be used.
7.4 Wool presses

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>The design of some wool presses makes it possible for body parts to become entrapped.</td>
<td>The clearance between the front of the platen and the side of the bale holding frame should be at least 100 mm. Ensure that wool presses are fitted with a functioning interlocking door mechanism which stops the press if the doors are not fully closed or a trip bar or emergency stop is fitted.</td>
</tr>
<tr>
<td>Injuries from hydraulic hoses that have burst under pressure can result in serious burns or penetration injuries from hydraulic fluid.</td>
<td>Hydraulic lines should be inspected before operation and worn lines should be replaced.</td>
</tr>
<tr>
<td>Presses are sometimes operated by untrained and unskilled persons.</td>
<td>Anyone using a press must be properly trained and skilled in its use.</td>
</tr>
<tr>
<td>A safety stop mechanism to avoid entrapment is not present.</td>
<td>Powered wool presses should have a safety stop mechanism. A readily accessible trip bar should stop operation of the press if the bar is “tripped” by an operator or bystander. A stop button or bar that can be operated by the knee enables the operator to stop the press without using hands or arms.</td>
</tr>
<tr>
<td>There is no failsafe mechanism if the platen support system fails while the platen is in the top position.</td>
<td>A failsafe system must be provided to prevent the platen from falling when it is in the top position.</td>
</tr>
<tr>
<td>Electrical hazards</td>
<td>Electrical leads and cables need to be properly secured and clear of any moving parts such as the ram, monkey, doors and wheels.</td>
</tr>
</tbody>
</table>

Check wool presses for protrusions and sharp edges before operation and repair if necessary.

Ensure the press is located so that it there is no interference between the operation of the press and other work being carried out nearby.

This well used press has had an emergency stop button fitted that can be operated by hand or by the knee. The electrical cabling is kept safely out of the way by suspending it from above.
7.5 Shearers’ tools and equipment storage

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loose tools and equipment on the board pose a slipping/tripping hazard. Damage to tools and equipment may occur, which can affect their subsequent use and operation.</td>
<td>Provide adequate storage space for shearers’ tools and equipment near the work area. The storage area should not be located above the let-go chute. It is recommended that a storage shelf not less than 300 x 600mm with a raised edge be provided adjacent to every downtube. Where the shearer is paid to supply and maintain his or her own handpiece the shearer is also responsible for keeping it in good order.</td>
</tr>
</tbody>
</table>

7.6 Unguarded machinery – Hazards, risks and risk controls

Specific guarding hazards have been addressed in sections 7.1–7.5. As a general guide, all moving parts of machinery and equipment used in the shed that could expose workers to the risk of injury (belts, flywheels, cranking points, drive shafts, pulleys etc.) must be adequately guarded.

Machinery and equipment that is not adequately guarded must not be used until proper guards have been installed. Guards must be used to cover belts where they may come in contact with workers.
7.7 Noise

As a guide, if it is difficult to have a normal conversation at about a distance of one meter in a noisy workplace then there may be a noise problem.

To properly assess the risks it is necessary to measure the noise and the exposure of workers to the noise in accordance with the Victorian Noise Regulations 1992. This will identify the real noise problems and ensure that any noise control undertaken will be worthwhile and effective. Maximum permissible exposure is a sound level of 85 dBA for eight hours per day or equivalent.

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure to high noise levels over time causes permanent and untreatable hearing loss. High noise levels sufficient to damage hearing may be produced by shearing machinery (particularly the long and short guts in the ferrule as well as the drive cogs), wool presses, grinders, engines, motors, hydraulic pumps and radio/cassette/CD players.</td>
<td>When choosing new equipment or machinery consider the noise it produces and find out if less noisy equipment is available. Sometimes mufflers or similar add-ons such as noise covers that reduce noise are available. Sometimes noisy equipment can be located away from the main work areas to minimize the number of workers who will be exposed to it. Proper maintenance and repair of machinery and equipment, particularly overhead gear, will usually reduce noise levels. Limit the use and volume of radio, CD and cassette players if they produce too much noise. (Using these devices with earphones or earpieces is not recommended in noisy environments because they isolate the worker and prevent him/her from hearing warning signals and prevent communication with other people in the shed.) Use of proper earmuffs and earplugs will reduce noise exposure but it may be difficult to use them because of hygiene and discomfort problems. They can also interfere with the work or cause communication problems with workers who already have a hearing problem. If muffs or plugs are used, warning signs must be erected, training in their use must be provided and regular hearing tests must be arranged by the employer for exposed workers undertaken. It is better to try and reduce noise levels first before using earmuffs or earplugs as a risk control.</td>
</tr>
<tr>
<td>Corrugated iron walls found in many shearing sheds reflect noise and increase overall noise levels in the shed.</td>
<td>Keep noise levels in mind when choosing building materials for new sheds. Consider installing proper sound insulation in existing sheds.</td>
</tr>
</tbody>
</table>
7.8 Electrical safety

In addition to particular comments on electrical safety in other parts of this document it is essential that electrical installations in the shearing shed and shearer’s quarters and any electrical installation, modification or maintenance comply with relevant current Victorian Regulations and Australian Standards.

Electrical cabling is kept out of the work area by suspending it above. A guard rail around the edge of the board, a raised edge and edge marking help prevent slips and falls.

The electric cable to the press is kept out of the way by suspending it above.
8 Work in the shearing shed

Other relevant hazards, risks and risk control measures have already been addressed in previous sections.

8.1 Penning

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due to the nature of penning up, the major risks of injury include slips, trips and falls due to either contact with sheep or pen barriers, butting by sheep, crushing of fingers, cuts from protruding or sharp objects and dog bites.</td>
<td>Redesign pens and gates to promote stock flow, reducing the requirement to “push” sheep into the filling pen. Repair or remove protrusions and sharp objects in the pens before use. Battens normally run cross ways to stop light coming through but can make penning up difficult. In the catching pens this may have to be considered depending on the height of the catching pen above ground level. Where possible eliminate upcoming light through floor battens. Further information may be found in Shear sense by the Kondinin Group and the Ballarat Shearing Shed Design Notes listed in Appendix 1.</td>
</tr>
</tbody>
</table>
### 8.2 Shearing and crutching

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back, shoulder, arm and hand injuries can happen during animal handling.</td>
<td>Use of suspension back harnesses. These decrease the load on the shearers’ back and spine and reduce muscle strain. There must be a sufficiently strong adequate suspension point in good repair located properly above the board and the harness must be clear of overhead obstructions. See also Section 6.4</td>
</tr>
<tr>
<td>Cuts from contact with handpieces.</td>
<td>Consider handpiece design and modifications, and use more effective and safer handpieces as they become available (see Section 7.2).</td>
</tr>
<tr>
<td>Shearers can fall from raised boards after being “kicked” out of position while shearing.</td>
<td>To prevent falls from raised boards have a safety rail around the board, edge marking or other suitable risk controls.</td>
</tr>
<tr>
<td>Lockup occurs when the handpiece becomes jammed.</td>
<td>Have cutoff switches that shed hands can get to on the face of the board on each stand.</td>
</tr>
<tr>
<td>A sheep may become out of control and the shed hand is powerless to assist the shearer because they cannot reach the on/off rope or assist in controlling the sheep.</td>
<td>Before shearing mobs of rams, negotiations between the owner/manager and contractor/shearing team members can take place to determine a method for shearing that allows adequate support to be available to shearers in the event of a ram struggling free or becoming free on the board. The extra support person(s) can then be used to disengage machines in the event of an emergency and/or assist with holding or re-catching stock.</td>
</tr>
<tr>
<td>Increases in body and fleece weight have added to the overall effort required to maneuver sheep during crutching and shearing. This trend for breed enhancement increases the risk of back injuries and other musculoskeletal disorders in the industry. In some older style sheds the design is inadequate to handle the increased size of stock thereby increasing the effort required to process sheep.</td>
<td>Modify the shed to handle the increased size of sheep e.g. enlarging let-go chutes, changing the batten orientation in the catching pen.</td>
</tr>
<tr>
<td>Wet sheep and wet wool increase the risk of infections and other adverse health effects.</td>
<td>Where possible minimize the number of wet sheep to be shorn and delay shearing wet sheep.</td>
</tr>
</tbody>
</table>

**General risk controls**

- To make the sheep easier to handle it is important to empty out sheep prior to shearing and crutching.
- Have sheep propulsion devices in stock races.
- Clean boards with an air compressor.
There is now available a range of handling equipment for shearing and crutching including rotating cradle systems, raised race systems, conveyor systems, trailer systems for shearing and crutching and shearing tables. This equipment has been developed to improve productivity, quality and health and safety and should be considered when developing longer term risk controls. Further information can be found in the publication *Ergonomics of Sheep Handling Equipment for Shearing and Crutching* (WorkSafe NSW, February 1999).

9 Employees’ contribution to identifying hazards, assessing risks and eliminating or reducing risks

Hazard identification, risk assessment and risk control

- A set up where all workers can participate in the identification of hazards should be in place.
  - Procedures to enable workers to relay findings to the owner/manager, possibly through the contractor, will decrease the risk to all workers in the shed when action is taken to control the identified hazards. Workers should report hazards to health and safety to their health and safety representative and their supervisor or the owner/manager.
  - All injuries and symptoms (e.g. symptoms of heat stress) should be immediately attended to and reported to the health and safety representative and employer.
  - All accidents, incidents and near misses should be reported to the health and safety representative and employer whether an injury results or not.

- Employees must cooperate with all risk control measures implemented in the workplace.

- The physical demands of shearing and shed work require that workers have a reasonable level of fitness. The primary responsibility to ensure fitness is with the employee.

- Exercises for shearers and other good advice about looking after yourself can be found in *Australian Rules’ of Shearing – An Exercise Guide For Shearers*.

- Clothing – The clothing worn should be appropriate for the job and include suitable footwear which covers the whole foot.

- Hygiene – Good personal hygiene by all workers in the shed environment will reduce the risk of infection from cuts and grazes. This includes ensuring hands and forearms are washed prior to “smokos” and meals.

- Smoking – Smoking in the shed poses not only a long-term risk to the health of all workers but can trigger episodes of asthma in some workers. The principal control measure is to not allow smoking in the shed and meal break areas. This also reduces the risk of clip contamination. As per the Code of Practice for the AWEX Quality System “… to avoid contamination. all wool preparation and handling areas within the shearing shed must be smoke free work areas”.

- Drinking – Dehydration as a result of sweating can lead to serious heat effects including heat stroke which can be life threatening. It is also common to become dehydrated without any obvious signs such as extreme thirst. When working in heat it is necessary to drink regularly even if you aren’t feeling thirsty.

- Workers should drink at least one cup (250 ml) of water or juice before, during (if practical) and at the conclusion of each run. Overall fluid intake in hot conditions should be at least one cup of water or juice for every 20 minutes. An adequate and readily available supply of clean and cool water should be available to all workers throughout the day in the shed.

- Coffee, cola drinks or tea should be avoided as they increase dehydration. Excessive alcohol consumption away from work increases the likelihood of dehydration and increases the need for rehydration at work.

- Warming up/down – Given the physical nature of work in the woolshed, it is necessary that adequate warm up and warm down by workers at the start and conclusion of each “run” be completed, particularly in cold conditions. These exercises will assist in limiting the extent of back injury in the industry.

- Bare feet are unacceptable in the shearing shed. Adequate footwear must be worn by everyone in the shed. Shearing footwear improves grip and stability, decrease risks of slipping and falling, decreases fatigue and protects the feet.
10 Work in heat and cold

10.1 Risks and hazards

Shearing requires very hard physical and skilled work from all members of the shearing team. The work is often done in extremely hot conditions in uninsulated shearing sheds made of corrugated iron. In winter, cold wind can blast into the small of the shearer’s back.

Hot or cold working conditions can have significant impacts on the health and safety of all shed workers. In particular, working in heat can cause significant health and safety problems due to heat stress. These include heat rash, heat exhaustion and heat stroke.

Heat exhaustion can cause irritability, tiredness and fatigue, fainting, inattention, increased risk of errors and accidents, and muscular cramps. In cases of heat stroke, sweating stops, body core temperature increases, the skin will be hot and dry and the affected worker may become confused or lose consciousness.

Heat stroke is a life-threatening condition and needs to be treated immediately.

10.2 Risk controls – heat

Improving the design of new sheds and improving the ventilation, insulation and shade of existing sheds would benefit the employer and safeguard the employee.

Factors such as the path of the sun in the sky, the prevailing winds and local climate should be taken into account when siting, planning and constructing new sheds. Temperature control mechanisms in new woolshed structures should also be considered.

Shed modifications to reduce heat stress include:

- roof insulation
- changing the colour and finish of the exterior of the shed to better reflect radiant heat from the sun
- installation of vents at or near the ridge of the roof and on the roof, to increase ventilation and air movement and reduce the oppressive smell of animal urine
- addition of windows that open and close adjacent to work areas and on opposite sides of the shed to increase flow through ventilation
- blinds and external features such as eaves or awnings that block direct sunlight on the work areas in summer but will allow sunlight into the shed in winter when the sun is lower
- ceiling or portable fans; where portable fans are used power points, leads and cables need to be properly placed and located to avoid electrical and tripping hazards
- shade trees and windbreaks close to the shearing shed and sheep yards to reduce heat from sunlight and reduce cold draughts
- sprinkler system on the shed roof

Work practices to reduce heat stress include:

- an agreed and understood overall plan for how working in heat will be managed in the shed
- allowing for acclimatisation to heat by workers; until acclimatised the pace of work, rest breaks and working hours may need to be altered
- changing working hours to avoid working during the hottest part of the day
- decreasing the workload in very hot conditions – balance and pace work throughout the day
- ensuring that all work breaks are taken and allowing extra breaks if necessary
- ensuring an adequate and easily accessible supply of clean and cool water for all workers throughout the day
- ensuring everyone in the shed understands the risks of working in heat, the signs and symptoms that indicate heat exhaustion and heat stroke and the importance of drinking even when not thirsty
- encouraging part time shearers or those re-entering after a period away from the work to exercise care and only undertake a suitable amount of work until they are fully fit
- where possible sheep should be kept out of the sun prior to shearing

For further information refer to Section 9 and the WorkSafe Victoria publication Working in Heat.
Risk controls – cold

Shed modifications to reduce cold problems include:

- orientation of let-go doorways away from prevailing cold winds to reduce shearers’ back pain
- plastic strips such as those used in cool room doorways, or removable flap doors across letting go doorways to reduce cold wind

Work practices to reduce cold problems include:

- warming up and warming down at the start and finish of work
- wearing suitable clothing that stays warm when wet with perspiration
- using a few layers of light warm clothing instead of one bulky jacket or similar – this allows easy adjustment of clothing as the temperature changes during the day

11 Vapours, fumes and gases in the shearing shed

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fumes, smoke, exhaust gases and particulates produced by petrol and diesel</td>
<td>Use electrically driven equipment where possible. Locate motors outside the shed and run the hydraulic lines into the wool press. This eliminates the fumes from the shed and removes a major source of noise from the workplace at the same time. If a motor cannot be located outside the shed:</td>
</tr>
<tr>
<td>motors in the shed are a health hazard.</td>
<td>• modify the exhaust so that the exhaust gases and fumes are vented to the outside of the shed</td>
</tr>
<tr>
<td></td>
<td>• ensure that exhaust gases and fumes cannot blow back into the shed</td>
</tr>
<tr>
<td></td>
<td>• ensure that all seals on the motor and exhaust system are working effectively and not leaking</td>
</tr>
<tr>
<td></td>
<td>• keep the motor in good repair and well maintained</td>
</tr>
<tr>
<td></td>
<td>• ensure good ventilation in the shed. Ventilation may deteriorate as wool rooms fill up with bales – extra ventilation may be required in this case (see Section 10.1).</td>
</tr>
<tr>
<td>Ammonia from stock urine has an unpleasant pungent odour and is an irritant gas</td>
<td>Limit ammonia fumes by regularly cleaning out manure from under the shed. Ensure there is adequate drainage and keep the area as clean and dry as possible.</td>
</tr>
</tbody>
</table>
12 Dusts

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dusts in the yard and shed can initiate asthma attacks and other respiratory</td>
<td>Spray yards with water to settle dust before yarding sheep.</td>
</tr>
<tr>
<td>illnesses in susceptible individuals. In addition, the risk of contracting</td>
<td>In raised sheds, restrict sheep from camping under the shed to reduce the level of airborne dust.</td>
</tr>
<tr>
<td>Q Fever for all people in and around the shed is increased.</td>
<td>As much as is possible, thoroughly clean the shed before and during shearing.</td>
</tr>
</tbody>
</table>

13 Chemicals and hazardous substances

The 1999 Victorian Hazardous Substances Regulations specify employers’ duties with regard to hazardous substances which include:

- the assessment and control of risks,
- consultation with health and safety representatives and
- the provision of information, instruction and training to employees

The relationship between the Victorian Hazardous Substances Regulations and the Commonwealth AGVET Scheme is explained in Appendix 6 of the 2000 Victorian Hazardous Substances Code of Practice.

The following provides only a brief overview of hazardous substances. The Regulations, Code of Practice, other supporting documents and other sources listed in Appendix 2 must be referred to for proper information and guidance.

13.1 Chemicals/hazardous substances – Hazards and risks

Many chemicals used in wool growing are hazardous substances as defined by the 1999 Victorian Hazardous Substances Regulations. Exposure to hazardous substances can have serious and permanent effects on health that can also sometimes be life threatening. It is important to remember that shearsers are in direct contact with sheep for eight hours a day.

Hazardous substances include:

- pesticides used in internal and external parasite control,
- chemicals used for blowfly and lice control,
- footrot control chemicals,
- herbicides/insecticides used in cropping and pasture management,
- solvents,
- rodenticides

Exposure to these substances can occur during direct application and use or from exposure to residues in wool during crutching and shearing. They can enter the body by absorption through broken or unbroken skin, by inhaling and by ingestion.
13.2 Chemicals/hazardous substances – Risk controls

**Elimination:**
- All unwanted/out of date/banned hazardous substances should be removed from the wool shed and disposed of in accordance with current guidelines.
- Hazardous substances, protective equipment and clothing should be stored away from the wool shed and in accordance with current guidelines. In some cases they can be stored in sheds if proper safety procedures are followed.

**Substitute a hazardous substances for a less hazardous hazardous or non-hazardous substance:**
- Pest control should always consider the range of options to reduce pest burden including Integrated Pest Management and the use of less toxic chemicals to complete a given task.

**Engineering Control:**
- Design and locate jetting systems to ensure that spray does not drift into the shed.

**Working Procedures:**
- All hazardous substances are used in accordance with directions on container labels, Material Safety Data Sheets (MSDS) and other sources of guidance. MSDS’s are available from the supplier and manufacturer.
- Undertake blowfly treatment outside of the shed. All employees who handle/use pesticides should have completed adequate training in chemical usage e.g. Farm Care Course, Farm Chemical Users Course. See the Victorian Hazardous Substances Code (No. 24, June 2000) for further information.
- Only individuals undertaking the work should be in the area where hazardous substances are being used.
- After careful consideration it may be preferable to employ skilled contractors with safer equipment.
- Application of any chemicals to sheep should take into account the withholding/reentry period as detailed on the MSDS for the chemical. Ensure that withholding regimes following ectoparasite treatment are complied with so that workers are not exposed to residues in wool. No worker should handle stock before the end of the withholding/reentry period.
- The casual application of chemical for blow fly strike directly from the tin (e.g. using, say, KFM Blowfly Dressing) and onto the sheep inside the shearing shed should not be allowed under any circumstance. The process should be done outside the shed by someone who has been trained in the use of such chemicals. Just reading instructions on the manufacturers’ label is not to be viewed as a substitute for proper training.
- Processes such as backlining or provision of footbath (where formaldehyde may be present) must not be done in a casual manner by untrained people.
- All members of the shearing team can and should ask for relevant information if necessary.
- The shearing shed should be free from residues from chemicals which may have been stored in it in the off season. Treated grain or seed stored in the shed may leave residues in the shed.
- Ensure all necessary safety equipment is available to workers and in good operating condition.
- Proper information (including access to MSDS and details of recent applications of chemicals to stock and withholding/reentry periods), training and instruction must be provided to all employees working with or otherwise exposed to hazardous substances.
- There should be no chemical work done in the shed.

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• Ensure all necessary safety equipment is available to workers and in good operating condition.
• Proper information (including access to MSDS and details of recent applications of chemicals to stock and withholding/reentry periods), training and instruction must be provided to all employees working with or otherwise exposed to hazardous substances.
• There should be no chemical work done in the shed.
**14 Diseases from animals (Zoonoses)**

Zoonoses are diseases transmitted to humans from animals as a result of working with animals or animal products. They can lead to various degrees of disability. In the majority of cases the infection is limited to the affected individual, with person-to-person transmission rare. The diseases are often expressed only in humans where symptoms become evident, whereas the animal may remain symptom free or only mildly sick, for example Q Fever.

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers in shearing sheds are most at risk of contracting Q Fever, hydatid infection, orf (scabby mouth), skin infections known as yolk boils and wool sorters’ disease/wool lung.</td>
<td>Immunise against Q Fever. Sheep with an active outbreak of orf must not be shorn or crutched until their condition is resolved. Remove infected animals. Do not handle infected animals without proper safeguards. Exhaust ventilation, temperature control and respiratory protection equipment for some situations need to be considered.</td>
</tr>
</tbody>
</table>
| Cuts, scratches and grazes as a result of crutching and shearing activities are susceptible to infection. Sources of infection may include sheep urine and manure, maggots and lice. | Do not handle infected animals without proper safeguards. Provide and maintain good sanitary amenities and promote good hygiene practices such as:  
  • clean working conditions  
  • adequate and readily accessible hand, face and arm washing facilities  
  • adequate supplies of clean water and soap  
  • disinfectant for use in the wash up water of combs and cutters  
  • good personal hygiene practices, especially before eating and drinking breaks and smoking  
  • immediate and effective treatment of all cuts, nicks, grazes, burns etc.  
  • daily washing of clothes  
Use protective equipment including hand, arm, foot and leg protection. |
15 Lighting and seeing in the shearing shed – hazards and risks

- Poor lighting can create risks:
  - risk of injuries from slips, trips, falls and collisions from not being able to see obstructions, tripping hazards and parts of equipment and machinery,
  - risk of cuts and other injuries by shearers and other workers due to not being able to see the job properly when doing fine or precision work.
- Good lighting is important for anyone new to a particular shed who doesn’t know its layout and set up properly.
- Poor lighting can also cause eyestrain which can effect vision and lead to errors and mistakes.
- Poor lighting does not just mean not enough lighting. Sometimes there can be too much light or glare or other problems such as flickering lights or poor placement of lights.
- Lighting can vary from shed to shed. In a particular shed it can change with the time of day, the weather and the seasons.
- Risks may also arise from someone with poor eyesight working in the shed. Anyone with poor eyesight in the shed needs to ensure they have and use the right glasses for the job so they don’t put themselves or anyone else at risk.

Providing the right amount of light to do the job properly and safely can be achieved by:

- having enough lighting in the shed to ensure good lighting in all areas and at all times of the day and year. The Australian Standard for lighting in wool sheds specifies a minimum light level of 400 lux for work areas such as boards, wool rooms and the wool pressing area – 400 lux is about that found in a well lit kitchen;
- it’s generally better if lighting in each individual work areas is controlled separately rather than having a setup where all the lights in the shed are either on or off;
- provide blinds or other means to control the amount of glare from windows and skylights;
- painting the inside walls and roof/ceiling shed white or a light colour increases the light level in the shed permanently;
- replace blown or flickering lights and clean bulbs or tubes regularly;
- woolclassers and wool rollers need indirect but consistently good light at the work level. Recommended minimum light levels for fine and precision work such as wool classing are 600 lux;
- more lighting than the general lighting in the shed is usually necessary for fine or precise work e.g. 400 lux at the grinders – an adjustable planet type lamp installed next to the grinder is effective. This will enable better sharpening of combs and cutters which means better cutting, improved productivity and less physical stress on the shearer and the sheep;
- when coming into a dark area from outside on a sunny day the eyes need time to adjust – entrances should be kept well clear of obstructions and obstacles to eliminate trips and collisions.

Where extra or portable lighting is used power points, leads and cables need to be properly placed and located to avoid electrical and tripping hazards.

Measured light levels in shearing, wool rolling, experting, wool classing and wool press areas in shed have been found to be as low as 200 lux or less. (lux is the measure of light falling on an area)

The Australian Standard for lighting in wool sheds specifies a minimum level of 400 lux for work areas such as boards and wool rooms – 400 lux is about that found in a well lit kitchen. Recommended levels for fine and precision work such as woolclassing are still being investigated but generally a higher level is required. Anyone with poor eyesight in the shed needs to ensure they have and use the right glasses for the job so they don’t put themselves or anyone else at risk.
16 First aid

Arrangements for First Aid in the shed and shearers’ quarters need to comply with the Victorian Code of Practice – First Aid in the Workplace (No 18, 1995).

‘First aid in the workplace’ is defined as the provision of emergency treatment and life support for people suffering injury or illness at work.

First aid kits

Employers should supply and maintain an appropriately stock ed first aid kit for shearing teams. The first aid kit should include an instruction and advice book. The First Aid Code provides guidance on suitable contents of a first aid kit. For shearing it is recommended that in addition to the basic kit as outlined in the Code the kit includes the kit includes eye, burn and remote location modules as described in the Code.

It is recommended that prior to the start of shearing the employer or their representative and a representative of the employees (preferably an H&S representative or someone appropriately trained) check that the first aid kit is adequately stocked and complies with the Code.

First aid kits must be located within the shed and shearers’ quarters and positioned so that they are visible and easily and safely accessible by everyone in the shed and quarters. Where it is necessary to travel between the shed and shearers’ quarters by vehicle each day a smaller and more portable first aid kit should also be kept in the vehicle.
First aid training

It is recommended that employers and employees ensure that in every shearing shed and at shearsers’ quarters there is at least one adequately trained first aider. The Code provides guidance on adequate training.

Everyone in the shed and in shearers’ quarters must know and understand arrangements for first aid including:

- the location of first aid kits,
- who is trained in first aid
- what to do when first aid is required
- what to do when it is necessary to call an ambulance or transport an injured person to a hospital or medical centre.

The above advice can be passed on to workers during the briefing referred to in Section 5.5 Before shearing starts.

Institutions which train wool classers and shearing shed overseers should be encouraged to include appropriate first aid training as part of their curriculum.

In view of the high incidence of back injuries in the shearing industry, preventative measures such as appropriate exercise and postures must be usefully included in any shearing industry first aid course, and shearers and shed hand training courses.

Sheds and shearers’ quarters in remote locations

The distance of the workplace from ambulance, hospital and medical centres or occupational health services is important.

The time taken for medical aid to reach the casualty is more significant than distance. For sheds and shearers’ quarters in remote locations additional first aid facilities and services should be provided. Where poor roads and adverse weather conditions may apply, facilities for aerial evacuation of injured or ill people should be considered. Efficient communications systems should be available for ensuring optimum response times.

Flesh needles

There may be a risk of transmitting disease through the current practice of sharing flesh needles. Either the practice should stop or a container of effective disinfectant should be placed on the shearing board and the needle and attached thread thoroughly washed before and after use. Disinfectant placed in all comb and cutter wash up water is recommended as a means of reducing infection of minor cuts on shearers’ hands. It may also help reduce cross infection of conditions such as ‘cheesy gland’ between sheep.

Summary

The above are minimum recommendations and should be implemented before the commencement of shearing at each shed.

The responsibility for adequate first aid arrangements in the shed and shearers’ quarters rests with the owner and/or manager.
17 Accommodation, amenities and travel


In workplaces where accommodation and amenities are provided by the employer for employees, as is the case with shearers’ quarters on a property and amenities at the shearing shed, the amenities provided are regarded under the OH&S Act as part of the workplace. In this situation the general duty of care of the employer to provide and maintain for employees a working environment that is safe and without risks to health extends to the accommodation and amenities provided and to travel between the quarters and the shearing shed.

17.1 General

The following applies to all accommodation, sleeping, mess, eating, kitchen, bathroom, toilet and laundry areas.

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings</td>
<td>Buildings will be in sound structural condition, habitable, adequately ventilated and able to cope with temperature extremes.</td>
</tr>
<tr>
<td>Walkways, corridors, passages, building surrounds, steps, stairways. Employees unfamiliar with layout, especially at night.</td>
<td>These areas need to be kept free of obstructions and tripping and falling hazards and kept in good condition. Steps should be in good order with all weather non-slip treads and adequate handrails. These areas will have adequate lighting at night. Safe entry and exit from buildings is essential.</td>
</tr>
<tr>
<td>Fire</td>
<td>Fireplaces and heaters need to be properly constructed and guarded. Fireplaces and heaters will not be used for drying clothes. Adequate smoke detectors, fire alarms, extinguishers and emergency exit procedures and signs need to be in place as necessary.</td>
</tr>
<tr>
<td>Electrical safety</td>
<td>All electrical installations and any electrical modification or maintenance will comply with relevant current Victorian Regulations and Australian Standards. Where power is available in sleeping quarters two power outlets per person are recommended and appliances such as shavers should be able to be used safely. Wiring and power leads will be safely routed to eliminate tripping and electrical hazards.</td>
</tr>
<tr>
<td>Insect screening</td>
<td>Doors, windows, chimneys and other openings should be effectively screened against insects.</td>
</tr>
</tbody>
</table>
17.1 General (continued)
The following applies to all accommodation, sleeping, mess, eating, kitchen, bathroom, toilet and laundry areas.

<table>
<thead>
<tr>
<th>Hazard or risk</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td>Any asbestos hazards arising from asbestos containing products used in buildings will be addressed in accordance with the Victorian 1992 Asbestos Regulations. Asbestos products which are deteriorated, broken or flaking are an unacceptable risk.</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Regular and proper cleaning, maintenance and where necessary, disinfecting of all areas to ensure good health and hygiene. This particularly applies in eating, cooking, laundry, bathroom, washing and toilet areas. Employees have a responsibility to practice good hygiene and help keep areas clean. It is the employer’s responsibility to ensure areas are properly cleaned. Arrangements for cleaning and maintaining hygiene should be worked out and agreed upon before shearing starts.</td>
</tr>
<tr>
<td>Drinking water</td>
<td>Adequate, cool and clean drinking water will be readily available at all times. See also Section 10.2. Drinking water will be free from contamination, for example if water is collected from the shearing shed roof contamination from dust containing chemical residues may be present.</td>
</tr>
</tbody>
</table>

17.2 Eating and mess areas
Adequate seating and tables for all employees will be provided in mess and eating areas. Adequate seating with back support helps reduce stress on the back.

There should be adequate ventilation and lighting in mess and eating areas, where heat is frequently experienced during shearing fans or air conditioning should be considered.

There should be a separate and suitable eating area in or adjacent to the shearing shed for health and hygiene reasons. Hand washing facilities are needed at all shearing sheds including an adequate supply of clean water and soap.
17.3 Kitchens and food preparation and storage areas

These areas need to be properly set up and laid out to ensure good hygiene, health and safety. Adequate bench space, sinks, stoves, refrigeration, lighting, exhaust systems, ventilation and food storage, including refrigeration, all need to be adequate. Food preparation, handling and storage practices will ensure good health and hygiene. There will be adequate hot and cold water and outflows and drains.

The kitchen can be a very hot work area and the measures outlined in Section 10 are also applicable to the kitchen area. Extractor hoods and fans or air conditioning may be needed if the kitchen is frequently hot.

An adequate and separate refrigerated storage area for the shearing team's personal food and drink should be provided. All refrigerators should have their door seals checked at the start of shearing.

An inspection of the kitchen and mess by the H&S representative and the cook prior to the commencement of shearing should be completed. Any changes or items required to ensure hygienic food preparation and consumption should be immediately reported to the employer in writing as a list of action items. After any necessary consultation agreed action items should be completed as soon as is practicable. Practicable in this context means that the effect on people’s health, the availability of solutions and cost are taken into account.

17.4 Sleeping quarters

Sleeping quarters will ensure that employees can obtain adequate rest. They should be of adequate size, clean and habitable. A minimum of five square metres of floor space per person is recommended as is sound insulation in walls between rooms. Adequate ventilation and lighting is necessary and individual lighting should be supplied in shared rooms. When new sleeping quarters are being built individual rooms should be provided.

If men and women are accommodated separate rooms will be provided.

Given the physical demands of work in the shearing shed adequate beds, mattresses and bedding will be provided. The beds will be straight and firm, the mattresses will be firm and supportive.

17.5 Washing, toilet and laundry areas

Adequate washing facilities and toilets will be provided at shearing sheds.

Private, secure and properly maintained toilets will be provided.

At shearers’ quarters adequate washing and bathing/shower facilities and toilets will be provided. Private and secure toilets and bathing/shower facilities will be provided.

Adequate laundry facilities will be provided for clothes washing including washing machines and adequate hot water. These facilities will be separate from personal washing and bathing areas.

Washing, bathing/shower and laundry facilities will have adequate lighting, hot and cold water and outflows and drains.

All these areas will be washed and disinfected daily when in use. These areas will also have adequate artificial lighting as they are frequently used at night.

17.6 Travel

Under the OH&S Act the employer’s general duty of care to provide and maintain for employees a working environment that is safe and without risks to health applies to travel between the shearers’ quarters and the shed. This also applies to travel from the entrance to the property to the shed and quarters. Shed and sheep yard design will take into account worker and equipment access.

An employer, particularly a contractor whose role involves bringing the workers and the job together, will supply clear travel directions in sufficient detail and time to allow travel to be completed safely taking into account factors including fatigue levels, travelling conditions and risks from animals on the roads.

The Victorian Occupational Health and Safety Code of Practice for Workplaces (No. 3, 1988) provides further information and guidance on provision of workplace amenities.

Aspects of amenities and accommodation matters are also covered by the Victorian Food, Building, Health and Local Government Acts and should be referred to as necessary. Aspects of amenities and accommodation matters are also addressed by local council and shire regulations and by-laws and shire and council environmental health officers.
Appendix 1 – Further information, advice and guidance

Organisations

**Australian Centre for Agricultural Health and Safety**
University of Sydney, Victoria Terrace, (PO Box 256), Moree NSW 2400
Phone: (02) 6752 8210, Fax: (02) 6752 6639

**The Australian Workers Union**
685 Spencer Street, West Melbourne Vic 3003
Phone: (03) 9329 8733, Fax: (03) 9329 2871
E-mail: awu@alphalink.com.au
Web site: www.awu.net.au

**The Shearing Contractors Association of Australia**
Mr Frank Sutherland, Vice President,
14 Camira Street, East Malvern Vic 3148
Phone: 9568 3458, Mobile: 0428 542 298

**Victorian Farmers Federation**
Farner House, Level 5,
24 – 28 Collins Street, Melbourne Vic 3000
Phone: (03) 9207 5555, Fax: (03) 9207 5500
E-mail: vff@vff.org.au, Web site: www.vff.org.au

**Woolclasser’s Association of Australia**
Federal Office, Box 1855 Ballarat Mail Centre Vic 3354
Phone: (03) 5333 4011, Fax: (03) 5333 4012
E-mail: woolclasserassoc@netconnect.com.au

**Victorian Farm Safety Training Centre**
Ballarat, Phone: (03) 5334 3512.
The Centre runs ‘Managing Farm Safety’ training courses.

**Other:**
Local veterinarian, local doctors, Department of Natural Resources and Environment or stock and station agent may be good sources of information for animal related problems.

**WorkSafe Victoria – Regional Offices**
24 Doveton Street North, (PO Box 609), **Ballarat** Vic 3350
Phone: 5331 8388, Fax: 5331 8415

104 Queens Street, (PO Box 1100), **Bendigo** Vic 3550
Phone: 5443 8866, Fax: 5441 3997

Level 3, 33 Princes Highway, **Dandenong** Vic 3175
Phone: 8792 9000, Fax: 8792 9011

Level 5, 30 – 38 Little Malop Street, (PO Box 1143), **Geelong** Vic 3220
Phone: 5226 1200, Fax: 5221 7861

World Trade Centre, Cnr Flinders & Spencer Streets
Siddley House, Level 1, (PO Box 414), **Melbourne** Vic 3005
Phone: 9628 8115, Fax: 9628 8199

112 Orange Avenue, **Mildura** Vic 3500
Phone: 5021 4001, Fax: 5021 4047

372 Wellington Road, (PO Box 71), **Mulgarn** Vic 3170
Phone: 9565 9444, Fax: 9565 9400

4 Bruce Street, **Preston** Vic 3072
Phone: 9485 4555, Fax: 9485 4501

148 – 150 Welsford Street, (PO Box 358), **Shepparton** Vic 3632
Phone: 5831 8260, Fax: 5831 1508

Suites 1 & 2, Ground Floor, 6 – 8 Grey Street, (PO Box 1688), **Traralgon** Vic 3844
Phone: 5174 8900, Fax: 5174 9086

24 Reid Street, (PO Box 714), **Wangaratta** Vic 3677
Phone: 5721 8588, Fax: 5721 2740

104 Kepler Street, **Warrnambool** Vic 3280
Phone: 5562 5600, Fax: 5562 9625

**WorkSafe Victoria – Head Office**
222 Exhibition Street, Level 24, (GPD Box 4306), Melbourne Vic 3000
Phone: 9641 1555, Fax: 9641 1222
E-mail: shearing@workcover.vic.gov.au
Web site: www.workcover.vic.gov.au
Publications

WorkSafe Victoria publications can be obtained from WorkSafe Victoria Offices or by emailing publications@WorkSafe.vic.gov.au.

Relevant Victorian Occupational Health and Safety Regulations

- Asbestos Regulations 1992
- Certification of Plant Users and Operators – Regulations 1994
- Hazardous Substances Regulations 1999
- Incident Notification Regulations 1997
- Issue Resolution Regulations 1999
- Manual Handling Regulations 1999
- Noise Regulations 1992
- Plant Regulations 1995

Relevant Victorian Occupational Health and Safety Codes of practice

- First Aid in the Workplace (No. 18, 1995)
- Hazardous Substances (No. 24, June 2000)
- Manual Handling (No. 25, 2000)
- Noise (No. 17, 1992)
- Plant (No. 19, 1995)
- Plant (Amendment No 1) (No. 23, 1998)
- Workplaces (No. 3, 1988)

WorkSafe Victoria publications

- All About WorkCover for Workers
- All About WorkCover for Employers
- Contractors and WorkCover
- Getting Started with Workplace Health and Safety – Introduction to Health and Safety Responsibilities, Roles and Functions, Training, Information and Records
- Getting Started with Workplace Health and Safety – An Introduction to Hazard Management, Workplace Inspections and Selecting a Health and Safety Consultant
- Getting Started with Workplace Health and Safety – Introduction to Workplace Consultation
- Getting Started with Workplace Health and Safety – Introduction to Workplace Health and Safety Policies, Procedures and Evaluation
- Working in heat
- A Farm Safety Checklist – Electricity
- A Farm Safety Checklist – Harmful Chemicals
- A Farm Safety Checklist – Livestock Handling
- A Farm Safety Checklist – Manual Handling
- Farm Safety
- Farm Safety – what are you doing about it?
- Farming Fact Sheet – Pastoral Industry
- The Sheep Shearing Project (1995)

WorkSafe Victoria Alerts and Guidance Notes

- Electricity can kill Oct 2000 Provides advice to employers on safety precautions to be taken to ensure the safe use of electrical tools and equipment.
- Shearing Equipment Sept 1998
- Employee Health and Safety Training October 2000 Provides guidance to employers for training employees in health and safety.
- Consulting with Employees on Health and Safety October 2000 Provides guidance to employers in relation to consultation with employees on health and safety.
- General approach for safeguarding of machines September 2000 Provides general guidance to assist employers in safeguarding of machines for use in their workplaces.
- Plant maintenance September 2000 Provides general guidance to assist employers in relation to maintenance of plant (including machinery, equipment, appliances, tools and implements) in their workplaces.
Other publications and sources

- Animal handling – Australian Agricultural Health Unit 1997
- Design of Shearing Sheds and Sheep Yards by A Barber and B Freeman (Inkata Press, Melbourne)
- Ergonomics and manual handling on farms – Australian Agricultural Health Unit 1997
- Ergonomics of sheep handling equipment for shearing and crutching – WorkSafe (NSW) 1999. 3 booklets
- The Ergonomics of Sheep Shearing – Reducing back injuries and energy expenditure in sheep shearing through the development of practical modifications to shed layout – Final Report October 1998 Warren Payne, Haisam Askari, Steve Cowley, John Culvenor, Robert Freeman, Rod Hall, Jack Harvey, Michael Lawrance, Keith McElroy, John Pryor, David Stuart & Robyn Williams. (University of Ballarat Shearing Research Team) University of Ballarat, PO Box 663 Ballarat 3353. Tel: (03) 5327 9000
  Research Funded by: National Occupational Health and Safety Commission
- Managing sheep and wool production safety: Safety checklist – Farmsafe Australia 1997
- Victorian Farmers Federation Health and Safety Bulletins Nos 1 & 2 The farmer’s guide to Occupational Safety and Health Legislation Parts 1 & 2
  No 4 Farm chemical safety
  No 5 How to reduce manual handling injuries: The hazard
  No 6 PPE – A risk management approach – Protect yourself with personal protective equipment
- Woolclassers’ Award
- Woolshed safety – Guidance notes for the sheep and wool industries – Farmsafe Australia 1997
Appendix 2 – Checklists/Worksheets

Shearing Health and Safety – ‘Walk Through’ Assessment Checklist

Area assessed: ................................................................. Date: ..............................................

Employer/management/contractor representative(s): .................................................................

Employee health and safety representative(s): ..........................................................................

This checklist can be used on a ‘walk through’ of work areas to identify and assess health and safety problems. This should be done before shearing starts and during shearing as necessary. Once completed please refer to the Risk Control Worksheet. Employee health and safety representatives must be consulted on identification, assessment and risk control.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Employer and employee duties and responsibilities</th>
<th>Satisfactory?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employers and contractors understand and carry out their duties as specified in the 1985 Victorian Occupational Health and Safety Act: consult with employee health and safety representatives of designated workgroups; safe plant and systems of work; workplace and amenities safe and without risks to health; adequate facilities for the welfare of employees; appropriate information, instruction, training and supervision of employees. Page 4–8</td>
<td>Yes No</td>
</tr>
<tr>
<td>2</td>
<td>Workplace health and safety is properly addressed, planned for and implemented in consultation with employee health and safety representatives before shearing starts and while it is in progress. Page 4–8</td>
<td>Yes No</td>
</tr>
<tr>
<td>3</td>
<td>Employees understand and carry out their duties as specified in the 1985 Victorian Occupational Health and Safety Act: take reasonable care for themselves and others; Co-operate with employer on health and safety; not interfere or misuse any health and safety measures; don’t place themselves or others at risk. Page 4–8, 33</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

Shearing shed

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Shearing shed</th>
<th>Satisfactory?</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Access to the shed – condition of steps for elevated sheds. Page 9</td>
<td>Yes No</td>
</tr>
<tr>
<td>5</td>
<td>Movement around the shed – layout, obstructions, collisions, location of plant and machinery, areas signed where necessary. Page 9</td>
<td>Yes No</td>
</tr>
<tr>
<td>6</td>
<td>Getting on and off raised boards – adequate steps. Page 9</td>
<td>Yes No</td>
</tr>
<tr>
<td>7</td>
<td>Sheep pens and gates – hinges catches railings and stops in good order, gates swing both ways, penners-up trained, area free of sharp edges, protrusions, splinters. Page 10</td>
<td>Yes No</td>
</tr>
<tr>
<td>8</td>
<td>Catching pens, gateways and doors – layout, dimensions/distances, orientation, protrusions, orientation and condition of battens, pen doors, obstructions between board and the catching pen. Page 11–13</td>
<td>Yes No</td>
</tr>
<tr>
<td>9</td>
<td>Shearing board – floor condition, soft floor surface, enough space/distance between downtubes, adequate fixing point for shears’ back harness. Page 14–16</td>
<td>Yes No</td>
</tr>
<tr>
<td>10</td>
<td>Let-go area – unobstructed exit for sheep, location and size of chute/doorway, no dogs. Page 17</td>
<td>Yes No</td>
</tr>
<tr>
<td>11</td>
<td>Wool and press rooms – enough space to work and move around, enough workers, wool tables (size, height, slope, round corners), floor even and in good condition, matting on hard floor, no protruding nails/spikes from wool butt suspension frames, wool bins location and orientation, safe handling of bales, routes between wool bins and presses, power leads properly located. Page 18–21</td>
<td>Yes No</td>
</tr>
<tr>
<td>Item No.</td>
<td>Description</td>
<td>Satisfactory?</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Health &amp; Safety in Shearing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td><strong>Before shearing starts</strong> – All machinery checked and working effectively.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td><strong>Overhead gear and shearing plant</strong> – adequate guards in place; no towels etc hanging off plant; portable stands safely fitted and secure; emergency stop controls fitted, signposted and easily reached; shearing team understand purpose, location and operation of emergency controls; downtubes well spaced and positioned; left handers catered for; downtube parts in good condition and correctly installed and maintained; joint guards fitted to all joints; safety clutches and worm drives fitted and in good condition. Page 22–24</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td><strong>On-off rope</strong> – easily reached without twisting and obstruction; made of heavy cord; position. Page 24</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td><strong>Electric leads and cables</strong> – in good condition and safely routed and positioned. Page 26, 30</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td><strong>Grinders</strong> – adequate safety glasses provided and used; guards fitted and in good condition; grinder securely mounted and properly oriented; discs well secured; correct disc rotation direction; no loitering near the grinding area; earmuffs provided and used; grinder in a secure well lit area; operator properly skilled and trained; all electrical cables and leads properly routed and located. Page 25–26</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td><strong>Wool presses</strong> – interlocking door mechanism/emergency stop or trip bar fitted; hydraulic lines in good condition; operator is trained and skilled; failsafe system to prevent platen from falling when in the top position; all electrical cables and leads properly routed and located; sufficient space around the press and no interference with other work being done nearby; free of sharp edges and protrusions. Page 27</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td><strong>Shearers tools and equipment</strong> – adequate and well located area for tools and equipment, handpiece in the best possible condition and working order. Page 25, 28</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td><strong>General guarding</strong> - all moving parts of machinery and equipment used in the shed that could expose workers to the risk of injury (belts, flywheels, cranking points, drive shafts, pulleys etc.) are adequately guarded before use. Page 28</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td><strong>Noise</strong> – high noise levels assessed if necessary; high noise levels reduced if practicable; adequate hearing protection provided and used and signs erected. Page 29</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td><strong>Electrical</strong> – All electrical installations in the shearing shed and shearers’ quarters and any electrical installation, modification or maintenance comply with relevant current Victorian Regulations and Australian Standards. Page 30</td>
<td></td>
</tr>
<tr>
<td><strong>Work in the shearing shed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td><strong>Penning</strong> – pens and gates promote stock flow; protrusions, sharp objects etc removed from pens; no light coming up through battens. Page 31</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td><strong>Shearing</strong> – safety rail/edge marking/raised edge around raised boards; easily accessible cut off switches; arrangements in place for safe shearing of rams; pens, board and let go area suitable for size of sheep; where possible minimise number of wet sheep shorn; empty out sheep prior to shearing. Page 32</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td><strong>Working in heat</strong> - Shed modifications to reduce heat; fans in use; agreed plan for working in heat; acclimatisation catered for when required; workload, work hours, and work breaks arranged to minimise effects of heat as necessary; plenty of cool drinking water easily available to everyone; everyone understands heat exhaustion and heat stress symptoms and how to avoid and treat them. Page 34</td>
<td></td>
</tr>
<tr>
<td>Item No.</td>
<td>Work in the shearing shed (continued)</td>
<td>Satisfactory?</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>25</td>
<td><strong>Working in cold</strong> – Cold draughts and winds minimised; suitable clothing. Page 35</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td><strong>Vapours, fumes, gases and dusts</strong> – no exhausts from engines and motors should flow into work areas; ammonia fumes from animal manure and urine minimised; dust in the yard and shed minimised. Page 35, 36</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td><strong>Chemicals and hazardous substances</strong> – handling, working with and storage of chemicals and hazardous substances done in accordance with the Victorian Hazardous Substances Regulations and Code of Practice and the Commonwealth AGVET Scheme; blowfly treatment done away from the shed and following safety procedures; information on chemical and hazardous substances available to everyone in the shed; no chemical work done in the shed. Page 36, 37</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td><strong>Diseases from animals</strong> – Q fever immunisation recommended; no shearing or crutching of sheep with orf; infected animals removed and handled with proper safeguards; good hygiene amenities provided and good hygiene practices followed. Page 38</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td><strong>Lighting and seeing</strong> – Adequate lighting in all work areas; blinds etc fitted on windows; all light fittings in good order; sufficient lighting for classing, grinding and other fine work; anyone with poor eyesight has and uses the right glasses. Page 39</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td><strong>First aid</strong> – properly stocked and maintained first aid kits in the shed, shearers’ quarters and vehicles used for travel between the shed and quarters; at least one adequately trained first aider in the shed and quarters; effective arrangements in place for first aid, calling an ambulance and transporting anyone injured; everyone knows and understands the arrangements; hygienic use of flesh needles. Page 40, 41</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td><strong>Register of injuries or injury report book</strong> is kept and maintained. Page 4</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td><strong>Amenities at the shearing shed</strong> – adequate toilets, washing facilities and eating areas. Page 42–44</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td><strong>Shearers’ quarters</strong> – quarters are safe and without risks to health; clean and habitable accommodation and facilities; safe entry to and exit from buildings; adequate lighting; electrical safety; employees able to perform their usual washing and cleaning tasks including laundering clothes; adequate outflows and drains; adequate hot and cold water; sufficient facilities to cope with the number of employees; insect screens; sufficient space; adequate seating; adequate ventilation; buildings in sound structural condition and free of hazards such as asbestos, adequate fire safety provisions; separate sleeping quarters for men and women; kitchens that allow the safe and healthy preparation, serving and storage of food including adequate refrigeration and hot water. Page 42–44</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td><strong>Travel</strong> – Travel between the shed and quarters is safe and without risks to health. Page 44</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td><strong>Footwear</strong> – no bare feet, adequate footwear worn by everyone, use of shearing footwear. Page 33</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td><strong>Employee contributions to health and safety:</strong> contribute to risk identification, assessment and control; report all injuries, symptoms, hazards and incidents; maintain physical fitness; correct clothing; proper hygiene; only smoking in permitted areas; adequate drinking. Page 33</td>
<td></td>
</tr>
</tbody>
</table>

*When the walk through is finished any items assessed as unsatisfactory can be addressed using the Risk Control Worksheet on the next page.*
Shearing Health and Safety – Risk Control Worksheet

Actions required to fix any unsatisfactory areas can be determined using the guidance in *Health and Safety in Shearing* and recorded on this Worksheet. The **Item No.** below is the number in the left hand column of the ‘Walk Through’ Assessment Checklist.

Employer/management/contractor representative(s):  ..............................................................................................

Employee health and safety representative(s): ........................................................................................................

Date: ........................................

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Action required</th>
<th>Date due</th>
<th>Person responsible</th>
<th>Date completed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Appendix 3 Shearing Shed Design Notes

The following Design Notes were produced by the University of Ballarat Shearing Research Team based on research funded by the National Occupational Health & Safety Commission and detailed in “The Ergonomics of Sheep Shearing” (see page 47).
Number one

Catching pen floors

Traditional design

The traditional design of catching pen floors is a horizontal wooden batten floor. The battens are often oriented perpendicular to the direction of the drag (across the pen) but sometimes parallel to the drag (toward the door).

Shearers say that sheep can be more difficult to tip when the battens run across the pen as the sheep can obtain a better grip. In addition, dragging the sheep was said to be more difficult when the battens are across the pen. Although not yet widespread, some people believe that a slope in the catching pen would be useful.

What is the best floor?

In a laboratory, several experienced shearers dragged sheep over floors of various slopes and materials. The dragging forces and coefficients of friction were calculated. The trials included two slopes and five materials.

Results

The chart shows that the best floor has only 55% of the friction of the worst floor.

Adding a slope to the floor makes the job about 10% easier again.

Combining a slope and the best surface means that a shearer will drag 6 kg less per sheep or about 1200 kg less per day therefore decreasing the risk of injury.

Recommended floor

The best floor tested consisted of:

1. Wooden battens running toward the door.
2. Slope toward the door of 1:10.
Number two

Drag paths

Traditional design
The drag path refers to the path shearsers must travel with the sheep from the catching pen to the shearing position next to the downtube. Shearsers say that these paths differ with respect to the ease of getting the sheep to the shearing position.

Which path is best?
The sketch shows five drag paths.
Two-centre-board paths (1 and 5).
Three across-the-board paths (2, 3 and 4).
Experienced shearsers dragged sheep along each path.

Results
The chart shows how much energy is used per sheep to drag along different paths.
A shearer dragging a sheep along the best path uses 20% less energy per sheep (compared to the worst path).
The best path is the shortest and involves least turns and twisting.

Recommended paths
- The recommended path is a short path involving minimal rotation of sheep.
  - Path 1 for centre-board.
  - Path 2 for across-the-board.
- Shearing stands should be provided for left-handed shearsers to avoid reversed paths.

WorkSafe Victoria gratefully acknowledges
VIOSH Australia
University of Ballarat
PO Box 663
Ballarat 3353
Tel: 03 5327 9150
Number three

Release chutes

Traditional design
Sheep often baulk at entering a release chute or gate. When this happens any obstruction will serve as a foothold. This will mean that the shearer has to work very hard and struggle to push the sheep out the chute or gate.

How big is the problem?
A good gate or chute requires no effort – the sheep just walk away or slide down. To find out how much force is needed when a shearer needs to push the sheep past an obstruction, a chute was built with a small obstruction that the sheep could use as a foothold.

Experienced shearsers pushed sheep out the chute while the forces were measured.

Results
The results show that the shearer has to do a lot more than just push the sheep toward the chute. They must control a struggling animal. This means they must push and pull in all directions.

When struggling with the sheep many joints in the body are placed at risk.
For example the forces in the back were estimated to be about 25% greater than the recognised limits.

The risk of a back injury is even greater because the shearer has been stooped over for several minutes.

Recommended release
The best release is one where no effort is needed by the shearer.
Chutes or level releases can be made easy to use by:
1. Making sure there are no obstructions (like wood nailed across the entry to the chute) that could be a foothold for the sheep.
2. Making the chute large enough (about 600 mm wide by 850 mm high).
3. Making the near side of the chute about 150 – 250 mm from the downtube.
4. Cutting the chute about 150 mm into the shearing board.

WorkSafe Victoria gratefully acknowledges
VIOSH Australia
University of Ballarat
PO Box 663
Ballarat 3353
Tel: 03 5327 9150
Appendix 4 – Acknowledgments

This development of this document was undertaken by a Shearing Working Party convened by WorkSafe Victoria. The participation and contributions of the organisations, their members and their representatives who comprised the Group are gratefully acknowledged. Without their contributions this document would not have been possible.

The very helpful cooperation and contribution of the property owners, shearsers and other shearing team members in the production of the photographs in this publication are also gratefully acknowledged.

Shearing Working Party Organisations and Representatives

Australian Workers Union – Victorian Branch
Mr Sam Beechey
Mr Ben Davis

Shearing Contractors Association of Australia
Mr Frank Sutherland

Victorian Farmers’ Federation
Ms Patricia Murdock
Mr Simon Price

Woolclasser’s Association of Australia
Ms Helen Wright
Mr Anthony Sawers

Consultant to the Working Party
Mr Michael Lawrance

WorkSafe Victoria
Mr Barry Durham, Working Party Chairperson
Mr Ross Armstrong