

BASIC MINIMUM STANDARDS FOR MOUNTAINEERING

Introduction

1.1 Mountaineering is an activity for which Indian Mountaineering Foundation (IMF) through powers vested in it by the Government of India, looks after mountaineering and allied sports in India. All tour operators must keep abreast of the guidelines given by IMF from time to time. These Basic Minimum Standards will apply specifically to commercial expeditions attempting 6000m or other comparable peaks.

Guides/Instructors

- 1.2 Lead guides and instructors who are leading mountaineering activities should, as a minimum, hold valid certificates for the following;
- a) A minimum 16 hour (2 day) first aid course provided by a recognised and qualified provider.
 - b) The Advance Mountaineering Course and preferably also Method of Instruction and Search and Rescue from any of the National Mountaineering Institutes and carry a certificate duly authenticated by an IMF recognized body OR MOT accredited tour operator stating that the individual “has experience of 3 years in assisting mountaineering expeditions at altitudes of 6000m and above and is independently capable of guiding mountaineering groups and carrying out rescue operations”.
 - c) Maintain a log book containing authenticated records of mountaineering experience.

Equipment

- 1.3 The correct use and proper maintenance of climbing equipment is essential for conducting mountaineering activities and should be taken very seriously.
- 1.4 Equipment, specially safety equipment should be certified and approved by an international body like CE or UIAA .

- 1.5 Ropes – There are many different types of ropes. The operator and leader must have a sound knowledge of specifically designed rope, including types and applications. Climbing rope comes in different diameters and specifications but the basics are dynamic, semi static and static. A safe working load of 25KN (2.5 tons) and CE approval is the internationally recognised standard for climbing rope. Ropes of Indian manufacturers should be avoided unless they are duly certified.
- 1.6 Hardware (karabiners, belay devices etc.) – There is a wide range of climbing aids and devices and the operator and instructor must have a complete and sound knowledge of their applications including which devices are necessary to conduct mountaineering activities safely. These devices are also a “link” in the safety chain. As per all other climbing equipment items a safe working load of 25KN (2.5 tons) and CE approval is the internationally recognised standard for climbing hardware and devices. Belay device like stitch plates and giri giri and belay techniques are changing every year. One must keep abreast of latest climbing and belay standards in practice around the world.
- 1.7 All equipment is subject to wear and tear and must be checked before every use. Incorrect storage, use and monitoring of rated and approved equipment is usually the cause of equipment failure. Operators and leaders must have a sound knowledge of this and have systems in place in order to control and manage their equipment. Maintaining equipment logs that are current and equipment specific is a recommended exercise.

Inspection and maintenance procedures

- 1.8 Inspections and maintenance require a sound knowledge of the systems and equipment themselves and therefore must be carried out by qualified persons as a minimum the inspector must be qualified to be a guide/instructor. Basic inspections must be carried out before every use with complete and detailed inspections carried out on a regular basis in accordance with their operations procedures and risk assessments.

SOP's and operating instructions

- 1.9 All Mountaineering Tour Operators must maintain and update a Standard Operating Procedure for their operations and get the same vetted from IMF from time to time.

1.10 Besides covering the methodologies that are adopted by the agency in organizing the expedition, such as assessing of members qualification, medical condition and experience, procedures for obtaining of various permissions, travel to the mountain, maintenance of base camp including hygiene, avoidance of high altitude sickness, safety precautions, communication, weather reports, procedure for emergencies, casualty evacuation, incident and accident reporting, feedback mechanism the following must be included in the SOPS:

- a) The guiding and porter staff on the mountain and the material supplied must be adequate for the aims of the party and stated level of service offered.
- b) An experienced doctor in the party is desirable but at the very least advance arrangements must be known for medical help. Advance arrangements must also be made for evacuation assistance in case of emergency.
- c) Advertising must give a true picture of all the difficulties and dangers involved, and avoid promising the impossible. If an expedition is commercially launched by an operator, then the Biographical information about the guiding team should be included.
- d) The client must truthfully reveal his experience, supported by documentation/photograph, medical history etc to the organizer so that the organizer can make an informed choice about the potential client.
- e) Information supplied in advance will include a clear statement of the guiding, portage and equipment which will be supplied by the organizer, together with details of the clothing and equipment to be supplied by the client. This is not in context of the operators assisting expeditions with logistics alone.

In case the expedition is organized by an overseas adventure tour operator then the Indian operator duly recognized by I.M.F. must ensure that he above points are complied with.

Documentation

1.11 The tour operator must maintain, at the minimum the following documentation:

- a) Details of all Guides and Instructors including, copies of certifications, record of expedition experience and feedback from clients.
- b) Copies of all Permits and Permissions of current expeditions.

- c) Copies of identification documents, Insurance cover and details of next of kin for all participants, guides and instructors.
- d) Copy of SOP.
- e) Current list of emergency contact numbers
- f) Copy of insurance document of the client with Indian contact in case of emergency.

Risk mitigation

1.12 In order to mitigate the risk of high altitude, the following is advised:

- a) To get participants medically examined before starting on the journey.
- b) To ensure that at least one or two members of the expedition have experience of high altitude climbing.
- c) To provide wireless sets or take on hire from IMF, for communication between camps on the mountain and the base camp.
- d) To bring radio receiving sets in case weather forecasts by the All India Radio are required to be arranged by the IMF.
- e) To ensure that environment safeguards are implemented in their programme so that the area and peak visited by them suffers no damage, and is left clean for subsequent expeditions.

Emergencies and rescues

1.13 In addition;

- a) Adequate first aid medical equipment must be available on site
- b) Evacuation routes must identified and known to participants, guides and instructors.
- c) A detailed and documented evacuation/emergency procedure must be available at the base camp along with closest available emergency services which can be called upon as required

BASIC MINIMUM STANDARDS FOR TREKKING

Introduction

2.1 These Basic Minimum Standards will apply specifically to commercial trekking expeditions in high altitude areas above 2000m.

Guides/Instructors

2.2 Lead guides and instructors who are leading trekking activities should either be qualified to lead mountaineering groups OR hold valid certificates the following;

- a) A minimum 16 hour (2 day) first aid course provided by a recognised and qualified provider
- b) Completed the Basic Mountaineering Course from any of the National Mountaineering Institutes and carry a certificate duly authenticated by a IMF recognized body OR IMF accredited tour operator stating that the individual “has experience of 3 years in assisting trekking expeditions at altitudes of 2000 m and above and is independently capable guiding trekking groups and carrying out rescue operations”
- c) Maintain a log book containing authenticated records of trekking experience.

Equipment

2.3 The correct use and proper maintenance of climbing equipment is essential for conducting trekking activities and should never be taken lightly.

2.4 Trekking equipment such as Tents etc should be appropriate to the terrain in which they are being used.

2.5 All equipment is subject to wear and tear and must be checked before every use. Incorrect storage, use and monitoring of rated and approved equipment is usually the cause of equipment failure. Operators and leaders must have a sound knowledge of this and have systems in place in order to control and manage their equipment.

Inspection and maintenance procedures

2.6 Inspections and maintenance require a sound knowledge of the systems and equipment themselves and therefore must be carried out by qualified persons as a minimum the inspector must be qualified to be a guide/instructor. Basic inspections must be carried out before every use with complete and detailed inspections carried out on a regular basis in accordance with their operations procedures and risk assessments.

SOP's and operating instructions

2.7 All Trekking Tour Operators must maintain and update a Standard Operating Procedure for their operations and get the same vetted from IMF from time to time.

2.8 Besides covering the methodologies that are adopted by the agency in organizing the trek, such as assessing of members qualification, medical condition and experience, procedures for obtaining of various permissions, travel to the trekking area, maintenance of camps including hygiene, avoidance of high altitude sickness, safety precautions, communication, weather reports, procedure for emergencies, casualty evacuation, incident and accident reporting, feedback mechanism the following must be included in the SOPS:

- a) The guiding and porter staff for the trek and the material supplied must be adequate for the aims of the party and stated level of service offered.
- b) Advance arrangements must be known for medical help. Advance arrangements must also be made for evacuation assistance in case of emergency.
- c) Advertising must give a true picture of all the difficulties and dangers involved, and avoid promising the impossible. If an expedition is commercially launched by an operator, then the Biographical information about the guiding team should be included.
- d) The client must truthfully reveal his experience, supported by documentation/photograph, medical history etc to the organiser so that the organiser can make an informed choice about the potential client.
- e) Information supplied in advance will include a clear statement of the guiding, portorage and equipment which will be supplied by the organiser, together with details of the clothing and equipment to be supplied by the client. This is not in context of the operators assisting trekking expeditions with logistics alone.

Documentation

2.9 The tour operator must maintain, at the minimum the following documentation:

- a) Details of all Guides and Instructors including, copies of certifications, record of expedition experience and feedback from clients.
- b) Copies of all Permits and Permissions of current expeditions.
- c) Copies of identification documents, Insurance cover and details of next of kin for all participants, guides and instructors.
- d) Copy of SOP.
- e) Current list of emergency contact numbers

Risk mitigation

2.10 In order to mitigate the risk of high altitude, the following is advised:

- a) To get participants medically examined before starting on the journey.
- b) Unless guided by a highly experienced guide, at least one or two members of the party have experience of high altitude trekking.
- c) Ensure that environment safeguards are implemented in their programme so that the area and peak visited by them suffers no damage, and is left clean for subsequent expeditions. Carry back all non biodegradable waste.

Emergencies and rescues

2.11 In addition;

- a) Adequate first aid medical equipment must be available with the party.
- b) Evacuation routes must identified and known to participants, guides and instructors,
- c) A detailed and documented evacuation/emergency procedure must be available with the party along with closest available emergency services which can be called upon as required

BASIC MINIMUM STANDARDS FOR ZIP WIRES & HIGH ROPES COURSES

Introduction

- 3.1 *All owners & operators of Zip Wire and High Ropes Courses should aspire to install and operate their courses to the following European Standard: EN 15567:2007 (Sports and recreational facilities – Ropes courses – Part 1: Construction and safety requirements; Part 2: Operation requirements). What follows is an abridged version of these standards.*
- 3.2 High ropes and zip wire courses involve participants engaged in activities while attached to ropes or cables more than 1.0m above ground level. A zip wire is defined as an activity system or ropes course in which the participant glides under gravity in a sloping direction. Both high ropes and zip wire courses are distinct from playground equipment in that they have restricted access and require supervision.
- 3.3 Such activities involve risks that should be managed by the operators. This is achieved through careful supervision, training, instruction & information. High ropes and zip wire courses should only be undertaken by those who are physically and mentally able to comply with the safety requirements specified by the operator. On the basis of a risk assessment, operators should take reasonably practicable measures to ensure the safety of participants, including safety devices and protocols designed to limit the risk or consequences of falls or collisions. However, it should be understood that such risks cannot be eliminated altogether.

Guides

- 3.4 It is vital that any guides or instructors involved in high ropes and zip wire courses have the right combination of training and experience to carry out the following tasks:
- a) Provide participants with the information required to ensure that the equipment and elements are used correctly
 - b) Check that participants use the right equipment
 - c) Assess a participant's self-sufficiency on a high ropes or zip wire test course

- d) Ensure that the operator's safety instructions are complied with
- e) Carry out a mid-span rescue, safely bringing a participant back to the ground within 20minutes; or alert an onsite rescuer if required
- f) Provide assistance to participants
- g) Provide participants with First Aid, including stretcher evacuation if required
- h) Ensure smooth anchor to belay changes when crossing over elements. This is one major cause for accidents.
- i) Make sure that activity specific equipment is used. Eg. Do not use rafting helmets for ropes courses or rock climbing.

Training

3.5 As a basic minimum, all high ropes and zip wire courses should have guides trained to the following level:

- a) All guides to be trained in First Aid – basic 8 hour course, provided by a reputable organization
- b) All guides to be trained in basic high ropes and / or zip wire operations – in house training, to a standard approved by the ATOAI
- c) At least one guide per course, onsite every day the site is operating, to be rescue trained and assessed as capable of conducting a mid-span rescue, safely bringing a participant back to the ground within 20minutes.
- d) The manager and/or senior instructor to be trained to a nationally recognized standard in rock climbing or mountaineering (e.g. Basic/Advanced Mountaineering Course, India; Mountain Leader, Single Pitch Award, UK)
- e) The manager and/or senior instructor to have a minimum of 2 years' experience as a full-time guide on a high ropes or zip wire course
- f) All guides to receive pre-operations training and periodic refresher training and assessment (every 1-3 months) – all training and assessments to be documented

Equipment – the installation

- 3.6 Choice of site. The high ropes or zip wire course shall be located in an area of reasonable operating safety; it shall be possible to evacuate participants safely from any part of the course.
- 3.7 Materials. Materials shall be fit for purpose. Timber parts shall be designed in such a way that precipitation can drain off freely and water accumulation can be avoided. Metal parts shall be weather-proofed against atmospheric conditions.
- 3.8 Wire rope. Only galvanized or stainless steel wire ropes shall be used. Terminations around trees and poles shall have a closure angle less than or equal to 60 degrees. Wire rope inspections and discard criteria shall conform to ISO 4309.
- 3.9 Wire rope terminations and grips. All wire rope terminations shall conform to EN 13411 Parts 1-7. The number of wire grips shall depend on the nature and diameter of the wire rope and the types of wire ropes and grips used. It shall not be possible to undo critical components without a tool. Points of attachment on wire ropes may create local fatigue and shall be given special attention during inspections.
- 3.10 Design and manufacture. High ropes or zip wire courses shall be designed with consideration for the size and body weight of the participants. The dynamic load (generated by a falling participant) shall not exceed 6kN. Installations using self-belay systems made out of steel wire rope shall be calculated using safety factor 3.0 in relation to the ultimate load.
- 3.11 Support system. The support system (artificial and/or natural structure intended for installation of activity and safety systems) shall have the stability and resistance appropriate for the load calculated. In instances where the zip line course transmits loads to the existing structure (e.g. building) care shall be exercised to ensure that the existing structure can bear the loads created by the zip lines. When rocks are used as supporting structures the anchor pull out strength must be at least four times the applied load.

- 3.12 Activity system. The activity system (e.g. landings, platforms, descending devices, zip wires) shall be designed to accommodate the imposed loads. The safety connection between the participant and the zip wire shall be made with the appropriate personal protective equipment (PPE). Wire ropes shall have no exposed broken wire ends within the reach of the participants. If any part of the zip wire and landing area is not visible from the start point a departure regulation system shall be used. Appropriate training and equipment shall be provided if participants are required to brake actively during the descent (e.g. heavy duty gloves); a passive braking system (e.g. gravity, buffer, bungee, net) shall always be in place.
- 3.13 Safety system. The safety system can be collective (e.g. railings, landing mats, belay anchor) or individual (e.g. safety harness & belay to fall arrest device). When participants' feet are more than 1.0m from the ground, a safety system shall be in place. Systems, in particular with movable trolleys, shall be designed in such a way as to reduce entrapment of body parts or clothing.
- 3.14 Inspection and maintenance. Before the site is inaugurated a competent body shall certify that the site is in compliance with this standard. The following shall be carried out: a visual inspection, a functional inspection, a design validation, documentation including structural analysis, date and location of inspection, result of inspection and details of any defects detected. The inspection report shall be included in the operations manual of the course. After inauguration, the equipment and its components should be inspected or maintained as follows:
- a) Routine visual check and physical test of entire installation – before each opening
 - b) Operational inspection – in depth check of site, environment and technical components every 1-3 months
 - c) Periodical inspection – at least once per year by an ATOAI-approved inspection body, to include: visual inspection, functional inspection, determination of replacement state of worn parts, inspection including manufacturer's instructions for maintenance
- 3.15 User manual for operators. The manufacturer or installer of a zip line course shall provide a manual containing at least the following information:
- a) Technical description of the facility and its individual components,

- b) Use of the course & marking,
- c) Manufacturers declaration, containing: the basis of static load calculations, normative references, exclusions of liability, if any.

3.16 **Personal Protective Equipment (PPE):** All participants are required to wear PPE while engaged in high ropes and zip wire course activities. As a minimum, the PPE should include:

- a) Rock climbing sit harness
- b) Additional chest harness or full body harness where appropriate, e.g. when a sit harness is ill fitting around the waist
- c) Two points of attachment (e.g. lanyards & screw gate karabiners) to the safety system
- d) Heavy duty gloves (if required for active braking)
- e) All PPE to conform to UIAA or EN / CE standards

3.17 The fitting of PPE shall be checked by a guide, trained in the inspection of PPE, prior to use. The PPE shall be inspected and controlled as follows:

- a) Routine check – before participants use equipment
- b) Operational inspection – full check of all PPE every 1-3 months
- c) Complete check by an inspector – at least every 12 months; after an exceptional event; after the equipment has been withdrawn from use following a routine check
- d) A personal protective equipment inspection register is required for each set of devices, including dates of checks, details on wear and tear, date equipment quarantined or discarded

3.18 All exceptional events affecting the equipment, the checks performed as a result of such events and the minimum annual checks shall be entered on the register.

3.19 Competence of the inspectors. An inspector of PPE is deemed to be competent if:

- a) They hold a advanced national climbing certificate (e.g. mountaineering, climbing);
or
- b) They have completed a special course run by a competent organization that can certify that the person in question has specific skills in the equipment mentioned;
or
- c) They can prove that they have at least 24 months experience as a trainee inspector, supervised by a competent inspector.

Standard Operating Procedures

3.20 **Safety instructions and practical assessment of participants.** Before commencing an activity all participants shall be informed of the safety instructions, which should include:

- a) Explanation of the high ropes / zip wire course and inherent risks
- b) Explanation of the equipment (PPE) to use when required
- c) Demonstration by the instructor or manipulation of the equipment by the participant
- d) Explanation of the safety instructions, especially the need to be always connected to the safety system by at least one connector (when negotiating high ropes crossings) and at least two connectors (when using zip lines)
- e) Explanation of any markings placed at the beginning of every course or action system
- f) Identification of instructors and how and when to communicate with them; a (at any time any participant shall be within range of sight of either an instructor or an adult participant)
- g) Action to be taken in event of an accident
- h) All of this information shall be documented

- 3.21 The principles of the various techniques participants will have to perform during the course shall be explained. All participants shall demonstrate their understanding of these techniques by means of a practical assessment by a trained guide on a practice zip or high ropes area. All participants shall pass the test course before progressing.
- 3.22 Supervision – general points. During a rescue operation, a rescuer shall be despatched without any adverse effect on site supervision. Communication between participants and the guide shall be ensured. At any time any participant shall be within range of sight of either a guide or another adult participant.
- 3.23 **Course Supervision.** Supervision by trained guides is divided into 3 levels:
- a) Level 1: a situation whereby a guide can physically intervene
 - b) Level 2: a situation whereby a guide can clearly see the participant and intervene verbally
 - c) Level 3: a situation whereby a guide is in a position to communicate verbally with and to provide adequate assistance to participants
- 3.24 **Continuous belay system & zip wire belays.** A minimum of one, and preferably two, trained guides shall ensure participants are correctly attached to the safety system on high ropes or zip wire courses using a continuous belay system.
- 3.25 **Self belay & Assisted belay.** In the event of participants being required to self-belay, there shall be an adequate number of guides to ensure the following:
- a) All participants to demonstrate their understanding of the activity procedures and safety instructions in a practice area under Level 1 supervision & assessment.
 - b) The first five elements negotiated by a participant shall be under Level 2 supervision. During this period guides shall pay particular attention to the change-overs. After this period participants shall be under Level 3 supervision by guides
 - c) For assisted belays, there shall be a minimum of one guide for 4 participants (at height). In such instances the belayers shall be under Level 1 supervision of the guide.
 - d) Children between the ages of 6 and 10 shall be under Level 2 supervision by a guide throughout the activity.

3.26 **Inspection and Maintenance.** The equipment or its components should be inspected or maintained as follows:

- a) Routine visual check, and physical test ride of entire installation, which shall be carried out before each opening.
- b) Operational inspection which should be carried out every one to three months (e.g. cleanliness, equipment ground clearances, ground surface finishes, exposed foundations, sharp edges, missing parts, excessive wear of moving parts and the structural integrity of the safety system).
- c) Periodical inspection, at least once a year, by an ATOAI-approved inspection body. The following should be carried out: a visual inspection, a functional inspection, determination of replacement state of worn parts, inspections including all manufacturer's/supplier's instructions for maintenance. Any safety relevant defects observed shall be eliminated. Specific considerations on safety critical wire ropes shall be given to the potential effects of fatigue. For periodical inspections, an inspection report shall be drawn up, including the following:
 - i. Date and place of inspection,
 - ii. Results of the inspection indicating the defects observed,
 - iii. Assessment, whether there are any misgivings about further use of the facility,
 - iv. Information on necessary re-inspection,
 - v. Name, address and signature of the examiner.

Documentation

3.27 The following documentation is required to be kept onsite:

a) *Administrative:*

- i. Name and address of owner and operator

- ii. Document indicating the annual inspections carried out by an inspecting body
- iii. List of site personnel and their job titles
- iv. Evidence of public and other liability insurance

b) Operational:

- i. Log book containing the daily operation sheets (including faults observed during inspections at opening and closing, relevant events concerning safety). These need to be kept for three years.
- ii. Accident report sheets
- iii. Personal protective equipment inspection register and operation log
- iv. Risk assessment and management plan – drawn up by the zip line course operator
- v. Instructor and rescue training to be documented
- vi. Manufacturer's product manual
- vii. Rescue and emergency plan
- viii. Current inspection report
- ix. Log book for specific equipment detailing their use, date of purchase and limit to discard

c) Information to be provided for participants and visitors:

- i. Description of the activity and safety instructions
- ii. Limits and restrictions for use
- iii. Information relating to personal public liability insurance of the operator

Risk Mitigation & Emergencies

3.28 **Risk Assessment.** Each operator of a high ropes / zip wire course is required to conduct a basic risk assessment, at least once per year, according to the format approved by the ATOAI. Documentary evidence of this risk assessment should be kept onsite. The risk assessment will give rise to the Security and Emergency Plan.

3.29 **Security and Emergency Plan.** The security and emergency plan shall be appropriate to the surface area of the high ropes / zip wire course and the number of participants it can accommodate. It shall contain the following:

- a) Names of the rescuers and the name and address of the operator
- b) Means of communication
- c) Emergency equipment
- d) Drawings indicating the emergency paths, accesses and exits
- e) Procedures for evacuation due to injury or extreme weather
- f) Documentation for training in emergencies and reporting accidents
- g) Every high ropes / zip wire course to have a First Aid kit and stretcher onsite

BASIC MINIMUM STANDARDS FOR ROCK CLIMBING ARTIFICIAL WALL CLIMBING AND ABSEILING

Introduction

- 4.1 Climbing and abseiling are enjoyable adventure activities. They are growing in popularity in India. However, if not conducted safely they can cause significant injury or death. The purpose of this minimum standard is to define the correct practice and recognised climbing techniques for operating climbing and abseiling. It applies to purpose-built (artificial) structures and/or single pitch climbing venues with fixed protection systems. The goal of this standard is to promote and ensure the safe practice and continued enjoyment of climbing and abseiling activities.

Terms and definitions

- 4.2 Single Pitch – An easily accessible climbing venue where both top and bottom of the climbing surface can be accessed safely by foot without the need for personal protective equipment and roped systems.
- 4.3 Fixed protection systems – “Bolts” or “anchors” specifically designed and fitted for the purpose of attaching roped systems to a structure/natural climbing venue
- 4.4 The safety chain – The anchor; the rope; the karabiners and slings; the knots; the harness; the alert belayer
- 4.5 Bottom roping – where the belayer is situated at the bottom of the climb and the rope is directed through an anchor at the top of the climb and back down to the climber
- 4.6 Top roping – where the belayer is situated at the top of the climb and the rope is directed from the belay system directly to the climber.
- 4.7 Lead climbing – where the climber places protection during the climb and has no roped protection above
- 4.8 Leader placed protection – is protection specifically designed for the use of lead climbing and rigging where no fixed protection is available
- 4.9 Fall factor – a method in which to scale the severity and force of a fall. In climbing (specifically in lead climbing) using a dynamic rope, the fall factor (f) is the ratio of the height (h) a climber falls before the climber's rope begins to stretch and the rope length (L) available to absorb the energy of the fall. $f=h/L$

Guides/Instructors

- 4.10 Guides and instructors who are supervising climbing and abseiling activities should, as a minimum, hold valid certificates the following;
- a) A minimum 8 hour (1 day) first aid course provided by a recognised and qualified provider
 - b) Completed the Basic Mountaineering Course from any of the National Mountaineering Institutes and be certified by a MOI Qualified Instructor to have assisted climbing and abseiling activities for a minimum of 100 hours **OR** Indian Mountaineering Foundation (IMF) recognised Sports Climbing Instructors course or have sufficient experience certified by suitably qualified Coaches/Instructors duly recognised by the IMF.

Equipment

- 4.11 The correct use and proper maintenance of climbing equipment is essential for conducting safe climbing and abseiling activities and should never be taken lightly.
- 4.12 Although these standards do not cover the fitting or construction of fixed protection systems, these systems should be rated by the manufacturer and have a quantifiable safe working load. As a minimum standard for such systems, operators must adhere to a safety factor of 3 in accordance to the operators' weight limitations. In addition, fixed protection systems must be proven to withstand 10KN (1 ton) without displaying any visible deformation or damage. In order to fully understand appropriate fixed anchor/protection systems an operator must also have a sound knowledge of static/dynamic load and fall factors .
- 4.13 Rated and quality assured personal protective equipment or PPE must be used. An internationally recognised safe working load for such equipment is 25KN (2.5 tons). In order to comply with this standard it is recommended that all PPE is CE approved. Here is a list of the minimum PPE requirements for an average climbing and/or abseiling session:
- 4.14 Harness – The single most important piece of personal protective equipment which allows the climber to be safely attached to the roped system and is also a “link” of the safety chain. Harnesses however do not fit themselves and when fitted incorrectly

introduce further risk due to providing a false sense of security. For this reason, all harnesses must be checked by a qualified leader to ensure they are fitted correctly prior to leaving the ground and being exposed to a potential fall.

- 4.15 Helmets – Climbing helmets are designed to withstand impact from above by falling rock and equipment NOT the head impacting on the ground from a falling climber. As such, it is the responsibility of the owner/operator to deem if a climbing helmet is necessary in accordance with their risk assessments. The general rule however is as follows: in natural rock venues, use a Helmet; in bottom rope artificial venues a helmet is optional; in top rope/abseil artificial venues, use a Helmet. If in doubt, use a Helmet.
- 4.16 Rope – There are many different types of rope. The operator and leader must have a sound knowledge of specifically designed climbing rope, including the different types and applications. In order for the operator or leader to fully understand the applications or different climbing ropes they must also fully understand fall factors. Climbing rope comes in different diameters and specifications but the basics are dynamic, semi static and static. The operator must consult the manufacturer’s manual to ascertain its intended use. Rope not intended for climbing is made with different materials and has different specifications. Rope that isn’t designed specifically for the use of climbing and abseiling activities must NEVER be used for this purpose. A safe working load of 25KN (2.5 tons) and CE approval is the internationally recognised standard for climbing rope.
- 4.17 Hardware (karabiners, belay devices etc.) – There is a wide range of climbing aids and devices and the operator and instructor must have a complete and sound knowledge of their applications including which devices are necessary to operate climbing and abseiling activities safely. These devices are also a “link” in the safety chain. As per all other climbing equipment items a safe working load of 25KN (2.5 tons) and CE approval is the internationally recognised standard for climbing hardware and devices.
- 4.18 All equipment is subject to wear and tear and must be checked before every use. Incorrect storage, use and monitoring of rated and approved equipment is usually the cause of equipment failure. Operators and leaders must have a sound knowledge of this and have systems in place in order to control and manage their equipment. Details of how to do this is included in the Indian Climbing Leader Award.

Inspection and maintenance procedures

- i. Inspections and maintenance require a sound knowledge of the systems and equipment themselves and therefore must be carried out by qualified persons as a minimum the inspector must be qualified to be a guide/instructor. Basic inspections must be carried out before every use with complete and detailed inspections carried out on a regular basis in accordance with their operations

procedures and risk assessments. Log book for specific equipment detailing their use, date of purchase and limit to discard must be maintained.

- ii. Equipment specifically designed for the activity should be used such as proper climbing helmets and not rafting / cycling helmets.

SOP's and operating instructions

4.19 Such is the nature of climbing and abseiling that the systems required at each individual venue will differ. The following is the minimum requirements and standards that apply to all climbing and abseiling activities within the remit of this minimum standard.

4.20 The safety chain

- a) The Anchor – Is permanent and been fitted with the intention to be used for this particular activity. Has been tested to withstand a minimum of 10KN (1 ton). Does not show any signs of damage or deformity
- b) The rope – Is a climbing rope that has been made by an approved manufacture. It is the correct type of rope for this particular activity. It does not show any signs of damage or deformity i.e. excessive “fluffing”, cuts, rips or tears, thin bits, fat bits etc. Is correctly secured to the anchor.
- c) The karabiners and slings – Equipment is for its intended use only. There are no signs of damage, deformity or wear and tear. Are correctly secured.
- d) The knots – Are the correct knots. Have been double-checked before exposing anyone to a potential fall.
- e) The harness – There are no signs of damage, deformity or wear and tear. Is correctly fitted.
- f) The alert belayer – Has the belay device fitted correctly. The belayer knows how to use the device. The belayer alert, paying attention to the climber and performing the correct 5 point belaying technique.

4.21 During all following applications and systems, and in line with the exception of this minimum standard, neither instructor or participant should ever be subject to potential fall greater than a fall factor of 1.

4.22 Bottom rope system

- a) The weight of the climber and belayer should be calculated to judge if a ground anchor for the belayer is necessary.
- b) The appropriate belay system for the venue/group should be utilized.
- c) It is preferable that the belay device be locked off under load allowing the instructor to escape from the system – applicable to customer/group belaying and ground anchor belay systems.

4.23 Top rope system

- a) The instructor must always be attached via an independent safety line that allows him/her to escape from the system whilst the climbing rope is under load.
- b) The instructor must be able to lock off the belay device under load.

4.24 Group abseil (releasable abseil) system

- a) The abseil rope, safety rope and instructor safety line must be attached to individual anchor points.
- b) The abseil rope must be a redundant system that is releasable under load enabling it to be discarded if necessary.
- c) The instructor must be able to lock off the safety rope whilst under load.

4.25 Participants

- a) Age is not a factor but a participant must be of suitable size in order to be fitted safely into their harness. Chest harnesses are to be used where necessary.
- b) Participants must be aware of the risks involved and in turn must listen and adhere to the instructions of their instructor.
- c) Specific health concerns must be considered before participating.

4.26 The venue

- a) All venues under the purview of this minimum standard must remain within the definition of single pitch.
- b) Artificial structures must be designed and certified to withstand the forces involved and include a safety factor of 3 on all safety critical components.
- c) Anchor points on both artificial and natural venues must be accessible without the need for lead climbing or leader placed protection. Failing this, they must be rigged, checked and accessed by suitably trained and experienced instructors.

4.27 **Documentation**

- a) Associated equipment purchase documentation, including warranty, service & maintenance history documentation.
- b) Documented installation/structure checks.
- c) Log book of instructor training and qualifications.
- d) Valid first aid certificate.

4.28 **Risk mitigation**

- a) A basic risk assessment of the venue is required before use.
- b) Emergency/evacuation procedures must be formulated, in which all leaders are trained.

Emergencies and rescues

4.29 If the **above** systems are adhered to, climbing and abseiling rescues are simple and safe, the details of which are covered in the Indian Climbing Leader Award. In addition;

- a) A first aid kit must be available on site
- b) Evacuation routes must be easily accessible as per the definition of single pitch.

- c) A detailed and documented evacuation/emergency procedure must be written which includes the contact numbers of the closest available emergency services which can be called upon as required

BASIC MINIMUM STANDARDS FOR ALL TERRAIN VEHICLE (ATV)

- 5.1 *Adapted from guidelines available on the websites of the European ATV Safety Institute and All-Terrain Vehicle Safety Institute (USA)*

Introduction

- 5.2 ATVs (also known as quad bikes) can be an enjoyable form of outdoor adventure and recreation when operated correctly. However, serious injury can result from the improper use of ATVs. *Although* similar to cars or motorcycles, ATVs are different to operate and consequently require a different level of instruction and training. These minimum standards are designed to promote safe practice among operators of ATV tours.

Guides

- 5.3 Guides supervising participants on ATVs should **either** have attended a driver training course approved by an international ATV institute (such as the European ATV Safety Institute [EISA] or the All-Terrain Vehicle Safety Institute [ASI]) **or** have completed an in-house training course, which includes the following syllabus:
- a) An introduction to the ATV machine, protective clothing, equipment and pre-ride inspections
 - b) Range signals, rules and warm up exercises
 - c) Controls and starting the engine
 - d) Starting out, shifting gears and braking
 - e) Turning
 - f) Riding strategies / risk awareness
 - g) Riding circles and figures of eight
 - h) Quicker turns
 - i) Sharp turns
 - j) Quick stops and swerves

- k) Quick stop in a turn
- l) Riding over obstacles
- m) Safe and responsible driving practices
- n) U-turns and traversing hills
- o) Circuit or Trail rides

5.4 In addition, all guides must be familiar with (and assessed on) the operating manual(s) of the ATV(s) which they operate.

Customer Training

5.5 ATV operators should always follow the instruction in their Owner's Manual for recommended operating techniques. All participants of an ATV tour must receive a basic training course before their tour commences. The basic minimum training course will cover the following:

- a) To mount and sit on the ATV correctly, locate and operate the controls, and dismount
- b) To use the brakes properly to bring ATV to a smooth, safe stop
- c) To demonstrate basic turning skills by shifting weight properly to maintain balance and avoid the possibility of losing control of ATV
- d) It is very important that all participants pay attention to the instructions provided by their guides.

Equipment

5.6 **ATV Machine**: ATVs are subject to considerable wear and tear owing to the nature of their use outdoors. Therefore, only use an ATV from a reputable manufacturer and ensure maintenance is undertaken as per operating manual instructions.

- 5.7 **Helmet:** The single most important piece of protective gear riders must wear is a helmet, which can significantly help prevent serious head injuries. Wearing a helmet DOES NOT reduce essential vision and hearing. Operating without an approved motorcycle helmet increases your chances of severe head injury in the event of an accident. Use either a full face or three-quarter (open-face) helmet. Helmets must be properly fitted to the participant – it should be snug and comfortable and securely fastened.
- 5.8 **Face shield or goggles:** If driving takes place in areas of dense foliage or jungle, a face shield or goggles should be used. In certain conditions, operating without eye protection can result in an accident and increases your chances of a severe eye injury in the event of an accident. An object such as a rock, branch or even a bug that hits you in the face can distract you: but if you are hit in the eyes, you could be blinded.
- 5.9 **Gloves:** Gloves should be of a quality that will help prevent your hands from getting sore, tired or cold, as well as offering protection in the event of a spill/fall. Off-road style gloves, available at leading motorcycle and ATV dealerships, provide the best combination of protection and comfort. They are padded over the knuckles for added protection.
- 5.10 **Footwear:** The minimum protective footwear is a pair of ankle covering shoes or boots with low heels to help prevent feet from slipping off the footrests.
- 5.11 **Clothing:** It is important to protect your skin from scratches. A long sleeved jersey/sweater, shirt or T-shirt and long trousers are requirements for rider protection.
- 5.12 **Spares & First Aid:** It is recommended that guides carry an appropriate first aid kit and tool kit during an ATV tour. Examine the tool kit that came with your machine.
- 5.13 **Elbow and knee pads along with lumbar support belts** are highly recommended for ATV operations.

Inspections & Maintenance Procedures

5.14 Before commencing each trip, Guides must carry out an inspection of any ATV to be used by themselves or their customers, before each ride. An inspection will minimise the chance of injury or malfunction, ensure long-term usage of your ATV. The ASI uses the following basic T-CLOC checklist:

T-CLOC stands for **T**ires and **W**heels, **C**ontrols and **C**ables, **L**ights and **E**lectrics, **O**il and **F**uel, **C**hain/Driveshaft and **C**hassis)

SOPs & Operating Instructions

5.15 The following rules should apply to all participants and guides during an ATV tour:

- a) All participants must wear a helmet and other protective equipment
- b) Always keep both hands on the handlebars and both feet on the footrests of ATV during operation. In case using RZR type ATVs make sure passenger and drivers are belted in properly and there is a net in place to protect hands and arms.
- c) Avoid paved surfaces – ATVs are designed to be operated off paved roads
- d) Avoid public roads **unless** the machine has been specifically manufactured for this purpose and complies with the relevant automotive licensing requirements for road use
- e) Never allow riding under the influence of alcohol or drugs
- f) Never carry a passenger unless the machine has been specifically designed and manufactured to do so
- g) Ride only on designated trails and at a safe speed as mandated by the manufacturer of the machine
- h) In case using a side by side ATV with a roll cage then it is imperative that helmets and seat belts are worn at all times. Also cage nets are essential to prevent accidental arm injuries.
- i) In case of expeditions and multi day trips make sure there is a back up vehicle, qualified mechanic and wireless sets at hand for communication.

5.16 Special arrangements for Children

- a) Children under the age of 18 require parental consent to ride ATV and adult supervision.
- b) ATVs are NOT toys and children aged below 18 years should only ride the right ATV for their age
- c) Always follow the manufacturer's minimum age recommendations which will be shown on the ATV or in the Operating Manual

Documentation

5.17 The following is the basis minimum documentation required.

- a) ATV and associated equipment purchase documentation, including warranty, service & maintenance history documentation
- b) Owners / Operating Manual for each ATV
- c) Training and assessment log for all guides
- d) First aid certificates for all guides

Risk Mitigation

5.18 A basic risk assessment should be conducted on any trail intended for the use of ATV tours before participants are permitted to use such a route.

Emergencies and rescues

5.19 A first aid kit must be available and the venue/route itself must be easily accessible. In addition, a detailed emergency procedure must be written that includes contact numbers of the available emergency services. Evacuation routes and emergency procedures must also be included in the companies risk assessment.

BASIC MINIMUM STANDARDS FOR ELEPHANT, CAMEL AND HORSE SAFARIS

Preamble / Introduction:

- 6.1 Camel and Horse safaris are the best way to explore rugged terrain, deserts, hilly terrain or any other off beaten track in India. They are most useful in discovering those aspects of India where travel in any other mode of transportation is difficult.

Guides

- 6.2 All animal guides / owners to have a permit or a character certificate from the local police authority which will stop drug peddling.

Training

- 6.3 The organisers should be experienced to conduct safaris. A minimum number of **2** years of experience as an assistant and a certification from a ATAOL certified body is required before supervising trips independently.

Equipment

- 6.4 The animals should be owned by a hotel Resort or a safari company. They will ensure the quality of animals: the basic well-being of the animal and if the animal is in a good enough condition to do the safari (not lame or malnourished).
- 6.5 The equipment used on the camels should be of a certain standard. Eg. Saddle and tack.
- 6.6 All people conducting horse safaris should be able to provide proper safety helmets, clothing and riding equipment

Operations

- 6.7 The camel/horse driver should not be permitted to sit with the client on the camel in order to prevent uncomfortable proximity especially with female tourists.
- 6.8 There should be a distance ban on the safari. It should not to exceed more than 40 km a day and 200 km a week
- 6.9 The horses should belong to a reputed stable or a qualified owner.
- 6.10 Any person weighing over a 100 kg should not be permitted to ride

Risk Mitigation

6.11 The camel/horse/elephant driver should not be under the influence of drugs or alcohol.

Basic Risk Assessment

Emergencies

6.12 A proper procedure needs to be in place if there is an accident including detailed information on evacuation points, nearest helipads, sat phone locations and trauma hospitals / clinics

6.13 A first aid kit should be available if required

6.14 Person conducting the safari should be trained in the use of first aid and able to perform CPR.

BASIC MINIMUM STANDARDS FOR JEEP SAFARIS

Preamble / Introduction:

- 7.1 Jeep safaris both chauffeur and self drive are the best way to explore rugged terrain, deserts, hilly terrain or any other off beaten track in India. They are most useful in discovering those aspects of India where travel in any other mode of transportation is difficult.

Guides / Drivers

- 7.2 Drivers should be permanently employed and not on day wage, as they should know their vehicles very well.
- 7.3 In case of safaris in new and remote areas the driver should be trained in the use of GPS, maps and 4x4 operations in the car. The driver must have a valid driving license and experience of driving in the hills/remote areas under difficult conditions, should have basic knowledge to deal with average mechanical problems/breakdown of the vehicle.
- 7.4 Each trip must be accompanied by a local guide. A local driver in most cases is not able to converse with the guests in English.

Guides Training

- 7.5 The Guide/Trip leader should be experienced to conduct safaris, Self-drive programs. A minimum number of **2** years of experience as an assistant guide and/or a certification from a ATAOL certified body is required before supervising trips independently.
- 7.6 For self-drive trips the drivers must have a valid license and well trained in 4x4 and off roading techniques. The supervising driver or a trained mechanic/4x4 Expert should accompany the clients. He should be able to manage a convoy of vehicle and teach the clients.

Equipment

- 7.7 Vehicles should be properly inspected before every safari and a major inspection every 3 months.
- 7.8 In case of Himalayan and desert drives the vehicles should be equipped with 4x4 capabilities with a towing facility.
- 7.9 Each vehicle should have tow cable, jump start cable, jack, air pump and wheel spanner. For desert 4x4 trips one winch in each convoy is recommended.
- 7.10 One spare wheel and all essential spares in each vehicle is a must.
- 7.11 All tyres must be in good condition with min 10 mm of visible tread. Inspection should not reveal any cuts, depressions or threads in the tyre. In case of tubeless tyres a tubeless repair kit must be carried.

Operations

- 7.12 The following is the basis minimum requirement for operations
 - a) Vehicles should be comprehensively insured.
 - b) In case for self drive the vehicles must be insured and registered for self-drive. The client who drives the vehicle must have a valid license as will be required as per the law of the land.
 - c) Seat belts should be worn in front and back.
 - d) A working fire extinguisher within reach in the vehicles.
 - e) First aid kit should be in the vehicles. For self-drive, clients need to be briefed in detail about the vehicles.
 - f) Vehicles should not be older than 3 years and less than 100,000 Kms .

Risk Mitigation

- 7.13 Drivers should be checked for drinking before driving.
- 7.14 If self driven by client, a consent form should be signed by the client certifying that he has not been drinking and is driving at his/her own risk.
- 7.15 Always follow a single track convoy. No overtaking or speeding
- 7.16 Always wait at traffic signals and turns to make sure that the vehicle behind catches up.

Basic Risk Assessment

Emergencies

- 7.17 A proper procedure needs to be in place if there is an accident. A detailed evacuation chart with list of hospitals, closest Sat Phone and evacuation services should be in place.
- 7.18 A first aid kit should be available if required
- 7.19 Person conducting the safari should be trained in the use of first aid and able to perform CPR.

BASIC MINIMUM STANDARDS FOR SKIING/SNOWBOARDING

Introduction

- 8.1 Ski areas with proper facilities in India are very few, namely Gulmarg, SolangNallaand Auli. All these regions are subject to erratic Himalayan weather patterns. Locations like Auli also involve a long drive to get there. All operators are required to include this information along with weather predictions to the client at the inquiry stage.

Guides and Training

- 8.2 Ski and snowboard instructors
- a) The guide or escort with the tourist party must have a advance level MOI certification from a national or international skiing or snowboarding Institute. In case snowboarding certification is not available in your area then a letter from an internationally qualified instructor or director of the local Ski institute will suffice.
 - b) The Tour Operator's contracts with ski schools specify that all instructors are qualified as above.

Equipment

- 8.3 The correct use and proper maintenance of SKI & SNOWBOARD equipment is essential for conducting safe skiing and snowboarding activities.
- 8.4 Whenever equipment is hired the tour operator is to ensure that:-
- a) Ski equipment is fully serviceable with all components complete and is routinely checked every time it is issued
 - b) Only members of staff who are suitably experienced undertake the fitting of equipment. In most cases, only fully qualified technicians will be employed.
 - c) The bindings must be fitted with due consideration to the age, weight, height and ability of the participant and the manufacturer's instructions.
 - d) Boots must be dry and in full working order with no significant damage that could reduce performance. All fastenings must be fully functioning.

- e) Skis and boots sizes should be easily identifiable so that clients do not try to use the wrong equipment.
- f) The tour operator will regularly check that these conditions are being met and be able to provide evidence of such checks upon request

8.5 Ski Lifts

- a) The tour operator should have tested and used the lift system, particularly those parts dedicated to beginners.
- b) Resorts must be assessed by the tour operator as suitable for age group of the groups being brought for the activity.
- c) Lifts should be suitable for the age and experience of group being handled.

Inspection and maintenance procedures

- 8.6 Whenever skiing equipment is owned by the operator, independent inspections and maintenance are to be carried out before the commencement of the season. This requires a sound knowledge of equipment and therefore must be carried out by qualified persons as a minimum the inspector must be qualified to be an instructor. Basic inspections must be carried out after every use by the guide/escort and records maintained.

SOP's and operating instructions

- 8.7 Such is the nature of skiing and snowboarding that the systems required at each individual ski resort will differ. While the minimum requirements and standards that apply to all skiing and snowboarding activities, tour operators must maintain a SOP which is known and understood by all participants. The SOP covers the following:
- a) DOs and DONTs for the particular ski resort/ skiing area.
 - b) Procedure for use of Ski Lifts, timings, ticketing and local customs.
 - c) Manufacturer's manual for the ski equipment in use.
 - d) Location and identification of slopes that require a minimum proficiency level.
 - e) Instruction procedures.

- f) The outer limits of the skiing area and any known hazards. A detailed trail map with color coded runs clearly defining limits of rescue patrol and timings.
- g) Defined warning system for avalanche warnings
- h) Appropriate Personal clothing and protective gear.
- i) Emergency and accident procedures, responsibilities and action and reporting.

Risk Mitigation

- 8.8 Basics first aid kit must be available with the guide. In addition, a detailed emergency procedure must be written that includes contact numbers of the available emergency services. Evacuation routes and emergency procedures must also be included in the companies risk assessment.

BASIC MINIMUM STANDARDS FOR MOUNTAIN BIKING

Introduction

9.1 Mountain Biking is one of the most popular adventure tourism activities across the world. It is also a sport where the participants are on the saddle for most of the day and hence could be very tiring. It is imperative that the riders follow certain safety rules as well as use quality equipment to avoid accidents.

Trained manpower

9.2 Mountain biking guides should have a minimum of two years experience on different terrain as an apprentice, be trained in basic repairs of the bike in addition to being first aid qualified. This would include repairing punctures, opening and changing chain link, adjusting gear and brake cables, etc

Guides/Instructors

9.3 The guides for mountain biking should, as a minimum, hold the following;

- I. Minimum two years experience as an apprentice under a mountain biking trip leader with a minimum of 100 days running mountain biking trips. A log book must be maintained which should be certified by the trip leader.
- II. A first aid/ CPR certificate provided by a recognized and qualified provider.
- III. Ability to undertake repairs on the bike if required. Covered in 13.2

Equipment

9.4 The mountain bikes should be of an approved model with multiple gears. Mountain biking, especially trails, is an extreme sport and there should be no compromise with the quality of equipment. A poorly built bike is dangerous. There have been occasions when the bike's frame has cracked on a technical downhill. At such speeds and terrain, the body takes the entire impact and the consequences can be lethal. It is imperative for the operator to ensure that best quality bikes are used such as Fire fox – Trek Bikes model 4300 / 3700 with Shimano bottom brackets for safe biking trips across India. Clients should be allowed to bring their own bikes for mountain biking expeditions should they wish to do so.

9.5 The correct sizes of bikes should be chosen depending on the biker. Bikes come in various sizes, both frame and tire size. Correct size would ensure that the person can ride comfortably and does not get hurt. A small bike would mean that the person cannot get the maximum out of the bike, and a large bike could lead to muscle pulls etc. In any case, standing on ground, the gap between the seat of the pant and the stem should be at least 3 inches, especially if the terrain is rocky.

- 9.6 Helmets must be worn by all bikers at all times. Should not only be mandatory, but should be of good quality and should fit snugly and strapped properly. Else, it can fly off during an impact and provide no protection.
- 9.7 It is advised that bikers use gel seats when they are required to cycle long distances. Padded/gel shorts are better, for they stay with your skin and move with it. Gel seat covers move here and there and are Ok if you do not have padded shorts.
- 9.8 All cyclists must carry at least one water bottle or hydration bags like camelback and the guide should ensure that cyclists rehydrate themselves at regular intervals.
- 9.9 Suitable biking apparel to be worn to avoid accidents. Loose fitting pants/ trousers might entangle in the cycle chain and cause accidents.
- 9.10 Cycling must ideally stop an hour before dark. Jackets with reflective tapes across the back should be worn if cycling in the late evenings or when the visibility is poor. Front and rear lights are important and should be mandatory. Often, lights are not for the rider to see the road ahead, but for others to see the rider. Batteries should always be charged for greater effect.
- 9.11 All guides must ensure that additional water is available in case of requirement. As a guideline, each biker would need 5 liters of water for a full day of cycling.
- 9.12 All trip guides must carry a First Aid Kit, repair kit, and pump.
- 9.13 Elbow and knee pads must also be worn for additional safety.

Operations

- 9.14 All cycling activities should start with proper fitting out of the cycles depending on the participant's height. The guides should help the bikers fit out their cycles.
- 9.15 Guides should ensure that the bikes are fully fit for use. They must check tyre pressure, proper tightening of the pedals and proper functioning of brakes and gears.
- 9.16 The cycling day should start after proper warm up / stretching exercises conducted by the guides. Not warming up can result in serious injury.
- 9.17 There should be a minimum of two mountain biking guides. This should be increased depending on the terrain and the number of cyclists.

Risk Mitigation

- 9.18 The guides should brief the bikers every morning regarding the route for the day, the major ascents and descents as well as the prevailing weather and traffic conditions. There should be a designated lead biker/ guide and a guide bringing up the rear.
- 9.19 Participants should be advised to use sun screen lotion so as to avoid sun burn.
- 9.20 When cycling on roads, guides should ensure that the cyclists keep to the extreme left of the road.
- 9.21 Guides must ensure that the cyclists cycle in a single file specially in congested areas.
- 9.22 Guides must discourage the use of listening devices like Ipod and ensure that the cyclists do not have ear phones plugged into their ears. Talking on mobile phones while mountain biking must be strictly forbidden.
- 9.23 Guides should set a speed limit for the cyclists. Guides must ensure that cyclists do not overtake the lead guide. The lead guide must maintain a constant speed.
- 9.24 They must stop for water and refreshments at regular intervals. In undulating terrain and ascents, the stop should be every 10 kms or less depending on the cyclists. On plain terrain, this may be done every 20 kms.
- 9.25 They must ensure that the participants refill their water bottles at all stops.
- 9.26 Cycling should stop at sundown. DO NOT cycle when it is dark.
- 9.27 At the end of the day, the guides should ensure that the cycles are cleaned before being stored for the night.
- 9.28 It is mandatory for all mountain biking trips in India to have a back up vehicle with spares, repair kit, pump, water, a comprehensive First Aid kit, emergency gear, spinal board and cervical collar. The back up vehicle should bring up the rear.

SOP's and operating instructions

- 9.29 All cycling operators must maintain and update Standard Operating Procedures for their operations.
- 9.30 They must keep a log of their cycles and their usage and ensure that the cycles are in top condition before every trip.
- 9.31 They must ensure that all the associated gears are in working condition at all times.

Documentation :

1. A log book should be maintained for all trips.
2. Any accidents/ events should be recorded.
3. A bike and equipment maintenance register should be maintained.
4. Trainee mountain biking guides must maintain a log book duly signed by the trip leader.

Emergencies and rescues

- 9.32 In addition;
- a) Adequate first / aid medical equipment must be available with the team.
 - b) Guides must be aware of the nearest hospital at every point of the route in case of an emergency.
 - c) A detailed and documented evacuation/emergency procedure must be available with the team along with closest available emergency services which can be called upon as required.
 - d) A mobile phone should be with the team along with emergency contact numbers of ambulance/ nearest medical facilities / police.
 - e) A spinal board and cervical collar should be carried in the back up vehicle where possible.

BASIC MINIMUM STANDARDS FOR PARASAILING

INTRODUCTION

- 10.1 Parasailing, also known as Parascending, or "Parakiting" is a recreational kiting activity where a person is towed behind a vehicle (usually a boat) while attached to a specially designed canopy wing known as a parasail wing. On land or over water the manned kite's moving anchor may be a car, truck, or boat; parasailing just by kiting in heavy winds is highly discouraged. The boat then drives off, carrying the parascender or wing and person into the air. If the boat is powerful enough, two or three people can parasail behind it at the same time. The parascender has little or no control over the parachute.
- 10.2 The harness attaches the pilot to the parasail, which is connected to the boat, or land vehicle, by the tow rope.
- 10.3 The activities are conducted or operated by Operators duly qualified and endorsed by recognized National or International Aerosports organizations. In India the apex body for all Aerosports is Aero Club of India and is affiliated with the international sporting body, FAI.
- 10.4 **Operator Qualifications**
 - a) Parasail Drivers / Instructors must be current and have a certification from a recognized National or International body.
 - b) A minimum first aid course provided by a recognized and qualified provider
- 10.5 **Equipment And Accessories**
 - a) Parasail wings must have APCUL ,DHV,CEN or any certification recognised by FAI. Such certification should be stitched on the wing and visible for inspection. Harness should also certified.

- b) In Flight Floatation Devices and helmets: At all times passengers participating in parasailing activities over water, while in flight shall wear a properly fitted approved life jacket. Over land, the passengers must wear an ISI approved helmet.
- c) Proper log books must be maintained for all equipment.
- d) Annual inspection and certification of equipment for air worthiness must be carried out by an inspector who is qualified to be a Instructor.
- e) Users manual and maintenance manual shall be prepared by the manufacturer and copies of the same shall be submitted.
- f) The operator shall maintain the General log-books and documents for Parasail, tow rope.

OPERATIONS

- 10.6 Operator must have access to safe and open take off points. The take off point should be free from obstructions in the take off path and should not have rock or crops which could injure the participant.
- 10.7 The operator must have free and clear access to a designated landing area free of obstructions such as tall trees, buildings, electric wires etc.
- 10.8 First aid must be available at site with Qualified First aid Instructors (having additional knowledge of related accidents), with arrangements with a nearby hospital for quick emergency services.
- 10.9 Proximity to Obstructions. Wind restrictions: Operator should have a wind measurement device and should not operate in winds exceeding 18 Kph. Operator shall at all times maintain a minimum operating distance from any surf-zone, shoreline, or fixed object, of not less than 500 feet. In addition, at no time shall a parasail vessel's operator allow a canopy to pass within the following distance from the shore while an onshore wind is present. (Onshore wind shall be defined as any wind direction that could potentially place a parasail vessel, canopy, or participant in contact with land in the event of the loss of vessel or systems power and/or line separation.).

10.10 Responsibility of Vessel Sea worthiness and tow vehicle road worthiness: It shall be the responsibility of the first mate in charge to make certain that the vessel is maintained and is properly equipped in a sea worthy condition. A current written log shall be kept of all mandatory daily inspections and all routine maintenance performed on vessel. Under no circumstances shall the operator and/or crew utilize any equipment outside the parameters for which it was designed and must at all times adhere to manufacturers' specifications, requirements and/or recommendations. Similar conditions should apply for land based parasailing vehicles.

10.11 **Towline Length Limitations:** At no time

- a) Shall any vessel's winch drum be equipped with more than 500 feet of towline, while conducting parasail flight operations. Similarly land based operations should not use more than 500 feet of rope.
- b) Exceed a maximum of 300 feet AGL (Above Ground/ Water Level).

10.12 **Multiple Passenger Flights:** Multi-passenger flights shall only be conducted under the following conditions and only after the operator has made reasonable judgment prior to each and every flight. Extreme caution shall be exercised:

- a) The number of passengers in a harness designed for multi-passenger use should be as per manufacture's specification and no attempt should be made to add or alter the harness without the manufacturer's certification.
- b) Wind conditions must be adequate, stable and consistent.
- c) Conditions must be conducive to such activities.
- d) Commercial equipment specifically designed and professionally manufactured for multi-passenger flight operations must be utilised.
- e) All equipment must adhere to manufacturers' specifications, requirements and/or recommendations.
- f) Vessel's winch system must be equipped with a functional level-winder during all multi-passenger flights.

Documentation

10.13 The following documentation is required to be maintained by the operator:

Administrative:

- a) Details of owner and operator
- b) Document indicating the annual inspections carried out by an inspecting body
- c) List of licensed instructors along with copies of relevant certifications
- d) Evidence of public and other liability insurance

Operational:

- a) Log book containing the daily operation sheets
- b) Accident/ incident report sheets
- c) Equipment inspection register and operation log
- d) Parasail Certification Documents
- e) Risk assessment and management plan
- f) Emergency procedures manual
- g) Manufacturer's product manual
- h) Current inspection report

Information to be provided for participants and visitors:

- a) Description of the activity and safety instructions
- b) Weather, Medical and Age Limits and restrictions
- c) Information relating to personal public liability insurance of the operator

Emergencies and Risk Mitigation

- 10.14 Each parasailing center should establish and review procedures for all possible emergencies.

- 10.15 Every instructor, driver and participant should thoroughly understand and practice emergency procedures.

- 10.16 A monthly risk assessment as per given proforma needs to be carried out reviewed by the chief instructor and the owner/operator and records maintained.

BASIC MINIMUM STANDARDS FOR SKYDIVING

Introduction

- 11.1 A "skydive" is defined as the descent of a person to the surface from an aircraft in flight when he or she uses or intends to use a parachute during all or part of that descent.
- 11.2 All persons participating in skydiving should be familiar with the Skydiver's Information Manual and all Central, State, and local regulations and rules pertaining to skydiving.
- 11.3 Aero Club of India is the apex body for governing all aerospots in India and is authorised by the FAI, the International Sporting Body for Aerospots to issue FAI sporting licenses. Indian Parachuting Federation (IPF) is its member in India as the National Parachuting Federation.

Instructor Qualifications and Training of Participants

General

- 11.4 All student training programs must be conducted under the direction and oversight of an appropriately qualified instructor in possession of a license from Indian Parachuting Federation or any other National Parachuting Federation like BPA, APA,USPA

First-jump course

- 11.5 All first-jump non-method-specific training must be conducted by an experienced and qualified Instructor.
- 11.6 All students must receive training in the following areas, sufficient to jump safely
 - a) equipment
 - b) aircraft and exit procedures
 - c) freefall procedures (except static-line jumps)

- d) deployment procedures and parachute emergencies
- e) canopy flight procedures
- f) landing procedures and emergencies

Advancement criteria

11.7 Static-line

- a) All jumps must be conducted by a licensed Instructor in that student's training method.
- b) Before being cleared for freefall, all students must perform five successive jumps with practice deployments while demonstrating the ability to maintain stability and control from exit to opening.
- c) All students must be under the direct supervision of an appropriately rated instructor until completing one successful clear-and-pull.
- d) Following a successful clear-and-pull, each student must be supervised in the aircraft and in freefall by a licensed Instructor until demonstrating stability and heading control prior to and within five seconds after initiating two intentional disorienting maneuvers involving a back-to-earth presentation.
- e) All ground training must be conducted by an instructor in that student's training method, until demonstrating stability and heading control prior to and within five seconds after initiating two intentional disorienting maneuvers involving a back-to-earth presentation.

11.8 Tandem training jumps

- a) Any Instructor conducting a tandem jump must hold a current Tandem licence: Instructor rating and a manufacturer's type rating.
- b) For progressive training requirements following tandem jumps, refer to "Crossover training."
- c) Intentional back-to-earth or vertical orientations that cause tandem freefall speeds exceeding that of drogue fall are prohibited.
- d) Tandem equipment instruction must be conducted by an individual approved by the tandem equipment manufacturer of that system.

11.9 Crossover training

- a) Students may transfer after the first or subsequent jumps to another training method after demonstrating sufficient knowledge and skill in the areas of equipment, aircraft, exits, freefall maneuvers, deployment, emergency

procedures, canopy control, and rules and recommendations to enter into that program at a comparable level of proficiency and training.

- b) Students previously trained in a tandem program may continue in a harness-hold program or must demonstrate a solo exit and practice deployment with stability in the static-line program prior to advancing to freefall.
- c) Students previously trained in a harness-hold program must have exited stable without assistance or performed a stable static-line jump with a practice deployment supervised by Static-Line licensed Instructor prior to performing freefall jumps with any non-AFF-rated licensed Instructor.

Equipment

When performing night jumps, each skydiver must display a light that is visible for at least three statute miles from the time the jumper is under an open parachute until landing.

11.10 All students are to be equipped with the following equipment until they have obtained a license:

- a) a rigid helmet (except tandem students)
- b) a piggyback harness and container system that includes a single-point riser release and a reserve static line, except
 - i. A student who has been cleared for freefall self-supervision may jump without a reserve static line upon endorsement from his or her supervising instructor.
 - ii. Such endorsement may be for one jump or a series of jumps.
- c) a visually accessible altimeter (except tandem students)
- d) a functional automatic activation device that meets the manufacturer's recommended service schedule
- e) a ram-air main canopy suitable for student use
- f) a steerable reserve canopy appropriate to the student's weight
- g) for freefall, a ripcord-activated, spring-loaded, pilot-chute-equipped main parachute or a bottom-of-container (BOC) throw-out pilot chute

11.11 Students must receive additional ground instruction in emergency procedures and deployment-specific information before jumping any unfamiliar system.

11.12 For each harness-hold jump, each AFF rating holder supervising the jump must be equipped with a visually accessible altimeter.

11.13 All skydivers wearing a round main or reserve canopy and all solo students must wear flotation gear when the intended exit, opening, or landing point is within one mile of an open body of water (an open body of water is defined as one in which a skydiver could drown).

Special altitude equipment and supplementary oxygen

11.14 Supplementary oxygen available on the aircraft is mandatory on skydives made from higher than 15,000 feet (MSL).

Operations

Compliance with Govt. regulations

11.15 No skydive may be made in violation of Indian regulations in vogue.

11.16 DGCA is the National regulator for flying. It's regulations include the use of restraint systems in the aircraft by all skydivers during movement of the aircraft.

Medical requirements

11.17 All persons engaging in skydiving must carry a certificate of physical fitness for skydiving from a registered physician; or

Age requirements

11.18 Skydivers are to be at least 18 years of age

Winds

11.19 Maximum ground winds

- a) For all solo students
 - i. 14 mph for ram-air canopies
 - ii. 10 mph for round reserves
- b) For licensed skydivers 25 mph

Minimum opening altitudes

11.20 Minimum container opening altitudes above the ground for skydivers are:

- a) Tandem jumps—4,500 feet AGL
- b) All students and A-license holders—3,000 feet AGL
- c) B-license holders—2,500 feet AGL
- d) C- and D-license holders—2,000 feet AGL

Drop zone requirements

11.21 Areas used for skydiving should be unobstructed, with the following minimum radial distances to the nearest hazard

- a) solo students and A-license holders—100 meters
- b) B- and C-license holders and all tandem skydives—50 meters
- c) D-license holders—12 meters

11.22 Hazards are defined as telephone and power lines, towers, buildings, open bodies of water, highways, automobiles, and clusters of trees covering more than 3,000 square meters. [NW]

11.23 Manned ground-to-air communications (e.g., radios, panels, smoke, lights) are to be present on the drop zone during skydiving operations.

Pre-jump requirements

11.24 The appropriate altitude and surface winds are to be determined prior to conducting any skydive.

Documentation

11.25 The following documentation is required to be kept at Operations Base:

Administrative:

- a) Details of owner and operator
- b) Document indicating the annual inspections carried out by an inspecting body
- c) List of licensed instructors along with copies of relevant certifications
- d) Evidence of public and other liability insurance

Operational:

- a) Log book containing the daily operation sheets
- b) Accident/ incident report sheets
- c) Parachute inspection register and operation log
- d) Packing log Books
- e) AOD and airborne instrument log book
- f) Risk assessment and management plan
- g) Emergency procedures manual
- h) Manufacturer's product manual

- i) Current inspection report

Information to be provided for participants and visitors:

- a) Description of the activity and safety instructions
- b) Weather, Medical and Age Limits and restrictions
- c) Information relating to personal public liability insurance of the operator

Emergencies and Risk Mitigation

11.26 Each skydiving center should establish and review procedures for all possible aircraft and equipment, and landing emergencies.

11.27 Every pilot and non-student jumper should thoroughly understand aircraft emergency procedures.

11.28 For aircraft emergencies all students should take direction from their instructor.

11.29 All jumpers must be thoroughly briefed and carry out practice drills for all possible emergencies to the satisfaction of the instructor/jump master.

11.30 A monthly risk assessment as per given proforma needs to be carried out reviewed by the chief instructor and the owner/operator and records maintained.

BASIC MINIMUM STANDARDS FOR HANG GLIDING/PARAGLIDING

INTRODUCTION

12.1 Free-flight aero sport of Paragliding/ Hang Gliding is being practiced for over three decades internationally and is the youngest element in the adventure spectrum in India. Flatland flying of Paraglider/ Hang Glider has brought the sport out of the hills to the plains. Flights of over 500 kms on Hang Glider and 345 kms on Paraglider speak of the performance levels it has reached today.

12.2 The activities are conducted or operated by Pilots/Instructors/Operators duly qualified and endorsed by recognised National or International Aerosports organisations. In India the apex body for all aerosports is Aero Club of India and is affiliated with the international sporting body, FAI.

12.3 Pilot Guides / Instructor / Tandem Pilots

- a) Para glider Instructors/Tandem Pilot must be current and have a Instructor/Tandem Pilot certification from a recognised National or International body.
- b) A minimum first aid course provided by a recognised and qualified provider
- c) A minimum of 200 flying days AND minimum 200 hours of logged air time.

12.4 **Equipment And Accessories**

- a) Paragliding wings must have APCUL ,DHV,CEN or any certification recognised by FAI. Such certification should be stitched on the wing and visible for inspection. Harness should be with back protection and harness must be fitted with round type certified rescue parachute.
- b) Helmets are compulsory.
- c) Proper log books must be maintained for all equipment.
- d) Annual inspection and certification of equipment for air worthiness must be carried out by an inspector who is qualified to be a Instructor.
- e) Users manual and maintenance manual shall be prepared by the manufacturer and copies of the same shall be submitted.

- f) The operator shall maintain the General log-books and documents ail/airframe of Paragliders / Hang gliders.

Operations

- 12.5 Operator must have access to safe and open take off points in case of hill launches. The take off point should be free from obstructions in the take off path and should not have rock or crops which could injure the participant. Cliff take off points must strictly not be used.
- 12.6 The operator must have free and clear access to a designated landing ground free of obstructions such as tall trees, buildings, electric wires etc.
- 12.7 First aid must be available at site with Qualified First aid Instructors (having additional knowledge of related accidents), with arrangements with a nearby hospital for quick emergency services.
- 12.8 Wind conditions should be strictly monitored and the activity must be done within the weather conditions stipulated by the equipment manufacturer.

Documentation

- 12.9 The following documentation is required to be maintained by the operator:

Administrative:

- a) Details of owner and operator
- b) Document indicating the annual inspections carried out by an inspecting body
- c) List of licensed instructors along with copies of relevant certifications
- d) Evidence of public and other liability insurance

Operational:

- a) Log book containing the daily operation sheets
- b) Accident/ incident report sheets
- c) Paraglider/ hang glider inspection register and operation log
- d) Reserve Packing log Books
- e) Wing Certification Documents
- f) Risk assessment and management plan
- g) Emergency procedures manual
- h) Manufacturer's product manual
- i) Current inspection report

Information to be provided for participants and visitors:

- a) Description of the activity and safety instructions
- b) Weather, Medical and Age Limits and restrictions
- c) Information relating to personal public liability insurance of the operator

Emergencies and Risk Mitigation

- 12.10 Each paragliding center should establish and review procedures for all possible emergencies.
- 12.11 Every instructor, pilot and student should thoroughly understand and practice emergency procedures.
- 12.12 A monthly risk assessment as per given proforma needs to be carried out reviewed by the chief instructor and the owner/operator and records maintained.

BASIC MINIMUM STANDARDS FOR HOT AIR BALLOON

INTRODUCTION

- 13.1 Hot Air Balloon works according to the natural law that hot air is lighter than cold air. To generate lift and therefore take flight, hot air balloons employ a burner that heats the air within the balloon until it becomes lighter than the external air. The difference in the temperature inside the balloon relative to the outside temperature determines the amount of lift the balloon will have. Accordingly, by controlling the internal temperature, the balloon's flight is controlled with respect to ascent and descent.
- 13.2 The single most defining factor of balloon Flight Safety is the weather. From take-off to landing; fog, rain, snow, wind, thermal winds etc. are all key elements to consider when attempting a safe hot air balloon flight. Before a safe balloon flight can begin, the pilot must always check the forecast and select a suitable departure and landing point. D.G.C.A. in India has formulated regulations for Hot Air Balloon in the Civil Aviation Requirements Car Section 2 – Air worthiness: Series 'F' Part Xv, Issue Ii, Dated 1st September '1993 of D.G.C.A., Min of Civil Aviation, Govt. of India and wherever any clarification needed should be read with this CAR
- 13.3 There is no difference as far as the regulations are concerned between free flights and tethered flights. All the requirements of pilot qualification and equipment registration have to be met for tethered flights.

EQUIPMENT SAFETY

- 13.4 Balloons are aircraft and, as such, are regulated by the D.G.C.A.. They must meet manufacturing standards and are subject to periodic inspections, just like a commercial jetliner. The Balloon need to be registered with the D.G.C.A. and its registration no. displayed on the Balloon.

BALLOON OPERATOR / PILOT

- 13.5 Balloon pilots are certified by the D.G.C.A., in the same manner as airplane pilots. Pilots must have taken formal flight instruction, pass written and practical tests, and be re-examined periodically and hold Balloon Pilot Licenses (BPL) issued by D.G.C.A..

OPERATIONS

- 13.6 Hot Air Balloon Operations should be undertaken with the following considerations:-
- a) Operating instructions must be furnished in a Flight Manual with each balloon.

- b) Flight Manual Information and Approval. The Flight Manual must contain:
- i. A description of the balloon and its technical equipment with explanatory sketches.
 - ii. Operating limitations, normal procedures (including rigging, inflation and deflation), emergency procedures, and other relevant information specific to the balloon's operating characteristics and necessary for safe operation.
 - iii. Specification of the permissible lifting gas and
 - iv. Information for ground handling, transport and storage.

Documentation

13.7 The following documentation is required to be maintained by the operator:

Administrative:

- a) Details of owner and operator
- b) Document indicating the annual inspections carried out by an inspecting body
- c) List of Pilots along with copies of relevant certifications
- d) Evidence of public and other liability insurance

Operational:

- a) Log book containing the daily operation sheets
- b) Accident/ incident report sheets
- c) Flight and operations log
- d) Passenger Manifest Sheets
- e) Risk assessment and management plan
- f) Emergency procedures manual
- g) Manufacturer's product manual
- h) Current inspection report

Information to be provided for participants and visitors:

- a) Description of the activity and safety instructions
- b) Weather, Medical and Age Limits and restrictions
- c) Information relating to personal public liability insurance of the operator

Emergencies and Risk Mitigation

- 13.8 Each Ballooning operator should establish and review procedures for all possible emergencies.
- 13.9 Every pilot and passenger should thoroughly understand emergency procedures. Pre-flight passenger briefing must be carried out by the Pilot in command.
- 13.10 A monthly risk assessment as per given proforma needs to be carried out reviewed by the chief instructor and the owner/operator and records maintained.

BASIC MINIMUM STANDARDS FOR WATER SPORTS

Introduction

15.1 There have been a number of accidents all over India related to water sports. With a little precaution and awareness most of these accidents can easily be avoided.

Trained manpower

15.2 It is imperative that personnel responsible for conducting water sports activities are skilled to a high level in conducting those activities, rescue and life saving techniques and First Aid / C.P.R.

Guides/Instructors

- 15.3 Lead guides for water sports activities should, as a minimum, hold the following;
- a) A minimum 16 hour (2 day) first aid certificate provided by a recognised and qualified provider
 - b) Qualification from a Recognized National or International body for the particular activity and a certificate from the operator that the individual “has experience of 3 years in assisting in the particular activity and is independently capable guiding groups and carrying out rescue operations”
 - c) A log book containing authenticated records of mountaineering experience.

Equipment

15.4 Life jackets or Personal Floatation Devices (PFD's) (must meet the minimum buoyancy requirement, be appropriate for the intended activity, be certified / approved by ISI, US coastguard, British Canoe Union or equivalent)

15.5 Throw-able rescue devices must be available for immediate use.

- 15.6 Boats for safety / rescue must be ensured to be available in the immediate vicinity (within visual distance) for prompt deployment with personnel duly qualified to operate/ carry out rescues operations.

Operations

- 15.7 All water sports activities must begin with a thorough safety briefing. The briefing must highlight the equipment used, do's and don't's, demarcation of the boundary for the activity, rescue and emergency procedures. A liability waiver form clearly highlighting the risk involved must be signed by all participants prior to the commencement of the activity. Participants with any medical condition making them unfit for participation in the activity must be informed prior to the commencement of the activity and not allowed to participate.

Risk Mitigation

- 15.8 Life Jackets: No water sports activity should be undertaken with wearing a lifejacket throughout the time spent in water. The life jacket must have adequate buoyancy, should be fastened properly and checked by the instructor prior to commencement of the water sports activity. The lifejacket must be the appropriate size for the intended user.
- 15.9 Lifeguards: No water sports activity should be conducted without the presence of trained lifeguard/s.
- 15.10 Alcohol/drugs are not permitted at least six hours prior or during the activity.
- 15.11 Sign boards: With rules clearly mentioning that no water sports activity is to be undertaken unless supervised.
- 15.12 No water sports activity should be conducted in the dark and preferably finish an hour before dark.

SOP's and operating instructions

- 15.13 All Water Sports Operators must maintain and update a Standard Operating Procedure for their operations.

- 15.14 Besides covering the methodologies that are adopted by the agency in organizing the activity, such as assessing of members medical condition and experience, procedures for conduct of the activity, avoidance of injury, safety precautions, communication, weather, procedure for emergencies, casualty evacuation, incident and accident reporting, feedback mechanism the following must be included in the SOPs.

- 15.15 Medical facilities in the area of operation must be identified. Efficient evacuation measures should also be evaluated in advance.

- 15.16 Advertising must give a true picture of all the difficulties and dangers involved, and avoid promising the impossible. If an expedition is commercially launched by an operator, then the Biographical information about the guiding team should be included.

Documentation

15.17 The tour operator must maintain, at the minimum the following documentation:

- a) Details of all Guides and Instructors including, copies of certifications, record of experience and feedback from clients.
- b) Copies of all Permits and Permissions required for operations.
- c) Copies of identification documents, Insurance cover and details of next of kin for all participants, guides and instructors.
- d) Copy of SOP.
- e) Current list of emergency contact numbers

Emergencies and rescues

14.18 In addition;

- a) Adequate first aid medical equipment must be available with the party.
- b) Evacuation routes must identified and known to participants, guides and instructors,
- c) A detailed and documented evacuation/emergency procedure must be available with the party along with closest available emergency services which can be called upon as required.

BASIC MINIMUM STANDARDS FOR RAFTING

Introduction

15.1 Rafting is one of the most popular adventure tourism/ water sport activities. It is important for instructors and guides to have good training and equipment as also adhere strictly to the safety guidelines to avoid accidents.

Trained manpower

15.2 It is imperative that personnel responsible for conducting rafting activities are skilled to a high level in conducting those activities, rescue and life saving techniques and First Aid / C.P.R.

Guides/Instructors

15.3 Lead guides for water sports activities should, as a minimum, hold the following;

- I. A minimum 16 hour (2 day) first aid/ CPR certificate provided by a recognised and qualified provider
- II. Qualification from a recognized, national or international body or a certificate from a licensed rafting operator that the individual “has experience of 2 years in assisting in the particular activity and is independently capable of guiding groups and carrying out rescue operations”
- III. A log book containing authenticated records of rafting experience during training.
- IV. A WRT course completion certificate with upto date and current renewals

Equipment

15.4 Life jackets or Personal Floatation Devices (PFD's) must meet the minimum buoyancy requirement, be appropriate for the intended activity, be certified / approved by ISI, US coastguard, British Canoe Union or equivalent.

- 15.5 Helmets must be worn by all rafters on all sections.
- 15.6 Throw-able rescue devices(Rescue Bags) must be available for immediate use on all rafts.
- 15.7 Safety Kayaks must be available (within visual distance) for prompt rescue with personnel duly qualified to operate/ carry out rescue operations.
- 15.8 All trips leaders must carry a First Aid Kit, repair kit and pump.

Operations

- 15.9 All rafting activities must begin with a thorough safety briefing. The briefing must highlight the equipment used, do's and dont's, falling out, flip drill, rescue and emergency procedures. A liability waiver form clearly highlighting the risk involved must be signed by all participants prior to the commencement of the activity. Participants with any medical condition (such as weak heart condition, epilepsy, recent surgery/ any medical condition of concern or expecting mothers) making them unfit for participation in the activity must be informed prior to the commencement of the activity and not allowed to participate.

Risk Mitigation

- 15.10 Life Jackets: No rafting activity should be undertaken without a lifejacket throughout the time spent in water. The life jacket must must have adequate buoyancy, should be fastened properly and checked by the instructor prior to commencement of the rafting activity. The lifejacket must be the appropriate size for the intended user.
- 15.11 Guides: No rafting activity should be conducted without the presence of trained guide/s.
- 15.12 Alcohol/ drugs are not permitted at least six hours prior or during the activity.

- 15.13 Sign boards: To be displayed with rules clearly mentioned that no water sports activity is to be undertaken unless supervised.
- 15.14 No rafting activity should be conducted in the dark and preferably finish an hour before dark.
- 15.15 Age Limit: 14 years and above on Grade III (moderate & above) rapids. This may be relaxed to 10 years for grade II (easy) rapids
- 15.16 Non Swimmers:
- a) Not allowed on Grade IV/ V rapids or above
 - b) No Body Surfing in rapids
- 16.17 Beach Safety: Swimming on the river with life jackets only (after checking by guides) in the presence of guides/ life guards.

SOP's and operating instructions

- 15.18 All Rafting Operators must maintain and update a Standard Operating Procedure for their operations.
- 15.19 Besides covering the methodologies that are adopted by the agency in organizing the activity, such as assessing of members medical condition and experience, procedures for conduct of the activity, avoidance of injury, safety precautions, communication, weather, procedure for emergencies, casualty evacuation, incident and accident reporting, feedback mechanism the following must be included in the SOPs:
- a) Medical facilities in the area of operation must be identified. Efficient evacuation measures should also be evaluated in advance.

- b) Advertising must give a true picture of all the difficulties and dangers involved, and avoid promising the impossible. If an expedition is commercially launched by an operator, then the Biographical information about the guiding team should be included.

Documentation

15.20 The Tour Operator must maintain the following documentation:

- I. Details of all Guides and Instructors including, copies of certifications, record of experience and feedback from clients.
- II. Copies of all Permits and Permissions required for operations.
- III. Copies of identification documents, Insurance cover and details of next of kin for all participants, guides and instructors.
- IV. Copy of SOP.
- V. Current list of emergency contact numbers

Emergencies and rescues

15.21 In addition;

- a) Adequate first aid medical equipment must be available with the party.
- b) Evacuation routes must identified and known to participants, guides and instructors.
- c) A detailed and documented evacuation/emergency procedure must be available with the party along with closest available emergency services which can be called upon as required.
- d) A mobile phone should be with the team along with the phone numbers of ambulance/ nearest medical facilities.

BASIC MINIMUM STANDARDS FOR RIVER CRUISING

- 16.1 All river cruise ships should be approved by Statutory Authority and Ship Class Certification Society like The Indian Register of Shipping etc. The building and maintenance of Ships should be as per their Rules and Norms.

What are the hazards	Who might be harmed and how?	What we are already doing	Do we need to do anything else to reduce this risk?	Action by whom?	To be completed when?	Completed

Name of Organization

Date Completed:

Prepared by:

Approved by:

Date: