

7.5 Shearers' tools and equipment storage

Hazard or risk	Risk control
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.	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.

7.6 Unguarded machinery - hazards, risks and risk controls

Specific guarding hazards have been addressed in sections 7.1-7.5. 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, as far as practicable.

Machinery and equipment that is not adequately guarded for reasons of practicality 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 a distance of about one metre in a noisy workplace then there may be a noise problem.

To properly assess the risks it is necessary to measure the noise exposure of workers as provided for in

Regulations 3.46 of the *Occupational Safety and Health Regulations 1996*. This will identify the real noise problems and ensure that any noise control undertaken will be worthwhile and effective. Maximum permissible exposure standard for noise is 85 dB(A) for eight hours per day or equivalent.

Hazard or risk	Risk control
<p>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.</p>	<p>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.</p> <p>Sometimes noisy equipment can be located away from the main work areas to minimize the number of workers who will be exposed to it.</p> <p>Proper maintenance and repair of machinery and equipment, particularly overhead gear, will usually reduce noise levels.</p> <p>Limit the use and volume of radio, CD and cassette players if they produce too much noise. (Using these devices with earphones or earplugs 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.)</p> <p>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. It is better to try and reduce noise levels first before using earmuffs or earplugs as a risk control.</p>
<p>Corrugated iron walls found in many shearing sheds reflect noise and increase overall noise levels in the shed.</p>	<p>Keep noise levels in mind when choosing building materials for new sheds. Consider installing proper sound insulation in existing sheds.</p>

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 shearers quarters) and any electrical installation, modification or maintenance comply with the Electrical (Licensing) Regulations 1991. Additionally Regulation 3.59 of the *Occupational Safety and Health Regulations 1996* provides as follows:

A person who, at a workplace, is an employer, the main contractor, a self-employed person or a person having control of the workplace must ensure that -

- (a) all electrical installations at the workplace are designed, constructed, installed, protected, maintained and tested so as to minimize the risk of electrical shock or fire; and
- (b) each connection on a flexible cord that is installed or renewed at the workplace after 1 October 1996 is of either the moulded one part non-rewireable or transparent type.

Penalty: \$25 000.

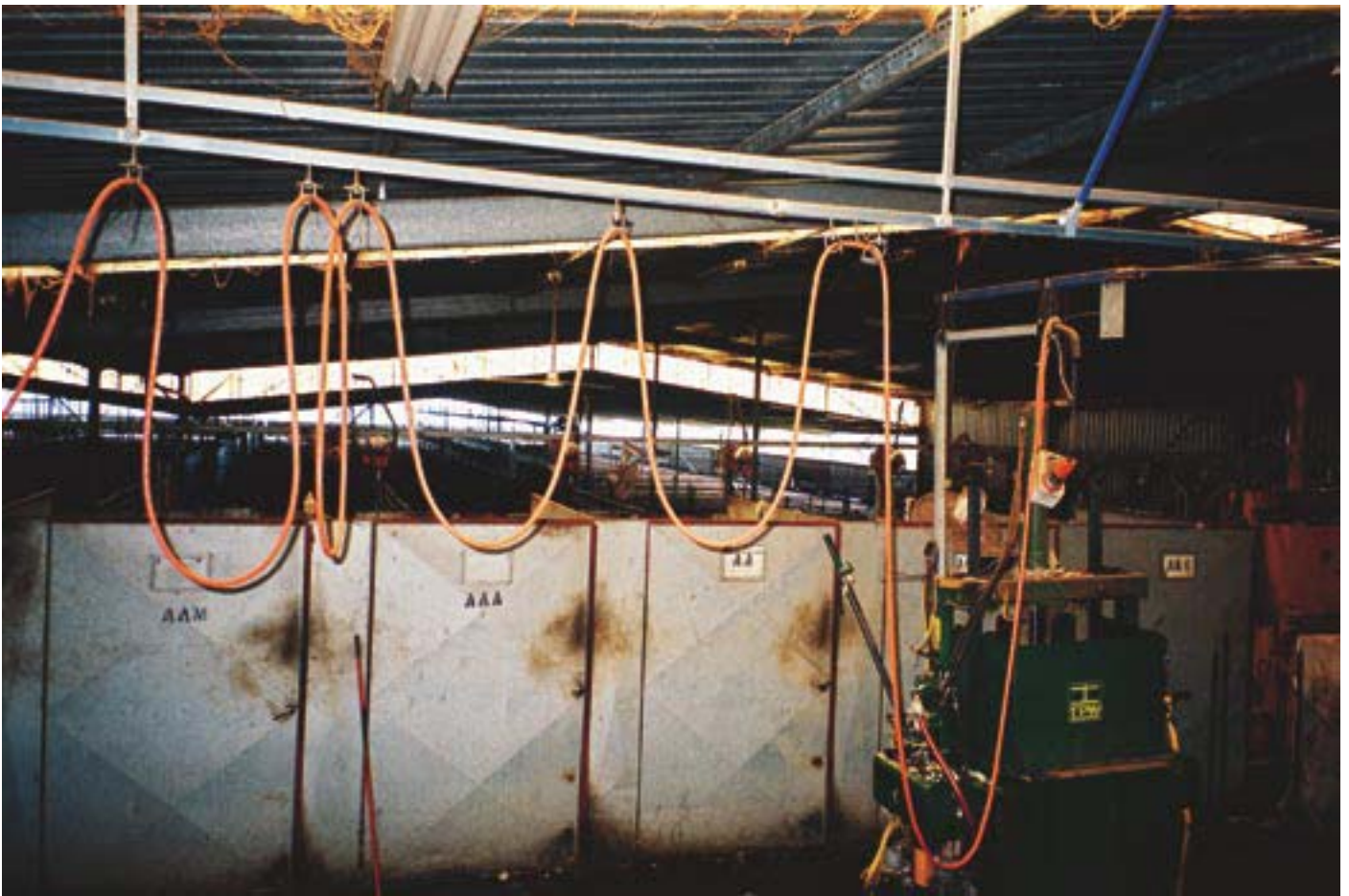
Regulation 3.60 of the *Occupational Safety and Health Regulations 1996* provides for a person in control of the workplace and employers to ensure Residual Current Devices (RCD's) are installed on the electrical circuits where hand held electrical tools are to be used (handheld electrical tools include extension leads).

Portable electrical equipment (and other "plant" at the workplace) is required to be subject to appropriate checks, tests and inspections to reduce the risk of injury to persons in the shed.

Regulation 4.37 provides as follows:

- (1) A person, who at a workplace, is an employer, a main contractor, a self-employed person, a person having control of the workplace or a person having control of access to the workplace must ensure -
 - (a) that plant at the workplace is subject to appropriate checks, tests and inspections necessary to reduce the risk of injury or harm occurring to a person at the workplace;
 - (b) that inspection, repair, maintenance, alteration and cleaning of the plant at the workplace is carried out having regard to procedures recommended by the designer or manufacturer or, if those recommendations are not available, procedures developed by a competent person;
 - (c) where the function or condition of plant at the workplace is impaired to the extent that it presents an immediate risk to safety or health, that the plant is withdrawn from use until the plant is assessed and repaired under regulation 4.38(1).
 - (d) that plant at the workplace is used only for the purpose for which it was designed, unless the person has determined, and a competent person has assessed, that a proposed change in use does not increase the risk of injury or harm occurring;
 - (e) that measures are provided to prevent, as far as practicable, interference with plant or the alteration or use of plant in a manner that could render the plant a hazard to any person at the workplace;
 - (f) that every dangerous part of a fixed, mobile or hand held powered plant is, as far as practicable, securely fenced or guarded in accordance with regulation 4.29 unless the plant is so positioned or constructed that it is as safe as it would be if securely fenced or guarded;
 - (g) that a fence or guard provided for the purposes of this regulation is constantly maintained and of substantial construction taking into account its intended purpose;
 - (h) as far as practicable, that any fence or guard provided for the purpose of this regulation is kept in position while the plant is operated; and
 - (i) in the cases where guarding of any moving part of the plant does not eliminate the risk of entanglement or where it is not practicable to guard a moving part of the plant, that persons do not operate, or pass in close proximity to, the moving part unless a safe system of work is in place to reduce the risk as far as is practicable.

Penalty: \$25 000.



The electric cable to the press is kept out of the way by suspending it from the roof structure



Cables kept well clear of the work area

8. Work in the shearing shed

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

8.1 Penning

Hazard or risk	Risk control
<p>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.</p>	<p>Redesign pens and gates to promote stock flow, reducing the requirement to “push” sheep into the filling pen.</p> <p>Repair or remove protrusions and sharp objects in the pens before use.</p> <p>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.</p> <p>Further information may be found in ‘Shear sense’ by the Kondinin Group and the Ballarat Shearing Shed Design Notes listed in Appendix 3.</p>



Pens should be designed to promote easy stock flow and any protrusions and sharp objects should be removed.

8.2 Shearing and crutching

Hazard or risk	Risk control
<p>Back, shoulder, arm and hand injuries can happen during animal handling.</p>	<p>Use of suspension back harnesses. These decrease the load on the shearer's back and spine and reduce muscle strain. There must be a sufficiently strong suspension point in good repair located properly above the board and the harness must be clear of overhead obstructions. See also Section 6.4</p> <p>Where practicable, a suitable arm device should be provided to compensate for changes to the centre of gravity of the shearer during lateral movements when shearing.</p>
<p>Cuts from contact with handpieces.</p>	<p>Consider handpiece design and modifications, and use more effective and safer handpieces as they become available (see Section 7.2).</p>
<p>Shearers can fall from raised boards after being "kicked" out of position while shearing.</p>	<p>To prevent falls from raised boards have a safety rail around the board. Edge marking or other suitable risk controls should also be introduced.</p>
<p>Lockup occurs when the handpiece becomes jammed.</p>	<p>Have cutoff switches that shed hands can get to on the face of the board on each stand.</p> <p>Use of metal ear tags is not recommended and practical steps need to be taken to ensure that wire is not mixed with the wool.</p>
<p>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.</p>	<p>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.</p>
<p>Increases in body and fleece weight have added to the overall effort required to maneuver sheep during crutching and shearing. The 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.</p>	<p>Modify the shed to handle the increased size of sheep eg enlarging let-go chutes, and changing the batten orientation in the catching pen.</p>

8.2 Shearing and crutching cont...

Hazard or risk	Risk control
Wet sheep and wet wool increase the risk of infections and other adverse health effects.	Where possible avoid shearing wet sheep.
Full sheep	Sheep to be yarded 8 hours prior to shearing to prevent full sheep being presented.
Sheep movement (manual handling)	Have sheep propulsion devices in stock races.

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 safety and health 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 risk management system 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 safety and health to their safety and health representative and their supervisor or the owner/manager.
 - ♦ All injuries and symptoms (eg symptoms of heat stress) should be immediately attended to and reported to the safety and health representative and employer.
 - ♦ All accidents, incidents and near misses should be reported to the safety and health 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 tasks 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 - In Western Australia smoking in enclosed workplaces is prohibited by Regulation 3.44B of the *Occupational Safety and Health Regulations 1996*.
 - 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.
 - Regulation 3.16 of the Occupational Safety and Health Regulation 1996 provides as follows:
 - (1) A person who, at a workplace, is an employer or the main contractor must ensure that a supply of clean, cool, drinking water is provided for, and is readily accessible to, persons working at the workplace, and that the outlet is in a place:
 - (a) where the water supply is unlikely to be contaminated; and
 - (b) other than a place in which a toilet is located.
- Penalty \$10,000
- 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.
 - 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.
 - Drug and alcohol use at or prior to work in a shearing shed is not tolerated.

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 safety and health of all shed workers. In particular, working in heat can cause significant safety and health 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 employees.

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
- 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 WorkSafe Western Australia Commission's *Code of Practice: First Aid, Workplace Amenities and Personal Protective Equipment*.

10.3 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

Hazard or risk	Risk control
<p>Fumes, smoke, exhaust gases and particulates produced by petrol and diesel motors in the shed are a health hazard.</p>	<p>Use electrically driven equipment where possible.</p> <p>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.</p> <p>If a motor cannot be located outside the shed:</p> <ul style="list-style-type: none"> modify the exhaust so that the exhaust gases and fumes are vented to the outside of the shed ensure that exhaust gases and fumes cannot blow back into the shed ensure that all seals on the motor and exhaust system are working effectively and not leaking keep the motor in good repair and well maintained 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)
<p>Ammonia from stock urine has an unpleasant pungent odour and is an irritant gas.</p>	<p>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.</p>

12. Dusts

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

13. Chemicals and hazardous substances

The *Occupational Safety and Health Regulations 1996* specify employers' duties with regard to hazardous substances which include:

- the assessment and control of risks;
- the provision of information, instruction and training to employees;
- the keeping of records on induction and training; and
- employee health surveillance in some cases.

Agricultural and veterinary chemicals are also regulated and controlled by the Commonwealth AGVET Scheme and the Poisons Act of Western Australia.

The following provides only a brief overview of hazardous substances. The Regulations, and other supporting documents 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. 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 shearers 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

(An unintended drafting error in Regulation 5.2 of the *Occupational Safety and Health Regulations 1996* limits the application of the hazardous substance Regulations - that is to say the Regulations currently do not apply to sheep dips and Vet treatments)

5.2. Application

This Part does not apply in relation to -

- (a) a radioactive substance;
- (b) a substance used in or in connection with the prevention, diagnosis, curing or alleviation of a disease, ailment, defect or injury in human beings or animals while it is being administered to a human being or an animal; or
- (c) a substance that may be hazardous only by reason of its containing any disease causing organism.

(It has recommended this error be corrected as soon as possible).

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 substance for a less 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.



Use adequate PPE for protection against harmful chemicals

- There should be no chemical work done in the shed.
- The withholding period for the hazardous substance is to be maintained in accordance with the manufacturers Material Safety Data Sheet (MSDS)
- Undertake blowfly treatment outside of the shed. All employees who handle/ use pesticides should have completed adequate training in chemical usage eg ChemCert Course - A Farm Chemical Users Course.
- 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 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.

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 obvious only in humans when symptoms become evident, whereas the animal may remain symptom free or only mildly sick, for example Q Fever.

Hazard or risk	Risk control
<p>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.</p>	<p>Immunise against Q Fever.</p> <p>Sheep with an active outbreak of orf must not be shorn or crutched until their condition is resolved. Remove infected animals.</p> <p>Do not handle infected animals without proper safeguards.</p> <p>Exhaust ventilation, temperature control and respiratory protection equipment for some situations need to be considered.</p>
<p>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.</p>	<p>Provide and maintain good sanitary amenities and promote good hygiene practices such as:</p> <ul style="list-style-type: none"> • 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 <p>Use protective equipment including hand, arm, foot and leg protection.</p>

Q Fever is a reportable occupation disease in Western Australia. Employers of persons who become infected with Q Fever are required by Section 19(3) of the Occupational Safety and Health Act 1984 to report the details to the WorkSafe Western Australia Commissioner.

15. Lighting and seeing in the shearing shed

- Poor lighting can create:
 - ♦ 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; and
- 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.
- 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;
- more lighting than the general lighting in the shed is usually necessary for fine or precise work eg 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; and
- 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.

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;

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

16. First aid

Arrangements for First Aid at workplaces need to comply with the WorkSafe Western Australia Commission's Code of Practice: *First Aid, Workplace Amenities and Personal Protective Equipment* and Regulation 3.12 of the *Occupational Safety and Health Regulations 1996*.

"First aid" means the immediate treatment or care of a person who is injured or who becomes ill at a workplace.

16.1 First aid kits

The regulation requires at a workplace an employer, main contractor or a self-employed person must provide a first aid kit and a suitable number of persons trained in first aid.

Employers should supply and maintain an appropriately stocked first aid kit for shearing teams. The first aid kit should include an instruction and advice book. The First Aid Code of Practice 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 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 a S&H 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.

A well stocked and clearly labelled first aid kit in a shed.

16.2 First aid training

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

Everyone in the shed and in the 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 provided to workers during the induction briefing referred to in Section 5.5 Before shearing starts.

Shearing industry training providers are 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 hands training courses.



16.3 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.

Local Emergency Services telephone numbers and a procedure for evacuation of injured persons are essential. The information must include the address and directions to the property. Contact numbers should include Royal Flying Doctors Service, Ambulance, Police, Local Fire Service, Poisons Information Service, the Property owner, and the Shearing contractor.

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

At workplaces where amenities are provided by the employer for employees, as is the case with amenities at the shearing shed, and “found” accommodation those amenities and that accommodation provided are included under the provisions of the Occupational Safety and Health Act 1984 as part of the workplace.

The WorkSafe Western Australia Commission Code of Practice - First Aid, Workplace Amenities and Personal Protective Equipment at clause 2.17 explains this further.

In this situation the general duty of care of the employer to provide and maintain as far as practicable a working

environment where employees are not exposed to hazards, extends to the accommodation and amenities provided and to travel between the quarters and the shearing shed.

There currently exists on the statute books of Western Australia the Shearers Accommodation Act 1912. It is recommended that the Shearer’s Accommodation Act be repealed.

17.1 General

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

Hazard or risk	Risk control
Buildings	Buildings must be in sound structural condition, habitable, adequately ventilated and able to cope with temperature extremes
Walkways, corridors, passages, building surrounds, steps, stairways. Employees unfamiliar with layout, especially at night.	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 must have adequate lighting at night. Safe entry and exit from buildings is essential.
Fire	Fireplaces and heaters need to be properly constructed and guarded. Fireplaces and heaters must 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.
Electrical safety	All electrical installations and any electrical modification or maintenance must comply with the Electrical (Licensing) Regulations 1991. 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 must be safely routed to eliminate tripping and electrical hazards.
Insect screening	Doors, windows, chimneys and other openings should be effectively screened against insects.
Asbestos	Any asbestos hazards arising from asbestos cement sheeting used in buildings must be addressed in accordance with the Occupational Safety and Health Regulations 1996.

Hazard or risk	Risk control
Cleaning	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.
Drinking water	Adequate, cool and clean drinking water must be readily available at all times. See also Section 10.2

17.2 Eating and mess areas

Adequate seating and tables for all employees must be provided in mess and eating areas. Adequate seating helps reduce stress on the back.

There should be adequate ventilation and lighting in mess and eating areas.

There should be a separate and suitable eating area in or adjacent to the shearing shed for health and hygiene reasons.

17.3 Kitchens and food preparation and storage areas

These areas need to be properly set up and laid out to ensure good hygiene, safety and health. Bench space, sinks, stoves, refrigeration, lighting, exhaust systems, ventilation and food storage all need to be adequate. Food preparation, handling and storage practices must ensure good health and hygiene. There must 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.

An adequate and separate refrigerated storage area for the shearing team's personal food and drink should be provided.

17.4 Sleeping quarters

Sleeping quarters must ensure that employees can obtain adequate rest. They should be of adequate size, clean and habitable. 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.

If men and women are accommodated, separate rooms must be provided.

Given the physical demands of work in the shearing shed adequate beds, mattresses and bedding must be provided.

17.5 Washing, toilet and laundry areas

Separate, private and secure toilets must be provided for men and women.

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

At shearers' quarters adequate washing and bathing/shower facilities and toilets must be provided. Separate, private and secure toilets and bathing/shower facilities must be provided for men and women.

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

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

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

17.6 Travel

Under the *Occupational Safety and Health Act 1984* the general duty of care of the "employer" is to provide and maintain as far as practicable a working environment where employees are not exposed to hazards. The general duty of care of the "person in control of the workplace" (the wool grower) applies to travel by shearing workers who are on the property in relation to matters which the wool growers control.

APPENDIX 1 - FURTHER INFORMATION, ADVICE AND GUIDANCE

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
E-mail: dpayne@health.usyd.edu.au

The Australian Workers' Union

West Australian Branch
"Wellington Fair"
Cnr. Moore and Lord Streets
EAST PERTH WA 6004
Phone: (08) 9221 1686
Fax: (08) 9221 1706
E-mail: administrator@awuwa.asn.au

The Western Australia Shearing Contractors Association (Inc.)

PO Box 792
FREMANTLE WA 6959
Phone: (08) 9319 2027
Fax: (08) 9339 6493

Pastoralists and Graziers Association of WA

1st Floor, Pastoral House
277 Great Eastern Highway
BELMONT WA 6104
Phone: (08) 9479 4599
Fax: (08) 9277 7311
E-mail: pga@pgaofwa.org.au

WA Farmers Federation (Inc.)

Level 4/239 Adelaide Terrace
PERTH WA 6000
Phone: (08) 9325 2933
Fax: (08) 9325 4197
E-mail: WAFarmers@waff.org.au

Woolclasser's Association of Australia WA Branch

PO Box 294
FREMANTLE WA 6959
Phone: (08) 9316 2314
Fax: (08) 9316 2314

FarmSafe WA

100 Bougainvillea Road
FORRESTFIELD WA 6058
Phone: (08) 9359 4118
Fax: (08) 9359 4118
E-mail: farmsafe@wn.com.au

Australian Wool Innovation Limited

Level 5, 16-20 Barrack Street,
SYDNEY NSW 2000
Phone: (02) 9299 5155
Fax: (02) 9299 9880
E-mail: info@woolinnovation.com.au

Other

Local veterinarians, local doctors, Department of Agriculture WA or stock and station agents may be good sources of information for animal related problems.

Department of Consumer and Employment Protection

WorkSafe Division

Head Office

1260 Hay Street
WEST PERTH WA 6005
(PO Box 294, WEST PERTH WA 6872)
Phone: (08) 9327 8777
Fax: (08) 9327 8838
E-mail: safety@docep.wa.gov.au

Bunbury Office

8th Floor, 61 Victoria Street
BUNBURY WA 6230
(PO Box 1747, BUNBURY WA 6231)
Phone: (08) 9722 2888
Fax: (08) 9791 8047
E-mail: safety@docep.wa.gov.au

Publications

WorkSafe publications can be obtained from WorkSafe offices or downloaded from the internet:
www.safetyline.wa.gov.au

Occupational Safety and Health Act 1984

Occupational Safety and Health Regulations 1996

Relevant Occupational Safety and Health Codes of Practice

Code of Practice: First Aid, Workplace Amenities and Personal Protective Equipment

Code of Practice: Managing Noise at Workplaces

Code of Practice: Manual Handling

Code of Practice: The Safety and Health of Children and Young People in Workplaces

Code of Practice: Fatigue Management for Commercial Vehicle Drivers

Code of Practice: The Prevention of Falls at Workplaces

Code of Practice: Standards Australia - AS 4024.1-1996 Safeguarding of Machinery Part 1: General Principles

Code of Practice: NOHSC - Safe Removal of Asbestos [NOHSC:2002(1988)]

Code of Practice: NOHSC - Workplace Hazardous Substances [NOHSC:2007(1994)]

Code of Practice: NOHSC - Labelling of Workplace Substances [NOHSC:2012(1994)]

Code of Practice: Welding Technology Institute of Australia - Health and Safety in Welding - Technical Note 7 TN 7.98

WorkSafe WA Commission Guidance Note: Alcohol & other drugs at the workplace

Other publications and sources:

- Animal handling - Australian Agricultural Health Unit 1997
- Australian Rules Of Shearing - An Exercise Guide For Shearers - Victorian Dept of Human Services, Grampians Region 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
- National Code of Practice for the Shearing Industry (Health, Safety and Welfare Standards) - Australian Workers' Union, 1997
- Code of Practice 1997: Shearing shed health and safety
- Pastoral Industry Award, 1986, Fed. 49 (updated April, 1990).
- 'Shear sense' by Kondinin Group 1988 ISBN 0-9591145-8-0
- DOCEP - WorkSafe Western Australia farm safety fact sheet series
 - ♦ Farm Safety Fact Sheet No.1 Tractor Safety
 - ♦ Farm Safety Fact Sheet No.2 Farm Chemical Safety
 - ♦ Farm Safety Fact Sheet No.3 Electrical Safety
 - ♦ Farm Safety Fact Sheet No.4 Agricultural Bike Safety
 - ♦ Farm Safety Fact Sheet No.5 Grain Movement and Storage
 - ♦ Farm Safety Fact Sheet No.6 Machinery Guarding
 - ♦ Farm Safety Fact Sheet No.7 Farm Noise
 - ♦ Farm Safety Fact Sheet No.8 Manual Handling
 - ♦ Farm Safety Fact Sheet No.9 Firefighting
 - ♦ The 15 Minute Farm Safety Checklist
- Woolclassers' Award
- Woolshed safety - Guidance notes for the sheep and wool industries - Farmsafe Australia 1997

APPENDIX 2 - CHECKLISTS/WORKSHEETS

Please use with the DOCEP - WorkSafe Publication Safety and Health in Shearing

Area assessed : _____ Date: _____

Employer/management/contractor representative(s): _____

Employee safety and health 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 safety and health representatives must be consulted on identification, assessment and risk control.

		Satisfactory?	
		Yes	No
Employer and employee duties and responsibilities			
1	Employers and contractors understand and carry out their duties as specified in the <i>Occupational Safety and Health Act 1984</i> ; consult with employee safety and health representatives at workplaces; safe plant and systems of work; safe working environment; appropriate information, instruction, training and supervision of employees. <i>Page 5-11</i>		
2	Workplace safety and health is properly addressed; planned for and implemented in consultation with employee safety and health representatives before shearing starts and while it is in progress. <i>Page 5-11</i>		
3	Employees understand and carry out their duties as specified in the Occupational Safety and Health Act 1984; 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. <i>Page 5-11, 39</i>		
Shearing shed			
4	Access to and Egress from the shed – condition of steps for elevated sheds. <i>Page 12</i>		
5	Movement around the shed – layout, obstructions, collisions, location of plant and machinery, areas signed where necessary. <i>Page 12</i>		
6	Getting on and off raised boards – adequate steps. <i>Page 12</i>		
7	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. <i>Page 13</i>		
8	Catching pens, gateways and doors – layout, dimensions/distances, orientation, protrusions, orientation and condition of battens, pen doors, obstructions between board and the catching pen. <i>Page 14-17</i>		
9	Shearing board – floor condition, soft floor surface, enough space/distance between downtubes, adequate fixing points for shearers' back harness. <i>Page 18-20</i>		
10	Let-go area – unobstructed exit for sheep, location and size of chute/doorway, no dogs. <i>Page 21</i>		
11	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. <i>Page 22-24</i>		

		Satisfactory?	
		Yes	No
Machinery			
12	Before shearing starts – All machinery checked and working effectively. <i>Page 28</i>		
13	Overhead gear and shearing plant – 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. <i>Page 26-28</i>		
14	On-off rope – easily reached without twisting and obstruction; made of heavy cord; position. <i>Page 27</i>		
15	Electric leads and cables –in good condition and safely routed and positioned. <i>Page 29, 34</i>		
16	Grinders – 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. <i>Page 29</i>		
17	Fire extinguishers – Adequate numbers of fire extinguishers are available and maintained to control the outbreak of fire for the work or work process. <i>Page 49</i>		
18	Wool presses – 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. <i>Page 31</i>		
19	Shearers tools and equipment – adequate and well located area for tools and equipment, handpiece in the best possible condition and working order. <i>Page 28, 32</i>		
20	General guarding - 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 (in accordance with AS4024.1) before use. <i>Page 32</i>		
21	Noise – high noise levels assessed if necessary; high noise levels reduced if practicable; adequate hearing protection provided and used and signs erected. <i>Page 33</i>		
22	Electrical – All electrical installations in the shearing shed and shearers' quarters and any electrical installation, modification or maintenance comply with <i>Occupational Safety & Health Regulations 1996.</i> <i>Page 34</i>		
23	Residual Current Device (RCDs) fitted at electrical switchboards. <i>Page 34</i>		

When the walk through is finished, any areas assessed as unsatisfactory can be addressed using this Risk Control Worksheet

SHEARING SAFETY AND HEALTH - RISK CONTROL WORKSHEET

Actions required to fix any unsatisfactory areas can be determined using the guidance in *Safety and Health in Shearing* and recorded on this Risk Control Worksheet. The **Item No.** below is the number in the left hand column of the 'Walk Through' Assessment Checklist (1 -38)

Principal Employer/Employer/management/contractor representative(s): _____

Employee safety and health representative(s): _____

Date: _____

Work in the shearing shed		Satisfactory? Yes	No
24	Penning – pens and gates promote stock flow; protrusions, sharp objects etc removed from pens; no light coming up through battens. Page 36		
25	Shearing – safety rail/edge marking around raised boards; easily accessible emergency stop controls; 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 37, 38		
26	Working in heat - 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 40		
27	Working in cold - Cold draughts and winds minimised; warm up and warm down; suitable clothing. Page 41		
28	Vapours fumes and gases – 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 42		
29	Chemicals and hazardous substances – handling, working with and storage of chemicals and hazardous substances done in accordance with the Material Safety Data Sheet for the hazardous substance, blowfly treatment done away from the shed and following safety procedures and maintaining strict compliance to manufacturers published withholding periods; information on chemicals and hazardous substances available to everyone in the shed; no chemical work done in the shed. Page 43, 44		
30	Diseases from animals – 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 45		
31	Lighting and seeing – Adequate lighting in all work areas at all times of the year and day; blinds etc fitted on windows; all light fittings in good order; sufficient lighting for classing, grinding and other fine work. Page 46		
32	First Aid – properly stocked and maintained first aid kits in the shed, shearers' quarters and vehicles used for travel between the shed and quarters; at least two adequately trained first aiders 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. Page 47, 48		
33	Amenities at the shearing shed – adequate toilets, washing facilities and eating areas. Page 49-51		
34	Shearers' quarters – 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 toilets and washing facilities and 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 49-51		
35	Travel – Travel between the shed and quarters is safe and without risks to health. Page 5		
36	Footwear – adequate footwear worn by all persons, use of shearing footwear. Page 39		
37	Employee contributions to safety and health: contribute to a spot the hazard, assess the risk, and make the changes culture. (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; warm up and warm down in cold weather. Page 39		

Item No.	Action required	Date due	Person responsible	Date Completed

APPENDIX 3 - SHEARING SHED DESIGN NOTES

Shearing Shed Design Note

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.

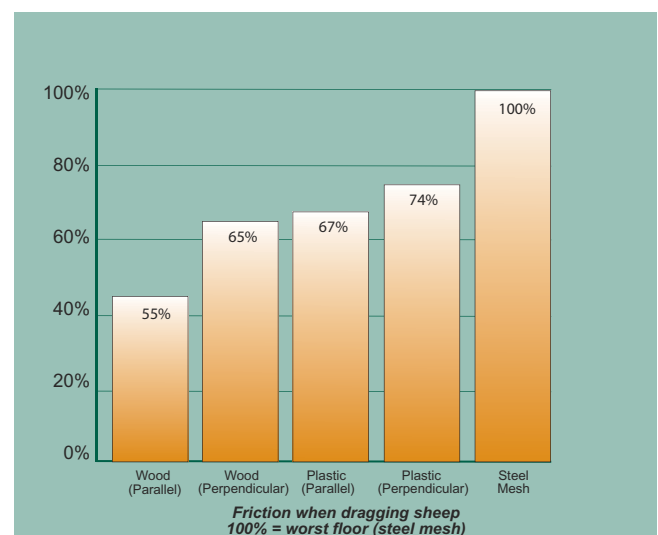
Adding a slope to the floor makes the job about 10% easier again.

Combining a slope and the best surface means that a shearer will drag 6kg less per sheep or about 1200kg 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.



VIOSH Australia, University of Ballarat is gratefully acknowledged.

Shearing Shed Design Note

Number two

Drag paths

Traditional design

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

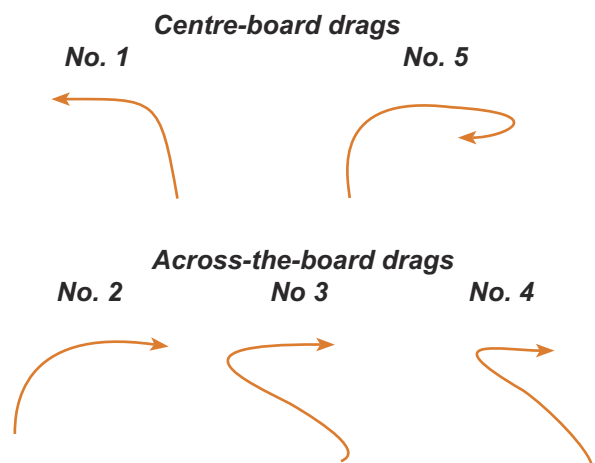
Which path is best?

The sketch shows five drag paths.

Two-centre-board paths (1 and 5).

Three across-the-board paths (2, 3 and 4).

Experienced shearers dragged sheep along each path.



Results

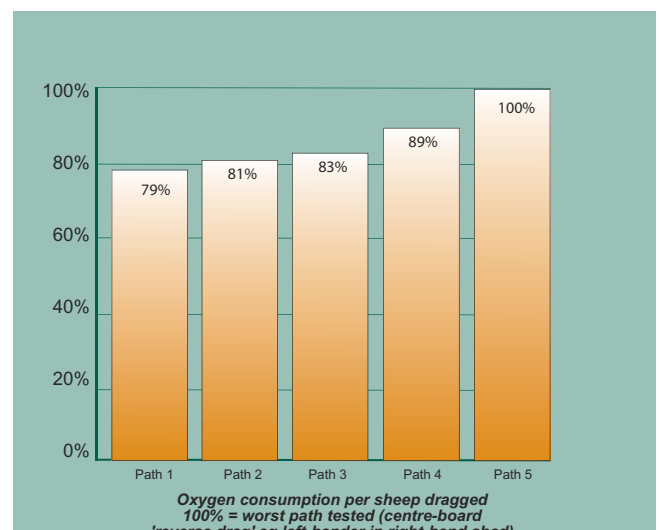
The chart shows how much energy is used per sheep to drag along different paths.

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 shearers to avoid reversed paths.



VIOSH Australia, University of Ballarat is gratefully acknowledged.

Shearing Shed Design Note

Number three

Release chutes

Traditional design

Sheep often balk 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 shearers pushed sheep out the chute while the forces were measured.

Results

The results show that the designer 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 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 stopped 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 600mm wide by 850mm high).
3. Making the near side of the chute about 150 – 250 mm from the downtube.
4. Cutting the chute about 150mm into the shearing board.

VIOSH Australia, University of Ballarat is gratefully acknowledged.

APPENDIX 4 - ACKNOWLEDGEMENTS

APPENDIX 4 - ACKNOWLEDGEMENTS

The document is based on the “Health and Safety in Shearing” by WorkSafe Victoria (2001). The development of this document was undertaken by a working group under the Agricultural Industry Safety Advisory Committee (AISAC) of the WorkSafe Western Australia Commission. The participation and contributions of the organisations and their representatives who comprised the working group are gratefully acknowledged. Without their contributions this document would not have been possible.

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

Shearing Guidelines working group organisations and representatives:

WA Shearing Contractors Association

Mr Peter Letch
Mr Phil Brunner

Pastoralists and Graziers Association of WA

Mr Edgar Richardson

WA Farmers Federation

Mrs Van Gooding

Australian Workers Union

Mr Chris Falls

Agricultural Industry Safety Advisory Committee

Mr Pat Gilroy, Working Group Chairperson

WorkSafe Division, Department of Consumer & Employment Protection

Mr Ron Jenkins
Mr Chris Kirwin
Mr John Randall