

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
101	Falls from height: a. Failure of main structure b. Failure of safety system	Instructors, customers, maintenance staff.  Serious or fatal injuries.	<ul style="list-style-type: none"> <li>• Design of course structures and safety system by competent engineer.</li> <li>• Checking of design &amp; construction by engineer and Building Regulations.</li> <li>• Load testing of course elements and systems to engineer's requirements.</li> <li>• Completion &amp; handover inspection by engineer.</li> <li>• Annual inspection and testing of course and safety systems by competent persons.</li> <li>• Inspection of course and systems after severe weather events.</li> <li>• Use of independent crows tail safety system for maintenance of main safety cables.</li> <li>• Limit travellers to four per level to maintain system factors of safety.</li> <li>• Training of instructors &amp; maintenance staff in correct use of systems.</li> <li>• Monitoring of staff performance.</li> <li>• Pre-use visual inspections of course and safety systems.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
102	Falls from height: Failure of equipment	Instructors, customers, maintenance staff.  Serious or fatal injuries.	<ul style="list-style-type: none"> <li>• Provision of sufficient and appropriate equipment.</li> <li>• Equipment used in accordance with manufacturers guidelines.</li> <li>• All equipment logged and inspected on receipt.</li> <li>• Equipment inspection regime in accordance with operating procedures and manufacturers recommendations.</li> <li>• Visual pre use inspection of equipment by instructor.</li> <li>• All instructors familiarised with equipment during training.</li> <li>• All instructors trained in safe systems of operation.</li> <li>• Harnesses fitted under instructor supervision.</li> <li>• Customers attached to and detached from systems by instructor.</li> <li>• Maintenance operations to be subject to individual risk assessment and selection of relevant equipment.</li> <li>• Maintenance and storage of equipment in accordance with best practice and manufacturers recommendations.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
103	Falls from height: Failure of procedures	Instructors, customers, maintenance staff.  Serious or fatal injuries.	<ul style="list-style-type: none"> <li>• Selection of suitably qualified staff.</li> <li>• Comprehensive training of staff in site procedures.</li> <li>• Staff training records.</li> <li>• Regular monitoring of staff performance.</li> <li>• Rolling review of site procedures.</li> <li>• Logging and investigation of all site incidents and accidents.</li> <li>• High exit gates locked when not under staff supervision.</li> <li>• No unsupervised access permitted to activity areas or tower.</li> <li>• Fencing and signage to prevent unsupervised access to activity areas.</li> <li>• Tower kept locked when not in use.</li> <li>• Safety briefing of all customers and site visitors.</li> <li>• Written safety advice to all customers and site visitors.</li> <li>• External technical adviser audit of procedures.</li> <li>• Safety signage on course.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
201	Impacts: from falling bodies and objects	Instructors, customers, maintenance staff, public.  Serious or fatal injuries.	<ul style="list-style-type: none"> <li>• Use of safety helmets in all supervision areas.</li> <li>• Suitable design of high course elements.</li> <li>• Annual checking of high course element securing systems.</li> <li>• Checking of high course element securing systems after severe weather.</li> <li>• Kick boards on all internal landings.</li> <li>• Landings, platforms and stairs to be kept clear at all times.</li> <li>• Pre use check and debris clearance of landings, platforms and stairs.</li> <li>• Annual checking and maintenance of trees by competent person.</li> <li>• Checking of trees after severe weather.</li> <li>• Use of equipment lanyards during maintenance.</li> <li>• No unsecured objects to be carried above ground level.</li> <li>• No loose objects to be placed on tower parapet.</li> <li>• No loose footwear.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
202	Impacts: from swinging & sliding parts of course	Instructors, customers, maintenance staff.  Serious or fatal injuries.	<ul style="list-style-type: none"> <li>• Fenced swing exclusion zone.</li> <li>• Movement limiters on swinging yardarm.</li> <li>• Customer briefing on use of swinging yardarm and drawbridge.</li> <li>• Suitable clearance height to zip wire.</li> <li>• Designated, supervised zip wire dismount area.</li> </ul>			
203	Impacts: swinging or sliding into parts of course	Instructors, customers, maintenance staff.  Serious or fatal injuries.	<ul style="list-style-type: none"> <li>• Dual tie back system for swing mount.</li> <li>• Movement limiters on swinging yardarm.</li> <li>• Dynamic brake block on zip line.</li> <li>• Zip line end stop.</li> <li>• Travel stops on leap of faith.</li> <li>• Regular pruning of foliage around swing, zip wire and leap of faith movement zones.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
204	Impacts: short falls to ground or parts of course.	Instructors, customers, maintenance staff.  Sprains, cuts, grazes or bruises.	<ul style="list-style-type: none"> <li>• Briefing and supervision of customers.</li> <li>• Woodchip landing areas around base of activity and warm up areas.</li> <li>• Recommended use of long trousers.</li> <li>• Covering of clamped cable connections.</li> <li>• Pre use inspection of course for sharp edges or cable frays.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
301	Entanglement and entrapment	<p>Instructors, customers, maintenance staff.</p> <p>Strangulation, sprains, ring stripping of fingers, pulling out of hair.</p>	<ul style="list-style-type: none"> <li>• Design of course.</li> <li>• Training of staff in safe systems of operation.</li> <li>• Briefing of customers.</li> <li>• Effective supervision.</li> <li>• All long hair to be tied back.</li> <li>• Removal of long necklaces, unsuitable jewellery and neck lanyards.</li> <li>• Suitable clearances between users and pulleys.</li> <li>• Suitable clothing.</li> <li>• Use of releasable abseil system.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
401	Slips and trips: General site	Instructors, customers, maintenance staff.  Sprains, fractures, cuts, grazes or bruises.	<ul style="list-style-type: none"> <li>• Suitable path routing and maintenance.</li> <li>• Staff familiarisation with site.</li> <li>• High visibility cables stay guards.</li> <li>• Briefing and supervision of customers.</li> <li>• Suitable footwear.</li> </ul>			
402	Slips and trips: Tower	Instructors, customers, maintenance staff.  Sprains, fractures, cuts, grazes or bruises.	<ul style="list-style-type: none"> <li>• Stairs and landing designed to Building Regulations</li> <li>• Stairs and landings kept clear.</li> <li>• Pre use inspection &amp; debris clearance of stairs and landings.</li> <li>• Hi visibility markings to trip hazards.</li> <li>• Briefing and supervision of customers.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
501	Extreme weather: High winds Lighting Extremes of cold or heat Heavy rain	Instructors, customers, maintenance staff.  General discomfort, fatigue, hypothermia, heatstroke, dehydration. Damage to structures, impacts from falling branches or debris.	<ul style="list-style-type: none"> <li>• Evacuation and closure of course during extreme weather events.</li> <li>• Operating guidelines.</li> <li>• Review of daily weather reports.</li> <li>• Suitable clothing.</li> <li>• Suitable selection of activities.</li> <li>• Staff rota's and rests.</li> <li>• Suitable rest areas (warm or shaded)</li> </ul>			
601	Darkness / inadequate lighting	Instructors, customers, maintenance staff.  Increased risk of injury due to reduced supervisory ability, limited visibility of, stairs, other trip hazards and safety signs.	<ul style="list-style-type: none"> <li>• Seasonal variation of course opening hours.</li> <li>• Partial or complete course closure during poor light conditions.</li> <li>• High visibility paint on hand rails.</li> <li>• Emergency torch lighting.</li> <li>• External emergency spotlights around office area.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
701	Fire	Instructors, customers, maintenance staff.  Burns, smoke inhalation.	<ul style="list-style-type: none"> <li>• Design of tower to Building Regulations.</li> <li>• Fire detection, alarm and evacuation procedures.</li> <li>• Staff training in fire detection, alarm and evacuation procedures.</li> <li>• Briefing of customers and maintenance staff on fire procedures.</li> <li>• Clear marking of exits.</li> <li>• Exits kept clear and open during operation of course.</li> <li>• No smoking permitted on course.</li> <li>• No electrical ignition sources on course.</li> <li>• Course closure during lightning storms.</li> <li>• Fire extinguisher points.</li> <li>• Extinguisher maintenance contracts.</li> <li>• Maintenance of emergency access routes.</li> </ul>			

**ROPES AND LADDERS  
RISK ASSESSMENT**

Assessed by: T. Downes

Issue number: 002

Checked by: A. Newton

Issue date: Jan 2008

Review date: Dec 2008

Ref.	Hazards	Who might be harmed & how	Existing control measures	Additional control measures	Action by / due	Implemented
801	Vandalism and unauthorised access.	<p>Instructors, customers, maintenance staff.</p> <p>Damage to course or equipment.</p> <p>Intruders.</p> <p>Falls during unsupervised use of course.</p>	<ul style="list-style-type: none"> <li>• Security fencing.</li> <li>• Security lighting.</li> <li>• Locking of tower.</li> <li>• Removal of climbing ropes.</li> <li>• Padlocking of swing switchgear and isolation of electricity supply.</li> <li>• Bilingual Welsh / English warning signs.</li> </ul>			