

The safe operation of ski slopes



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Introduction

This guidance has been prepared in consultation with the British Ski Slope Operators Association. It is aimed at owners and operators of skiing facilities.

It will help with the safe running of skiing activities (including snowboarding and snowblading) as well as other slope-side activities such as tubing and sledging. The guidance covers facilities such as natural snow slopes, artificial ski slopes and indoor snow slopes. It does not cover equipment that uses fixed tracks, such as toboggan rides.

As with most sports, there is a risk that participants can injure themselves. However, following this guidance can help you minimise these risks in a sensible and proportionate way that does not unduly restrict participation.

What the law says

The main legal requirements covering skiing facilities are as follows:

- Health and Safety at Work etc Act 1974 (HSW Act);
- Management of Health and Safety at Work Regulations 1999 (the Management Regulations);
- Provision and Use of Work Equipment Regulations 1998;
- Lifting Operations and Lifting Equipment Regulations 1998.

The Cableways Installations Regulations 2004 will also apply to new or modified ski tows.

Employers and the self-employed operating skiing facilities have a general duty to ensure, so far as is reasonably practicable:

- the health, safety and welfare of their employees;
- that customers and others are not exposed to risks to their health and safety arising from the operation of the facility.

Private clubs and purely voluntary run groups will generally only have duties under health and safety legislation where they have control over the ski slope and any equipment provided.

Suppliers must supply safe work equipment, whether this is new, second-hand or hired out.

See HSE's website for more information on how the law applies to you:
www.hse.gov.uk/legislation.

Civil law

Following this guidance will help operators to comply with their duty of care under civil law.

Guidance

When considering how to operate your centre you should also consider the following documents produced by the International Ski Federation (FIS):

- *Ten FIS Rules for Conduct* – also referred to as the ‘FIS Rules’ or ‘Ski Way Code’;
- *Rules for Safety in Winter Sports Centres*.

These sets of rules have implications for the conduct of individual users of your facility and skiers under the control of instructors. Both documents can be found on the FSI website (www.fis-ski.com).



Managing health and safety

Describing how you will manage health and safety in your business will let your staff and others know about your commitment to health and safety. This will be your health and safety policy.

If you are an employer and have five or more employees, you must have a written policy.

The policy does not need to be complicated or time-consuming; it should clearly say who does what, when and how. To help you, we have created a template that you can download and complete. The template also includes a section for your risk assessment so that you can record everything in one document. See our risk site for more information (www.hse.gov.uk/risk).

A policy will only be effective if you and your staff follow it and review it regularly.

As an employer, you must appoint someone competent to help you meet your health and safety duties. A competent person is someone with the necessary knowledge, experience and skill to advise you on health and safety. You could appoint (one or a combination of):

- yourself;
- one or more of your workers;
- someone from outside your business.

You probably manage most aspects of your business yourself, or with the help of your staff. But if you are not confident of your ability to manage all health and safety in-house, you may need some external help or advice.

Deciding what help you need is very important. Unless you are clear about what you want, you probably won't get the help you need.

Controlling the risks

You must manage the health and safety risks in your workplace. To do this you need to decide whether you are doing enough to prevent harm. This process is known as risk assessment and it is something you are required by law to carry out.

Risk assessment is not about creating huge amounts of paperwork, but rather about taking sensible measures to control the risks in your workplace.

You are probably already taking steps to protect your employees, but risk assessment will tell you whether you should be doing more.

Concentrate on the real risks – those that are most likely to cause harm. Think about how accidents could happen and who might be harmed. You can do this by:

- asking your employees what they think the hazards are, as they may notice things that are not obvious to you and may have some good ideas on how to control the risks;
- checking manufacturers' instructions as they can be very helpful in spelling out the hazards and how they may affect your workplace.

Make a record of your significant findings and what you have in place to prevent them. If you have fewer than five employees you don't have to write anything down.

Consulting your employees

Workplaces where employees are involved in taking decisions about health and safety are safer and healthier. Collaboration with your employees helps you to manage health and safety in a practical way by:

- helping you spot workplace risks;
- making sure health and safety controls are practical;
- increasing the level of commitment to working in a safe and healthy way.

You must consult all your employees, in good time, on health and safety matters. In workplaces where a trade union is recognised, this will be through union health and safety representatives. In non-unionised workplaces, you can consult either directly or through other elected representatives.

Consultation involves employers not only giving information to employees but also listening to them and taking account of what they say before making health and safety decisions.

Issues you should consult employees on could include:

- health and safety and the work they do;
- how risks are controlled;
- the best ways of providing information and training.

For further information on your legal duties see the HSE leaflet *Consulting employees on health and safety: A brief guide to the law* (INDG232) – listed in 'Further reading'.

See HSE's worker involvement website for more information on consulting with your employees (www.hse.gov.uk/involvement).



Employee training

Everyone who works for you needs to know how to work safely and without risks to health. You must provide clear instructions, information and adequate training for your employees on:

- the risks they may face;
- measures in place to control the risks, including the safe selection and use of equipment;
- how to follow any emergency procedures.

It is particularly important to consider the training needs and supervision of:

- new recruits, trainees and people on work experience;
- young people, who are particularly vulnerable to accidents;
- people changing jobs, or taking on new responsibilities;
- health and safety representatives, who have particular laws relating to them.

Some employees, such as instructors, ski patrollers and ski technicians, will require specialist training. Where they hold licences, it is good practice for you to monitor that they are keeping them up to date.

For further advice, see HSE leaflet *Health and safety training: A brief guide* (INDG345) – listed in ‘Further reading’.

Equipment hire

All equipment should be used according to the manufacturer’s instructions. This includes:

- correct selection of skis and boards, taking account of the activity and the competence of the user;
- setting ski bindings correctly;
- correct selection of boots for the user so that they fit appropriately and can be fastened properly;
- making sure users are aware of the importance of ensuring that boots and bindings are clear of snow, ice or grit etc when putting skis on.

All hire equipment must be regularly maintained in accordance with the manufacturer’s instructions. Hire equipment should be checked and individually set at the start of a period of hire and should be inspected again on return in case it has been damaged in use.

Any defective equipment should be tagged and removed from hire stock and this should be recorded. Once repairs have been done, the equipment can be returned to stock.

Even correctly set bindings cannot be guaranteed to release under all circumstances.

Workplace and welfare

You must provide a safe and healthy environment for all your employees and consider their welfare needs. You must provide things such as:

- lighting, including emergency lighting;
- toilets and washing facilities (including workers on the hill);
- drinking water and facilities to eat meals;
- facilities for changing, storing and drying clothing;
- the safe movement of people and vehicles;
- cleanliness and maintenance measures;

You should also consider things such as the weather, temperature (both hot and cold) and sun exposure. Employees working in adverse weather conditions should be provided with appropriate protective clothing.

Lift and tow facilities should be provided with means of heating. Any heating appliances must be maintained in good working order. Pay particular attention to ventilation where gas-fired appliances are used.

Arrangements should be made to cover for staff operating lifts and tows for meal breaks and toilet breaks. Enough staff should be available at all times to operate lifts and tows in the manner you have determined.

You may also need to consider the needs of peoples with disabilities. Further general guidance for employers on disability issues can be obtained from the Equality and Human Rights Commission (www.equalityhumanrights.com).

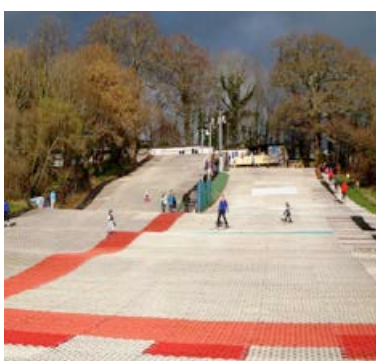


Facility layout and access control

You need to decide what the minimum standard of performance is for your slope. The ability of users should be assessed before they are allowed onto the hill, which may include recording the user's self-declaration of competence. Users should be directed to the appropriate part of the slope, depending on their ability.

Other considerations include:

- recording the ability of regular users on membership cards or something similar;
- restricting access to the hill for learners unless a qualified instructor is satisfied that they meet the required standard or they are supervised;
- setting a maximum number of users for each slope, depending on the mix of users and their ability levels;
- controlling access and potentially limiting the use of the slope to a single group or partition using netting when racing or race training is taking place or when freestyling equipment is on the slope.



Slope construction, inspection and maintenance

Slope design is a specialist area and is beyond the scope of this publication – you should seek specialist advice. However, design consideration should:

- take account of the intended use and user groups;
- ensure that users can decelerate or stop in a controlled manner;
- have areas where spectators can watch activities safely;
- consider intended hours of operation and the need for lighting.

Slopes should be inspected at least daily for damage or the presence of debris and appropriate action taken.

Slopes should be constructed, inspected, maintained and repaired according to manufacturers' instructions. It can be useful to keep records of all inspections, maintenance and repairs.



Ski tow installation, operation and maintenance

Ski tows and lifts should be installed, operated and maintained in accordance with manufacturers' instructions.

The Cableways Installations Regulations 2004 will apply to new or second-hand equipment installed at ski slopes. Installation or modification of a cableway installation will require authorisation by the Secretary of State for Transport.

Uplift equipment should only be started and operated by competent people. Emergency stops should be provided at the loading point, the unloading point and at appropriate intermediate positions. Emergency stops should not be reset until the reason for their activation has been established.

For tows or lifts where failure to dismount at the top poses a risk to the user, take measures to ensure that equipment stops if the skier fails to dismount. This can be achieved by the use of trip switches that will be activated when the skier passes beyond a certain point.

You must ensure that no one can access dangerous moving parts of a tow or lift (eg driving wheels, bull or return wheels, in-running nips at guide rollers, tension weights), either during normal operation or maintenance. Methods of safeguarding can include safe positioning of items, fixed guarding, interlocked or photosensitive guards. The use of a permit-to-work system may be appropriate for some maintenance activities.

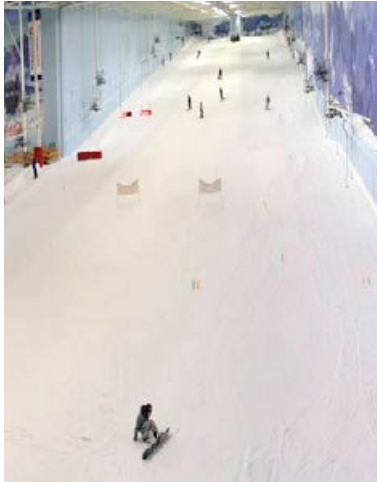
Modifications to tows and lifts must only be carried out by competent people in consultation with the manufacturer or their agent. If second-hand equipment is to be installed, you must ensure it is safe and that all necessary documentation is available.

You must have a procedure for the safe evacuation of tows and lifts in an emergency. Lift evacuation should be practised on a regular basis and you may wish to work with the emergency services on this.

Where the safety of users may be affected, you should consider having alternative means of powering lifts should the primary power supply fail. Procedures should be devised for dealing with situations such as a driving wire coming off the guide pulleys. Such an event may require evacuation of a chair-lift.

Failure of the power supply should be considered in your emergency procedures and staff should receive appropriate training and equipment to allow them to safely evacuate staff and participants.

Chair-lifts should not be operated in wind speeds above the manufacturer's recommended upper limit. Any wind-measuring equipment should be kept in good working order.



Natural slopes and indoor snow slopes

Natural slopes and indoor slopes must be inspected before they are used and at regular intervals by a competent person for deterioration of the surface. Pay particular attention to heavily used and narrow sections.

Information signs (eg 'Slow Down', 'Caution', 'Crossing') can be used to inform users and manage slope use. If bottlenecks develop during busy periods, it may be necessary to provide additional signs and to monitor the area. Warning signs should also be used where there are:

- narrow areas;
- obstacles, such as bridges;
- broken areas of snow.

Broken areas of snow can be a hazard to users even though they have a responsibility to ski in control to avoid them. Broken areas should be marked to draw attention to the hazard and, where possible, repaired using fresh snow to cover the exposed surface. Tow tracks should be kept as even as possible to allow easy ascent. Extensive deterioration of the piste may mean it needs to be closed.

Procedures must be in place for the evacuation of natural slopes in the event of adverse weather conditions. You must ensure that all employees are aware of the procedure and its implementation. Signs should be used to inform users that warning signals (eg sirens) may be used to alert users to evacuate the hill.

Ski patrollers can provide a useful method of:

- managing overcrowding, particularly at the end of the day when people are leaving the piste;
- controlling the speed of skiers.

Skiers who act irresponsibly and endanger their own or others' safety may need to be removed from the hill. This can be done by withdrawing their lift pass, or you could stop the lift until they leave (if you can do that safely).



Protection from fixed and temporary obstructions

The presence of fixed objects that skiers may hit should be avoided during slope or piste design. Where fixed objects or other obstructions cannot be avoided, you should provide adequate protection, by using nets, padding or other methods.

Temporary structures for use in certain slope activities (for example freestyle) should be removed when not in use, or securely netted to draw attention to the hazard or indicate they are closed.

You may need to protect people queuing at tows or lifts and provide means of reducing skier speed close to queues, for example:

- using warning signs on the approach to encourage users to slow down;
- creating separately demarcated queuing areas.

You should consider the safety of users and spectators at the end of ski runs. Where your risk assessment identifies, consider the use of hazard marking, padding or nets. This is to indicate the end of the piste and to prevent users leaving the end of the piste, except where it is safe to do so or to join another piste or connecting trail.

Nets or padding should be of suitable design and strength to absorb or deflect the energy of a moving skier without posing a risk of significant injury. You may need to seek competent advice if you don't have the relevant expertise in-house to determine the required properties of nets and padding.

Nets and padding should be inspected and maintained according to manufacturers' instructions to monitor whether they continue to function as designed.

Piste-grooming equipment

Piste-grooming machines should normally only be used on closed pistes. Where this is not possible, warning signs or barriers should be used to alert skiers to the presence of machines. If grooming machines are travelling on a piste, they should only do so slowly and at the sides of the piste.

Piste-grooming equipment must be operated by competent people. It should be fitted with warning lights and alarms and these should be kept in good working order.

First-aid and emergency arrangements

You have a legal duty to provide appropriate first-aid arrangements for your employees. Though you have no legal responsibilities for non-employees, HSE strongly recommends that you include them in your first-aid provision.

Instructors and patrollers are normally required to be a qualified first-aider as part of their training. However, you should consider providing first-aid training to other members of staff on duty in the facility as part of your emergency action plan.

Everyone who holds a first-aid qualification should receive refresher training at appropriate intervals.

You should provide an appropriate first-aid room or facilities and someone should be appointed to ensure that first-aid supplies are maintained.

Every centre should have a casualty evacuation procedure, including when handover to the emergency services is appropriate. You should make appropriate liaison arrangements with the local emergency services, particularly where evacuation of suspected spinal injury cases is involved.

- For artificial ski facilities and indoor snow slopes, the most appropriate way of dealing with a seriously injured person will be calling for an ambulance. However, you should establish with the ambulance service whether they will require assistance or facilities if they have to deal with a casualty on the slope.
- If you are operating natural snow facilities, consider the need to deal with a casualty in a remote location. Those likely to be involved in the evacuation of casualties from the hill should receive appropriate training in the techniques and equipment to be used. This should be practised regularly.

Maintenance activities

You must ensure the safety of your employees or contractors doing maintenance work. Employees carrying out inspection and maintenance activities should be trained and competent.

Ensure you only use competent contractors, and that they are able to work in a safe way and do not pose a risk to users or employees. For example:

- work on standby generators, tow and lifts may require a permit-to-work system to ensure the safety of those involved;
- make sure work at height is done safely using equipment that is suitable for the work and ground condition.

The correct selection of equipment should reflect the risks. You may need specialist advice when selecting access equipment.

Some maintenance activities may require the closure of a part of a slope or all of it.

Any equipment used for lifting loads, including people, is subject to specific requirements regarding its inspection and maintenance (see the Approved Code of Practice on the Lifting Operations and Lifting Equipment Regulations 1998, listed in 'Further reading').

Security

Steps need to be taken to prevent unauthorised use of the slope, particularly outside opening hours.

Movable equipment should be locked away or secured at the end of the day and lifts and tows should be isolated.

Accident reporting and investigation

Accident reporting and investigation are important aspects of health and safety management. Proper investigation of accidents can reveal problems or hazards that might not otherwise be apparent, and plays an important role in identifying ways of improving health and safety. An investigation may lead to a review or change in your procedures.

RIDDOR

All employers, the self-employed and people in control of work premises have duties under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR).

They must report certain work-related injuries, cases of ill health and dangerous occurrences. HSE will pass details to the relevant enforcing authority.

RIDDOR applies to all work activities but not all incidents are reportable.

Further information on reporting can be found at www.hse.gov.uk/riddor or in the leaflet *Reporting accidents and incidents at work* (INDG453) – see 'Further reading'.

Further reading

Health and safety made simple: The basics for your business Leaflet INDG449
HSE Books 2011 www.hse.gov.uk/pubns/indg449.htm
Microsite: www.hse.gov.uk/simple-health-safety

HSE's risk website: www.hse.gov.uk/risk

Safe use of lifting equipment. Lifting Operations and Lifting Equipment Regulations 1998. Approved Code of Practice and guidance L113 HSE Books 1998
ISBN 978 0 7176 1628 2 www.hse.gov.uk/pubns/books/l113.htm

Lifting equipment at work: A brief guide Leaflet INDG290(rev1) HSE Books 2013
www.hse.gov.uk/pubns/indg290.htm

Providing and using work equipment safely: A brief guide Leaflet INDG291(rev1)
HSE Books 2013 www.hse.gov.uk/pubns/indg291.htm

Using contractors: A brief guide Leaflet INDG368(rev1) HSE Books 2012
www.hse.gov.uk/pubns/indg368.htm

Reporting accidents and incidents at work: A brief guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) Leaflet
INDG453(rev1) HSE Books 2013 www.hse.gov.uk/pubns/indg453.htm

Health and safety training: A brief guide Leaflet INDG345(rev1) HSE Books 2013
www.hse.gov.uk/pubns/indg345.htm

Other sources of information

British Ski Slope Operators Association: www.bssoa.co.uk

International Ski Federation: www.fis-ski.com

Acknowledgements

This leaflet has been prepared in consultation with the British Ski Slope Operators Association. It supersedes all other guidance produced by the British Ski Slope Operators Association, including the Operators Guidelines and Safety Code of Practice.

All photographs courtesy of Richard Barbour www.barbourassociates.co.uk

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This leaflet is available at www.hse.gov.uk/pubns/indg371.htm.

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