
Sports Safety
Management System
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SINGAPORE
SPORTS COUNCIL
Think Safe . Play Safe . Stay Safe

3. THE ELEMENTS OF A SAFETY MANAGEMENT SYSTEM ARE AS FOLLOWS:

3.1 Safety policy that states the safety commitment of the sporting association;

3.1.1 Safety policy that states the commitment of the association to safety and health at work

3.1.2 Safety policy - "Policy", in broad terms, refers to the general intentions, approach and objectives of an organization together with the criteria and principles on which actions and responses are based.

3.1.3 An effective safety policy sets clear direction for the association to follow. It contributes to all aspects of sports performance as part of a demonstrable commitment to continuous improvement. The objective of defining a safety policy is to set down in clear and unambiguous terms the management committee approach and commitment to sports safety. The management committee should define, document and endorse its safety policy. Everybody in the association should ensure that the policy includes a commitment to:

(a) recognize safety as an integral part of its sporting performance;

(b) achieve a high level of sports safety and health performance, with compliance with legal requirements as the minimum;

(c) provide adequate and appropriate resources to implement the safety policy;

(d) place the management of safety as one of the prime responsibilities of for management committee, staff, coaches, athletes and participants;

(e) ensure its understanding, implementation and maintenance at all levels in the association;

(f) secure everyone's involvement and consultation to gain commitment to the policy and its implementation;

(g) ensure periodic review of the policy, the management system and audit of compliance to policy;

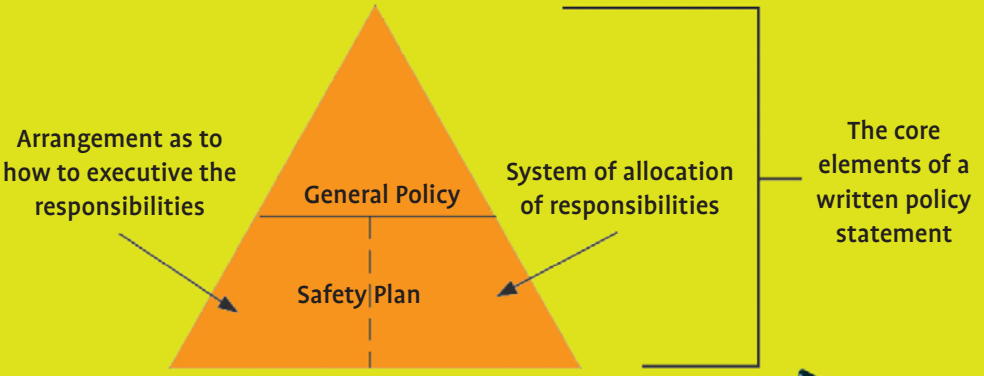
(h) ensure that for management committee, staff, coaches, athletes and participants at all levels have received appropriate training and are competent to carry out their duties and responsibilities.

3.1.4 The safety policy should be specific and relevant to the nature of the sports undertaken at the association. It should be able to convey:

(a) the general intentions, approach and objectives of the enterprise, and

(b) the criteria and principles on which its actions and responses are based.

3.1.5 The composition of an effective safety policy is illustrated by the following diagram:



3.1.6 Written policy statement - The association should prepare and revise as often as necessary a written policy statement, which should include:

(a) a statement of the association's general policy with regard to the safety of management committee, staff, coaches, athletes and participants in the association;

(b) a system of allocation of responsibilities for the carrying out of the policy; and

(c) arrangements as to how the responsibilities are to be executed. They are referred to as " the core elements" of a written policy statement.

3.1.7 It is important to realize that the responsibility for safety rests on the association. Many of the duties arising from that responsibility may however be delegated to management committee members, staff, coaches, athletes and participants. The written policy statement should show clearly how these duties are allocated. Whilst the overall responsibility for safety and health rests on the executive committee level, all individuals at every level will have to accept certain degrees of responsibility for carrying out the policy. Whenever possible, key individuals should be named and their responsibilities defined.

3.1.8 It is equally important that management committee, staff, coaches, athletes and participants at all levels in the association should be able to see from the statement how they fit into the system, and, for example, what their own duties and whom they should go for advice, to report an accident or a hazard, or to obtain first aid or other help.

3.1.9 There is no rule about the appropriate length of a written policy statement. A smaller association whose activities are not especially hazardous would have a shorter written policy statement than that of a larger sporting association with more athletes and programmes.

However, one possible approach is to set out its safety policy in the written policy statement in a fairly general terms, and to refer the to other documents for full details, such as in house safety rules, safety checklists, safety training programmes, and emergency instructions.

3.1.10 The association should keep a copy of the written policy statement (including its revisions), signed by the Chairperson and/or President of the Management and/or Executive Committee and dated, bring the policy statement itself and its revisions, if any, to the notice of all other members and its affiliates by, for example, posting on notice boards where every user can see or by internal circulation down to every members, and make it available for inspection upon request by an safety officer.

3.1.11 An effective safety management system has the mechanism of self-regulating and self-improving. This is effected by reviewing the safety policy from time to time with :

(a) performance measurement and

(b) safety audits.

3.1.12 The association should review the safety policy:

(a) annually from the date on which the written policy statement and any its revisions were brought to the notice in the association; and

(b) as soon as is practicable when there is a change of particulars in the policy statement, including the core elements mentioned above, for example, change in management committee. A review may also be prompted by changes of particulars due to internal or external factors such as changes in technology, legislation or standards.

3.1.13 " Practicable" embraces whatever is technically possible in the light of current knowledge, which the person concerned has or ought to have had at the time. The cost, time and trouble involved are not to be taken into account. For example, in simple cases, the safety policy should be reviewed within a week after a change in the particulars of the written policy statement.

3.2 Structure to assure implementation of the commitment to sports safety;

3.2.1 Safety organization involves a structure where people in the association work together in a coordinated manner, based on their knowledge, training and responsibilities, to achieve the safety objectives set by the Executive Committee. Within the association, responsibilities and relationship should be established to promote a positive safety culture and secure the implementation and continued development of the safety policy. To properly establish such an organization, there should be a process of prescribing formal relationships among people and resources in the association to accomplish the safety objectives. With the setting up of such an organization, the general safety policy together with the safety plan can thus be effectively and efficiently implemented.

3.2.2 Safety in-charge or safety committee or similar set-up should be established to coordinate the implementation of safety plans. Its primary role is to advise the management committee on sports safety best practices, requirements and standards.

3.2.3 The safety in-charge or safety committee should have the following main roles:

(a) To serve as a resource person and in-house safety consultant.;

(b) To plan and prepare safety programmes (like drills & refresher sessions);

(c) To advise management committee on sports safety matters;

(d) To coordinate the implementation of safety plans and programmes;

(e) To monitor compliance and implementation of safety plans and programmes;

(f) To track corrective actions and verify the effectiveness of safety matters; and

(g) To serve as a trainer in safety matters.

3.2.4 It is important that responsibilities for safety should be identified and allocated properly in a clear and logical way. Each member of the association to which the responsibilities are allocated should know what he/she is responsible for and to whom he is responsible regarding safety matters. The allocation of responsibilities should be recorded in document and it should be clearly stated that the final responsibility and accountability for safety rest with the Executive Committee. The Executive Committee must accept the responsibility for ensuring safety and health is incorporated into the running of the sporting association. A relevant person at this level should be designated to take up this final responsibility and accountability.

3.2.5 Lastly, the document for allocation of responsibilities for safety should be signed and dated by the above person and be reviewed and revised periodically to maintain its validity and effectiveness.

3.2.6 The following are the main safety and health responsibilities for different levels of members in the association:

(a) Executive Committee and Management Committee

- To provide a safe working, training and competition environment.
- To provide adequate resources (including financial), information and training.
- To provide a system of monitoring compliance with the safety policy.
- To ensure that relevant sports safety laws and best practices are complied with.
- To provide and maintain contact with internal and external safety advice from in-house safety in-charge, outside safety consultant, government departments (like MOM), regional/international federations and/or other professional bodies.
- To provide and maintain a system responding to safety initiatives for every member and its affiliates of the association.
- To provide an effective, efficient and on going sports safety promotion programme.
- To establish a system to identify, assess and eliminate hazards and control risks during events, programmes, trainings and competitions.
- To ensure that safety rules, procedures and methods are developed, maintained and revised.

(b) Staff and Coaches

- To assist in the implementation of policies and procedures.
- To assist in the identification, assessment and elimination of hazards and the control of risks.
- To members and to ensure safe and correct procedures.

- To ensure that effective consultation on safety matters occurs.
- To investigate accidents and incidents.
- To participate in induction and on-going safety training programmes for members, coaches and participants.
- To respond to safety initiatives of safety in-charge.
- To communicate effectively the hazards to members, coaches and participants and keep abreast of current safety legislation and information.
- To submit periodically to Executive Committee statistics and reports concerning safety performance.

(c) Members and Participants

- To conduct and participate in activities in compliance with legal requirements.
- To closely follow sports safe practices, procedures, instructions and rules, and to perform all duties in a manner which ensures the safety of himself/herself and others in the association.
- To provide feedback on the effectiveness of safety measures implemented.
- To contribute ideas for safety improvement.
- To report hazards to management committee or safety in-charge and warn others of hazards.
- To report any injury, accident or incident at management committee and/or safety in-charge.
- To participate in meetings and other safety activities and to attend safety training where appropriate.

(d) Safety in-charge or safety committee

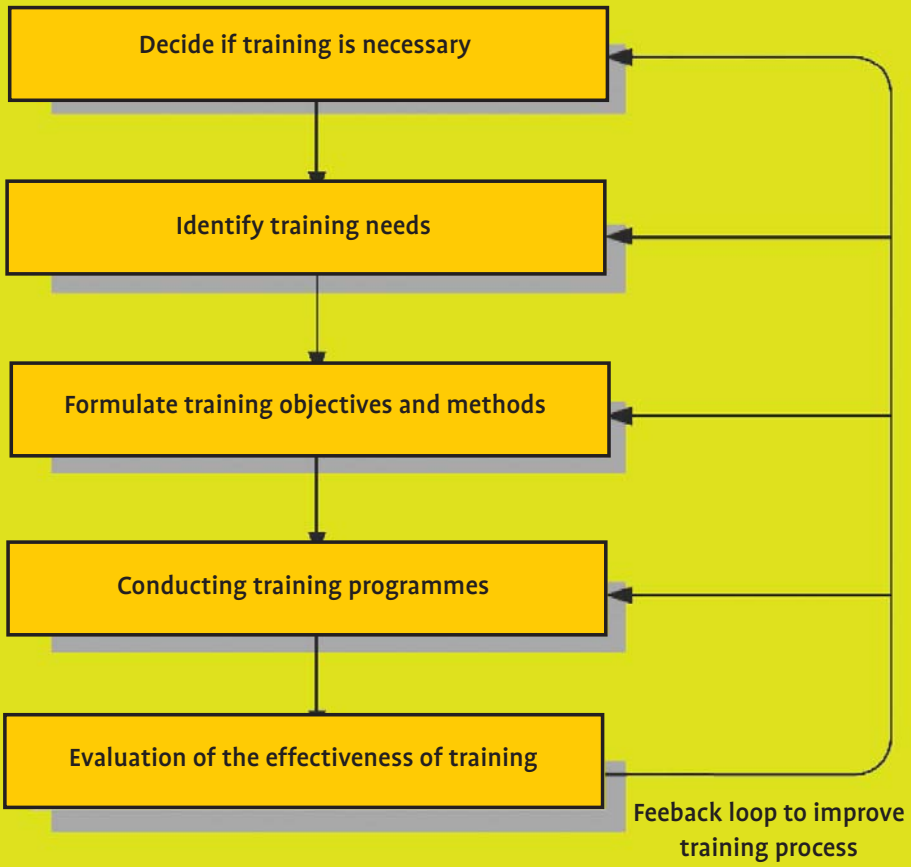
An in-house Safety in-charge or safety committee should have the responsibility to assist the management committee and executive committee in promoting sports safety in the association. His main duties should include the following:

- To identify and assess the hazards.
- To work with management committee and coaches to eliminate or control these hazards by advising them as to measures to be taken, and, with their endorsement, implement such measures.
- To resolve safety issues.
- To conduct safety inspections to check the safety performance and recommend corrective action to management committee.
- To investigate accidents and incidents and recommend remedial measures to prevent recurrence.
- To be well informed about sports safety performance.
- To consult with management committee, members, coaches about changes in which would likely affect the safety of participants.
- To report regularly to management committee about the safety performance in the association.

3.3 Training to equip personnel with knowledge to ensure sports safety;

3.3.1 Training helps people acquire the skills, knowledge and attitudes to make them competent in the safety aspects of their roles. It includes formal off-the-job training, instruction to individuals and groups, and on-the-job coaching and counseling. It is helpful to integrate the safety requirements of each role into the individual roles' specifications.

3.3.2 An association should devise and refine or adjust its training policy systematically, as in the self-improving cycle shown below:



3.3.3 Training should not be a substitute for proper risk control. The key to effective training is to understand each roles and responsibilities and individual abilities.

3.3.4 To equip his workers with knowledge on work safety and health, the association must first identify what their safety training needs are. These needs are best established as part of an overall training needs analysis. The following things could be established:

(a) Consult sports-specific accident, incidents and ill-health records to see what caused them and how can they be prevented;

(b) Gather information of best practices in the specific sports industry;

(c) Observe and question coaches and participants when they are training and participating in the activity, to understand what they are doing and why. This may be particularly relevant in complex sports where any analysis has to take account of all the possible consequences of human error.

(d) Conduct risk assessment for the sports activity.

3.3.5 There are three main types of training need: organizational, sports-related and individual.

(a) Organizational training needs

An association should let their members and affiliates know:

- the association's safety policy and the philosophy underlying it;
- the structure and systems for delivering the safety policy.

Moreover, he should also let them know which parts of the safety systems are relevant to them, to understand the major risks in the association's activities and how they are controlled.

(b) Sports-related training needs

These fall into two main types:

- Management needs include:
  - (i) leadership skills;
  - (ii) communication skills;
  - (iii) techniques of safety management;
  - (iv) training, instruction, coaching and problem-solving skills relevant to sports safety;

(v) understanding of specific sports risks;

(vi) basic knowledge of relevant legislation and appropriate methods of control including risk management;

(vii) knowledge of the association's planning, measuring, and auditing arrangements.

Some key appointment holders may have particular needs, for example, those who devise and develop the safety management system, investigate accidents or incidents, take part in audit activities or have to implement emergency procedures.

- Non-management needs include:

(i) an overview of safety principles;

(ii) detailed knowledge of the safety arrangements relevant to an individual's roles;

(iii) communication and problem-solving skills to encourage effective participation in safety activities.

(c) Individual training needs:

(i) induction of new staff, new participants, new coaches including part-time, temporary and/or casual workers of the associations;

(ii) roles changes (members to captain, coaches to team manager etc); and

(iii) introduction of new equipment or technology.

3.3.6 Based on risk assessment, the association can set objectives and priorities for training. These can be used as the basis for measuring the effectiveness of training and for determining whether the members have attained the desired level of proficiency. From these objectives, the appropriate training methods to suit the objectives should be devised.

3.3.7 Training can be conducted at the time, at a level of cost and expertise determined by the association.

3.3.8 It is necessary to measure the effectiveness of training. Pre-testing determines the needs for the programme; post-testing quantifies what has been learned. It is important to assess whether the training programme has effectively corrected the previously identified lack of safety knowledge. It is also vital to obtain the study feedback on the training programme.

3.3.9 Monitoring involves keeping track of who has been trained in what. Accurate records should be maintained for all safety training activities. Such records should identify the following data:

(a) Training date and time

(b) Training location

(c) Length of training

(d) Subject of training

(e) Contents of training

(f) Trainers and their expertise

(g) Attendees

(h) Test results of the attendees, if any.

3.4 In-house safety rules to provide instruction for achieving safety management objectives ;

3.4.1 In-house safety rules to provide instruction for achieving safety management objectives. The ultimate objective of any safety

management system is to prevent injury. To accomplish this it is necessary for the association to devise in-house safety rules.

3.4.2 In-house safety rules cover general rules, specialized sports rules, specialized permits and procedures. Examples of safety rules may include clear instructions to coaches and participants in each of the following general areas:

(a) safe handling of sports equipment;

(b) maintenance sports equipment;

(c) proper and safe procedures;

(d) rules and instructions on various risk control systems (like donning of Personal Floatation Device is mandatory while participating in water sports activities etc);

(e) provision, use and maintenance of personal protective equipment (like helmets, harnesses etc);

(f) rules for the provision, use and maintenance of safe access and egress and for traffic and movement in activity, training and/or competition sites;

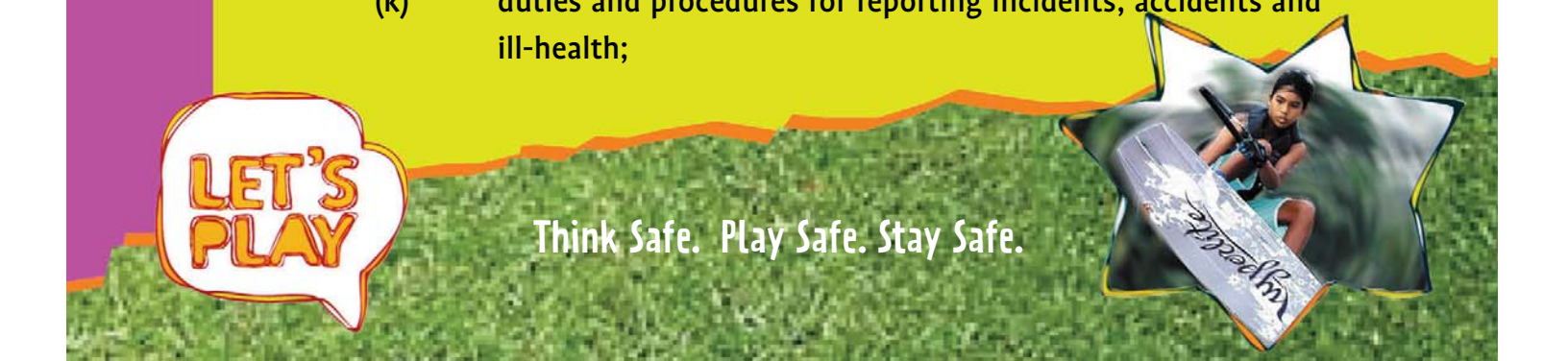
(g) fire precautionary measures;

(h) safe handling and movement of equipment;

(i) safety procedures for emergency;

(j) duties and procedures for reporting hazards; and

(k) duties and procedures for reporting incidents, accidents and ill-health;



3.4.3 There should be a system for the identification and establishment of specialized in-house safety rules. Sporting Associations should make reference to the following:

(a) relevant legislation dealing with safety and health, which sets the minimum standard to follow;

(b) Codes of practice and guidance by the MOM and regional/international federations; and

(c) International standards and sports industry best practices.

3.4.5 In devising in-house safety rules, the association is encouraged to have prior consultation with all its stakeholders. If there is a safety committee, the details of the safety rules should be discussed in the safety committee.

3.4.6 Rules and procedures should be documented and communicated to all appropriate personnel in the association.

3.4.7 It may be that not all members will need to know all of the detailed in-house rules but the association should ensure that every participants is clearly instructed (and trained if necessary) of the rules relevant to him.

3.4.8 To ensure compliance with these in-house rules, the association should exercise due diligence in the supervision and in regular inspections of the activities. Moreover, there should be a written disciplinary policy addressing violation of rules with details of how verbal warnings, written reprimands, suspensions, revoke of license and, where necessary, termination might be applied. The policy may also include positive recognition (such as safety awards or incentive schemes for the purpose of positive reinforcement of those good safety performances).

3.5 Inspection to identify hazardous conditions and for the rectification of any such conditions at regular intervals or as appropriate;

3.5.1 Inspection as an active monitoring programme and measuring the safety performance of the association against predetermined plans and standards exposes the need for remedial action.

3.5.2 Monitoring activities signalize management committee's commitment to sports safety objectives in general. They are an essential part of developing a positive sports safety culture. There are two types of monitoring systems:

(a) active systems that monitor the achievement of objectives and the extent of compliance with pre-set standards.

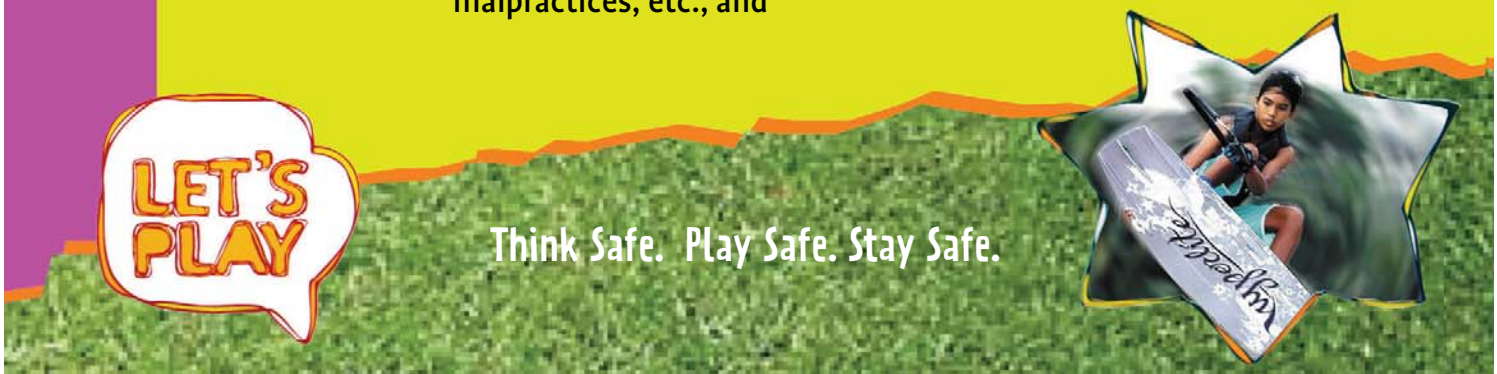
(b) reactive systems that monitor accidents and incidents and other evidence of deficiency in safety protocols.

3.5.3 A programme for the inspection of hazardous conditions is an essential part of any active monitoring programme. It is one of the best tools available to find problems and assess their risks before accidents and other losses occur. The Sporting Association should develop, implement and regularly review the inspection programme so as to achieve the following goals:

(a) to identify potential problems that are not anticipated during the design or planning stage;

(b) to identify equipment deficiencies, such as problems caused by normal wear and tear and abuse or misuse of equipment;

(c) to identify improper coaching and participating actions and malpractices, etc.; and



(d) to identify inadequacies in remedial actions.

3.5.4 A system for inspecting is important in any active monitoring programme. It can form part of the arrangements for the preventive maintenance of equipment that may also be covered by legal requirements. But inspections should include other precautions, such as those covering the use of premises, activity, training, competition site and systems of work.

3.5.5 A suitable inspection programme will take all risks into account but should be properly targeted, and it should be proportional to the hazard profile of the sports. Inspection should concentrate on areas where it is likely to produce the greatest benefit and lead to the greatest control of risk. Key risk control systems and related precautions should therefore be monitored in more detail or more often (or both) than low-risk sports. For example, low risks sports might be dealt with by general inspections periodically covering a wide range of precautions such as the condition of premises, floors, passages, stairs, lighting, welfare facilities and first aid. Higher risks sports need more frequent and detailed inspections, perhaps weekly or even, in extreme cases, daily or before use (for example, safety equipment like harness, helmets, gloves etc).

3.5.6 The inspection programme should satisfy any specific legal requirements and reflect the association's risk priorities. Suitable schedules and performance standards for the frequency and contents of inspection can help. The schedules can be supplemented with inspection forms or checklists, both to ensure consistency in approach and to provide records for follow-up action. Inspection should be done by people who are competent to identify the relevant hazards and risks and who can properly assess the conditions found.

3.5.7 A properly thought-out approach to inspection will include:

(a) a well-designed inspection form to help plan and initiate remedial action by requiring those doing the inspection to rank any deficiencies in order of importance;

(b) summary lists of remedial action with names and deadlines to track progress on implementing improvements;

(c) periodic analysis of inspection forms to identify common features or trends that might reveal underlying weaknesses in the system;

(d) information to aid judgments about any changes required in the frequency or nature of the inspection programme.

3.5.8 The Sporting Association should keep full records of each inspection with details of both positive and negative findings. Such reports should be analyzed to identify repeated substandard situations and their underlying causes.

3.5.9 The results of inspections should be brought to the attention management committee having responsibility in the area concerned. Information from safety inspections should be evaluated promptly to identify immediate risks and to ensure that appropriate remedial action is taken without delay. Any corrective action should be implemented as quickly as reasonably practicable. The inspection system should have a way of checking that remedial action is taken and monitored by executive committee. The persons carrying out the inspections should have received appropriate safety training.

3.5.10 The safety inspection programme should be regularly reviewed to check for deficiencies and possible areas for improvement.

3.6 Identify hazardous exposure or the risk of such exposure to the management committee, staff, coaches, athletes and participants and to provide suitable personal protective equipment as a last resort where engineering control methods are not feasible;

3.6.1 This element of safety management system is a pro-active one that should promote continual improvement and ensure that hazards are identified so that risks could be subsequently assessed and controlled before anyone (or anything) could be adversely affected.

3.6.2 In order to identify risk, association should in the first place prepare a list of activities covering premises (like training and/or competition), people and procedures, and gather information about them. Information required might include:

(a) activities being carried out, their duration and frequency;

(b) location(s) where the activities are carried out;

(c) who normally/occasionally carries out the activities;

(d) others who may be affected by the activities (e.g. visitors, contractors, other users, the public etc);

(e) training that personnel have received about the activities;

(f) written systems of coaching and instruction and/or permit-to-coach/instruct;

(g) equipment that may be used;

(h) manufacturers' or suppliers' instructions for the equipment;

(i) distances and heights that equipment have to be moved by hand;

(j) requirement of relevant regulations and standards relevant to the activities;

(k) control measures believed to be in place;

(l) reactive monitoring data (incident, accident and ill-health experience associated with the activity, equipment and processes) as a result of information from within and outside the association); and

(m) findings of any existing assessments relating to the activity.

3.6.3 Upon identification of the hazardous exposure or the risk of such exposure to members and participants, the association should find out whether planned or existing safety precautions (if any) are sufficient to keep the hazard under control and meet legal requirements. If the findings are on the contrary, he should take steps using engineering methods (for examples, safer processes, safety equipment) to control the risks so that they are reduced to the lowest level that is reasonably practicable.

3.6.4 Personal protective equipment (PPE) includes the following, when they are worn for protection of safety:

(a) protective clothing such as protective clothing for adverse weather conditions, gloves, safety footwear, safety helmets, high visibility waistcoats, etc.; and

(b) protective equipment such as eye protectors, Personal Floatation Device, life jackets, respirators, breathing apparatus including those used underwater, and safety harness.

3.6.5 In some circumstances, PPE will be needed to control the risk adequately. However, PPE protects only the person wearing it, whereas measures controlling the risk at source can protect everyone. Second, theoretical maximum levels of protection are seldom achieved with PPE in practice, and the actual level of protection is difficult to assess. Effective protection is only achieved by suitable PPE, correctly fitted and maintained and properly used. Third, PPE may restrict the wearer to some extent by limiting mobility or visibility, or by requiring additional weight to be carried. Other means of protection should therefore be used whenever reasonably practicable.

3.6.6 Nevertheless, association should provide appropriate PPE and training in its usage wherever there is a risk to safety that cannot be adequately controlled by other means.

3.6.7 The programme to provide PPE should include but is not necessarily limited to:

(a) Conducting PPE risk assessment

If it is necessary to provide PPE, the association should conduct an assessment. The purpose of the assessment is to ensure the correct PPE is chosen for the particular risk. Except in the simplest and most obvious cases that can be repeated and explained at any time, the assessment will need to be recorded and kept readily accessible by those who need to know the results.

(b) Proper selection of PPE

The association should determined what type of PPE is required, taking into consideration of the legal requirements for specific situations, the intended use of the PPE, the manufacturer's product standards, ergonomics of design of the PPE, acceptability of the PPE to its wearer and user, and, if used in conjunction with other PPE, compatibility with that PPE in question, etc.

(c) Steps to ensure adequate supply of PPE, including replacement supply and spare parts.

(d) Steps to ensure the correct use, maintenance and storage of PPE, plus adequate training, information and instruction to users on the safe and proper use and maintenance of PPE. Maintenance should include, where appropriate, cleaning, disinfection, examination, replacement, repair and testing. The responsibility for carrying out maintenance should be clearly laid down, together with the details of the procedures to be followed and their frequency. Where appropriate, records of tests and examinations should also be kept.

3.7 Investigation of accidents or incidents to find out the case of any accident or incident and to develop prompt arrangement to prevent recurrence;

3.7.1 The investigation of accidents or incidents forms part of a reactive monitoring system that is triggered after an event and includes identifying and reporting:

(a) death, injuries and cases of ill health;

(b) other losses, such as damage to property;

(c) incidents, including those with the potential to cause injury, ill health or loss;

(d) hazards; and

(e) weaknesses or omissions in performance standards.

3.7.2 Each of the above provides opportunities for association to check safety performance, learn from mistakes, and improves the safety

management system and risk control. Information gathered from investigations is useful in reinforcing key safety and health messages.

3.7.3 There is value in investigating both actual and potential losses to learn how to prevent more serious events. Accurate reporting can be promoted by:

(a) providing training which clarifies the underlying objectives and reasons for identifying such events;

(b) creating a culture that emphasizes an observant and responsible approach and the importance of having systems of control in place before harm occurs;

(c) providing open, honest communication in a just environment, rather than providing a tendency merely to allocate " blame" ; and

(d) cross-referencing and checking first-aid treatments, health records, maintenance or fire reports and insurance claims to identify any otherwise unreported events.

3.7.4 Not all events need to be investigated to the same extent or depth. The association needs to assess each event (for instance, using a simple risk-based approach) to identify where the most benefit can be obtained. The greatest effort should be focused on significant events where there have been serious injury, ill health or loss as well as those that have the potential to cause widespread or serious injury or loss. Investigations should:

(a) identify reasons for any substandard performance;

(b) identify underlying failures in the safety management system;

(c) learn from events;

(d) prevent recurrences; and

(e) satisfy legal and reporting requirements.

3.7.5 Investigations should be led by someone with the status and knowledge to make authoritative recommendations. Usually, this will be the safety officer. A safety and health consultant/advisor, a medical or nursing advisor, technical staff or equipment suppliers may need to provide assistance and management committee may need to be involved if events have serious or potentially serious consequences. Adequate training in relevant techniques should also be provided.

3.7.6 A good investigation is prompt and thorough. It recommends and assigns remedial actions as soon as practicable after the event. Investigation consists of 4 ingredients:

(a) The collection of evidence about what happened;

(b) Assembling and considering the evidence;

(c) Comparing the findings with the appropriate legal, industry and company standards, drawing conclusions on the causes and recommending measures to prevent recurrence; and

(d) Implementing the recommendations and tracking progress.

3.7.7 Standard report forms can usefully guide people through the investigation processes outlined above and help the managers responsible for authorizing necessary follow-up actions to set priorities. The recording system should:

(a) collect information accurately and present it in a consistent form;

(b) enable analysis to identify common causes, features and trends that may not be apparent from the investigation of an individual event;

(c) record information which might foreseeably be needed in future or which may also be useful for management purposes, including a record of the time taken to carry out the investigation and the related costs; and

(d) alert others to the learning points from a single event or a series of events.

3.7.8 Key data to be covered in accident, incident and ill health reports:

(a) Details of any injured person, including age, sex, experience, training, etc.;

(b) A description of the circumstances, including the place, time of day and conditions;

(c) The direct causes of any injuries, ill health or other loss;

(d) The immediate causes of the event;

(e) The underlying causes - for example, failures in precautions, risk control systems or management arrangements;

(f) Details of the outcome, including in particular:

(i) the nature of the outcome - for example, injuries, or ill health to participants; damage to property, process disruptions; creation of hazards;

(ii) the severity of the harm caused, including injuries, ill health and losses;

(iii) the immediate management response to the situation and its effectiveness. This involves the consideration of the following questions:

- Was it dealt with promptly?
- Were continuing risks dealt with promptly and adequately?
- Was the first-aid response adequate?
- Were emergency procedures followed properly?

(iv) Recommendations to prevent the recurrence of the accident or incident.

3.7.9 The association should ensure there is mechanism for implementation, with priorities, of the aforesaid recommendations to prevent recurrence of accidents/incidents.

3.7.10 It is essential that an enterprise should perform statistical analysis based on the information collected and recorded from the investigation of accidents and incidents. The analysis should enable management to identify common causes, features and trends that may not be apparent from the investigation of an individual event. This in turn provides valuable information for the management committee in considering adjustments to the safety plan and corresponding action programmes.

3.8 Emergency preparedness to develop, communicate and execute plans prescribing the effective management of emergency situations;

3.8.1 Emergency preparedness is vital because, when an emergency does occur, a quick and correct response is necessary to reduce injuries, illnesses, property damage, environmental harm and public concern.

Management committee should identify the types of emergencies the association needs to plan, organize, practice and prepare for.

3.8.2 An emergency planning committee or a similar set-up should be formed to identify and list out possible emergencies, identify their effects and impact, prioritize and review the list of possible emergencies. To get a complete picture and to consider all possible scenarios, the committee should include representatives from all levels in the association. A list of potential emergency situations such as fire, electric shock, explosion, hazardous chemical spills or releases, personal injuries and illnesses, natural disasters, pandemic flu, haze and critical damages to facility/equipment, etc. should be drawn up, with priority properly accorded.

3.8.3 A working committee or similar set-up should be formed to work on the details of an emergency response plan for each of the possible emergencies on the list. The members of the working committee should consist of representatives from different level in the association involved in each of the possible emergency situations. The emergency response plan, including procedures on what can and should be done, what equipment is necessary and what people are needed, should then be developed for responding to each emergency situation. The emergency response plan should be written and communicated to all. The details of such plan should include:

(a) an alarm system and the procedures for reporting, declaring emergency, and clearing off emergencies;

(b) a control centre – its location and resources (such as radio, records, engineering drawings, a list of supporting personnel required, etc.);

(c) emergency unit – duties and responsibilities of members;

(d) procedures to be followed who must be on site to perform critical operations before they evacuate;

(e) special teams for medical attention, salvage, rescue, fire fighting and others, if necessary, and their duties;

(f) training of management committee members, safety in-charge/safety committee members, staff, coaches, athletes, part-timers and participants, if necessary;

(g) improved facilities and equipment to meet the needs of emergencies (such as communication equipment for use during emergencies, sensors and alarm system, exit signs/lights, fire hoses, fire extinguishers, AEDs, first aid boxes, breathing apparatus, etc.);

(h) evacuation route map and safe assembly point;

(i) schedule for emergency drills to test readiness;

(j) Incident and accident reports and reporting procedure; and

(k) procedures for public relation.

3.8.4 When an emergency response plan is put together, it should be kept in the emergency manual. The manual should contain all information necessary to respond to various emergencies and should include such information as site floor plans and layout plans, emergency egress, fire-fighting equipment, regular fire extinguishing systems, telephone numbers of key personnel, ambulances and police, fire and services, and a list of outside operators that are qualified to assist with special problems, etc. The emergency manual should be kept in a secure area that is easily accessible to emergency personnel.

3.8.5 The post-emergency recovery plan is an essential element of an emergency response plan. The recovery plan should be designed to get the association back into operation as soon as possible after an emergency. The following are some of key elements that should be included in the recovery plan:

(a) sources of temporary replacement equipment;

(b) a list of manufacturers who can supply replacements quickly, and can provide and installation services, if necessary; and

(c) a list of consultants/advisors on sports safety problems.

3.9 Evaluation, selection and control of sports service providers to ensure that they are fully aware of their safety obligations;

3.9.1 Evaluation, selection and control of sports service providers to ensure that they are fully aware of their safety obligations and are in fact meeting such drawn conditions.

3.9.2 The evaluation and selection strategy should clearly aim at ensuring that sports service providers with knowledge of good safety standards and a good record of putting them into practice would be selected for the assignment. A practicable approach to evaluate and select suitable sub-contractor is set out below:

(a) Identification of suitable sports service providers

(i) Each sports service provider wishing to qualify as a bidder should be asked to provide a safety policy that would be vetted to assess its adequacy.

(ii) The sports service providers should also be required to submit the safety plan and details of responsibility, These should also be vetted to assess adequacy.

(iii) A sports service providers will become qualified if he is able to provide satisfactorily the adequacy tests for items (i) and (ii) above.

(b) Identification of suitable sports service providers

(i) Pre-assignment briefing should be provided to all qualified sports service providers. They should be invited in writing to attend the briefing and their attendance should be recorded.

(ii) Safety requirements, standards and specifications, the consequences of non-compliance and the relevant safety provisions in the contract, as well as the local safety laws that apply, should be clearly communicated to sports service providers in the briefing.

(iii) Sports service providers should identify all of the safety all hazards within the specifications. To help them do this, a checklist on all the common safety issues that may arise during the assignment should be provided/communicated to them in the specifications. Some topics that may be included in the checklist are:

- Access to and egress from the activity site
- Activity at heights
- Lighting requirements (if activity goes beyond 1900 hours)
- Personal protective equipment
- Emergency rescue/first-aid
- Welfare amenities such as toilets and drinking water facilities (if activity conducted in the outdoors)
- Training requirements for the sports service providers

(iv) The quotations submitted by the potential sports service providers should be checked against the

potential safety issues to ensure that all the safety hazards that may arise during the activity have been clearly identified by them and that proper provisions have been made for the control of the risks assessed. Each potential sports service providers should also be required to submit an outline safety plan for the implementation of the risk control measures.

(v) The contract should go to the sports service providers who is able to identify all the safety hazards that may arise during the assignment, can assure that the most proper and adequate provisions have been made for the control of the risks, and has the best outline safety plan compared to other sports service providers.

(c) Control Strategy

The control strategy should aim at monitoring the safety performance of the sports service providers and keeping him on the right track with regard to the achievement of the participants' safety and health objectives during the execution of the assignment. A practicable control approach should include the following:

(i) <u>Special terms and conditions in the contract</u>

All safety rules and provisions should be set down in detail in the contract for the sports service providers to follow and implement. One of such provisions should be that the sports service providers agree to abide by all the provisions of the association's safety policy. The following special conditions should therefore be attached to the contract for the sports service providers to undertake:

- to inform any sub-sports service providers of all safety requirements;

- to incorporate observance of all safety requirements as a requirement of any future assignment;
- to require the sub- sports service providers to do similarly if he in turn becomes the main sports service providers.

Another provision in the contract should be that the sports service providers is required to submit a detailed and comprehensive safety plan based on the outline safety plan, indicating how he and the sub- sports service providers (if any) are going to implement the safety measures for risk control during the assignment. The safety plan should include detailed policies, procedures, rules, safety obligations and responsibilities of the sub-sports service providers which, when being implemented, should ensure compliance with all safety rules set out in detail in the contract.

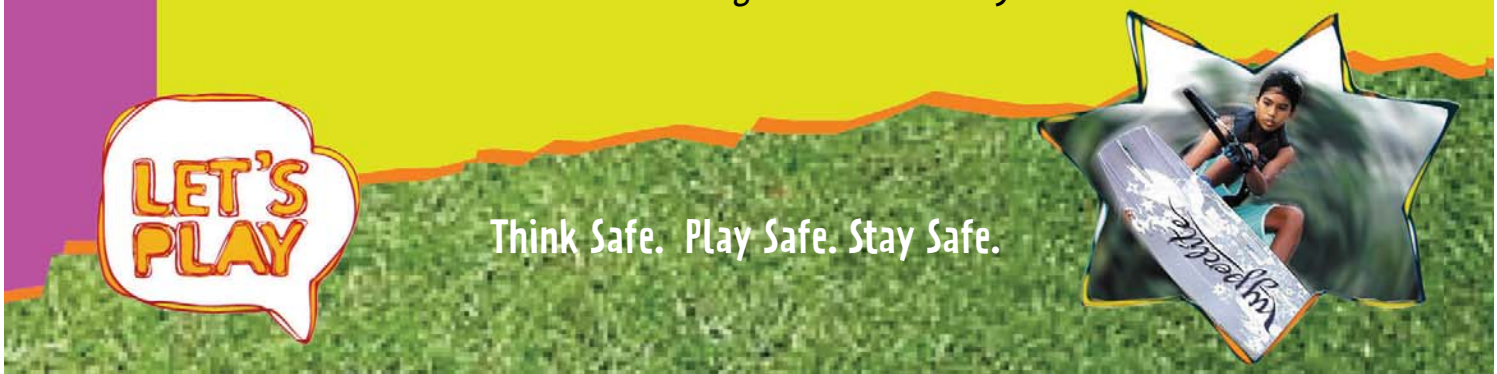
The sports service providers should adhere to the safety plan in carrying out his obligations under the contract and should ensure that his own staff/trainers/coaches/part-timers/free-lancers of any tier (if any) receive copies of the safety plan and comply with its requirements as well.

In addition, a sports service providers participation in on-site safety

committees should also be a condition of the contract.

(ii) <u>Risk assessment by the sports service providers before the commencement of the activity</u>

The sports service providers should be requested to conduct a risk assessment before the activity commences and recommend a safe system of work for the assignment. The safe system of work should



include safety precautions, methods, and equipment to be used.

The service providers should be required to submit the risk assessment report together with the, list of the key personnel contact, safety procedures, list equipment, and the schedule, etc.

(iii) Control of sports service providers on site

The following are some of the approaches for controlling the safety performance of sports service providers on site:

- The sports service providers should be required to appoint/nominate a person or a team to co-ordinate all aspects of the assignment, including safety issues on site. In addition, the sports service providers should develop communication paths to pass on all relevant safety information to all participants.
- The sports service providers should be required to attend a pre-contract commencement meeting with the association to review all safety aspects of the assignment.
- The sports service provider should be required to attend regular progress meetings between all involved, where safety should be the first item on the agenda.
- The association should carry out regular safety inspections, at least at weekly intervals, to check the service provider's activities.

3.10 Safety Committees to identify, recommend and keep under review measures to improve the sports safety;

3.10.1 Sporting Association should establish at least one safety committee to carry out the functions of identifying, recommending and keeping under review measures to improve the safety of the committee members, staff, coaches, athletes, part-timers and participants in the association.

3.10.2 Safety committees are most likely to prove effective when their work is related to a single establishment rather than a collection of geographically distinct places. Therefore, if the association has two or more establishments in different locations, he should have two or more safety committees or at least appoint a safety in-charge each at the various establishments.

3.10.3 Functions of safety committees/personnel
The functions of the safety committees/personnel (i.e. identifying, recommending and keeping under review measures to improve the safety culture of the association) include:

(a) monitoring the safety policy — determining whether it is adequate and how well it is being implemented;

(b) on-going evaluation of hazards and arrangements to implement safety measures;

(c) establishment of arrangements to deal promptly with safety issues;

(d) discussion and establishment of a mechanism to resolve safety issues;

(e) assistance in the development of safe procedures and safe system;

(f) a study of accident/incident statistics and trends, so that reports can be made to executive committee on unsafe and unhealthy conditions and practices, together with recommendations for corrective action;

(g) an examination of safety audit reports on a similar basis to Point (d) above;

(h) a scrutiny of safety reports and direction on appropriate actions;

(i) a watch on the adequacy and effectiveness safety training;

(j) a watch on the adequacy of safety communication and publicity in the association;

(k) organization of safety promotion activities such as safety competitions, exhibitions, film shows, safety incentive schemes and safety suggestions; and

(l) a provision of links with external sources for safety advice. In certain instances, the safety committee/personnel may consider useful to carry out inspections that help members of the association assess the effectiveness of the safety system as well as the adequacy of safety training.

3.10.4 Implementation of measures recommended

The association should implement, so far as is reasonably practicable, the measures recommended by the safety committee. A mechanism should be established whereby decisions and actions recommended by the safety committee/personnel can be effectively communicated to all personnel (like coach, staff etc) responsible for their implementation. Where necessary, monitoring arrangements should be set up by the safety committee/personnel to follow through the implementation of its recommendations.

3.10.5 Composition of the safety committee

In association where members are from the health care industry or occupational health safety industry, they should be ex-officio members of the safety committee. Other specialists of the sports, such as might be co-opted for particular meetings when subjects on whom they have expertise are to be discussed.

The association should ensure that the safety committee is provided with a written statement setting out the rules governing its membership (Terms of Reference).

The role of two of the key members, namely the chair and the secretary / safety advisor, in a safety committee is as follows:

(a) Chairperson

The success of a safety committee is governed by the commitment and the support given to it by the management committee. This is best expressed by the appointment of a member as the chairperson.

The chairperson should not be an empty title : the chairperson should regard it as one of his priority engagements to attend committee meetings, thus demonstrating real and practical interest in accident prevention.

(b) Secretary / Safety advisor

The position of the safety advisor in relation to the committee is a special one. His participation is extremely valuable by virtue of his expertise. At the same time, his job demands impartiality, so his advice should be available equally to management committee and members on the committee.

It should be the greatest advantage to the committee to have the safety advisor as its permanent secretary. A second responsible person should act as minute taker so that the

safety advisor is free to participate in discussions and give advice and information where needed. The chairman should arrange for secretarial services for the committee.

It should be the safety advisor's duty as the committee secretary to see that the committee's resolutions are put into effect or otherwise properly dealt with and that the person instructed to take action makes a report at the next meeting. As a secretary, the safety advisor should always see that a detailed agenda is prepared. It will help improving efficiency of the meetings if he takes some time to go over the agenda with the chairman beforehand so that the latter has the background information on each item.

(c) Size

Regarding the size of the safety committee, a balance should be struck between a wide representation and a reasonable size. A safety committee should not be too large. The larger the committee the more difficult it will be to get full attendance, the less will be the participation from the more timid members, the longer will be the discussions and the fewer the decisions taken.

(d) Proceedings of meetings, etc.

(i) Written statements and formality

The association should also ensure that the safety committee is provided with a written statement setting out rules governing its terms of reference and meeting procedures.

It may be necessary to draw up additional rules for the conduct of meetings, which could include procedures by which the committee reaches decisions.

A certain amount of formality is essential to uphold the authority of the chair, to keep discussions to

the point, and to emphasize the importance of the meeting and the fact that decisions are to be made. Formality should not, however, go so far as to result in an atmosphere of constraint.

(ii) Matters to be discussed

Meetings must be planned beforehand, with the matters to be discussed listed on an agenda. Agenda stating the contents of the meetings should be issued in advance (for example, not less than a week before the meeting).

Only matters relating to safety in the association should be discussed in the meetings of the safety committee.

(iii) Frequency of meetings

In general, the frequency of meetings of a safety committee depends upon the volume of activities to be handled and the complexity and nature of hazards in the sports specific training and/or competition sites. Nevertheless, in any case, it should meet at least once every three months.

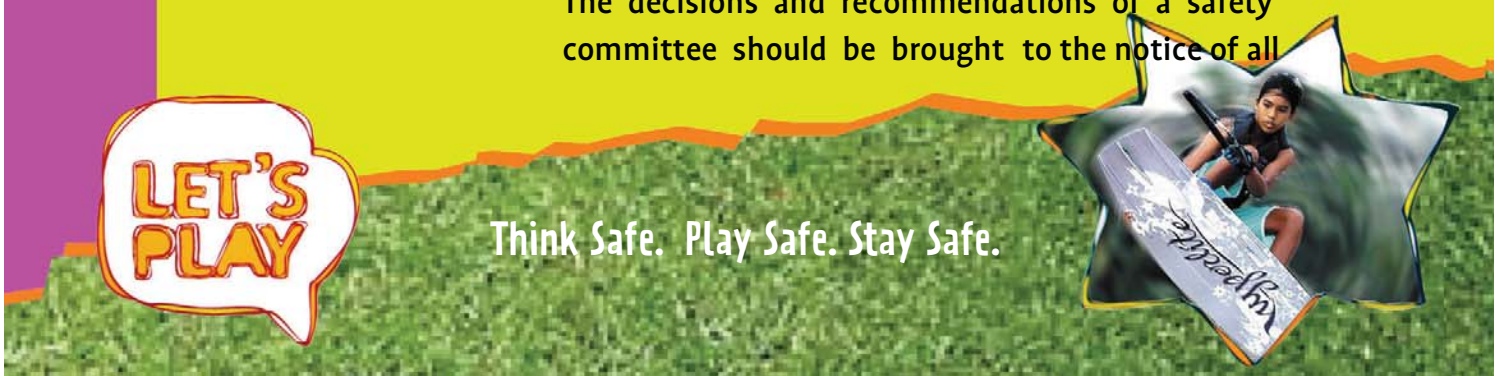
Monthly meetings are usually found to be satisfactory. If sub-committees are formed for particular tasks, it will normally be necessary for them to meet more often because their aim is to produce a specified result within a time limit.

The safety committee's programme should be arranged well in advance and notices of the dates of meetings published to let all personnel know.

(iv) Records of meetings

The association should ensure that proper records on safety committee meetings are kept to provide a progress report on decisions made, recommendations put forward and actions taken.

The decisions and recommendations of a safety committee should be brought to the notice of all



personnel in the association. The relevant documents should be displayed or made available by other convenient means.

3.11 Evaluation of hazards or potential hazards and development of safety procedures;

3.11.1 This refers to the carrying out hazard analysis for activities. The objective of hazard analysis should be to provide a means whereby sports specific related hazards or potential hazards are identified, evaluated and managed in a way that eliminates or reduces them to an acceptable level. Safety procedures and safety precautions that are to be taken to prevent the hazards and to control the risks should be developed after the hazard analysis.

3.11.2 Programme for hazard analysis

The association should establish and maintain a programme for the identification and assessment of hazards and risks, the formulation, implementation and maintenance of risk control measures and the review.

The programme should aim at recording known hazards/risks, identifying new hazards or assessment of the risks, evaluation of the hazards/risks, analysis of the effects or the potential effects resulting from these hazards/risks, and development and implementation of means to eliminate the hazards/risks or to manage the them to an acceptably low level. The association should ensure that persons responsible for the analysis of hazards or assessment of risks and for determining the means of eliminating or reducing any hazards/risks are competent and given the necessary support so that they can effectively perform their duties.

3.11.3 Main stages in hazard analysis

There are five stages (these stages can also be called "risk assessment") in hazard analysis, namely:

(a) hazard identification;

(b) risk rating;

(c) designing risk control measures;

(d) implementing and maintaining risk control measures; and

(e) reviewing.

3.11.4 Hazard identification

Hazard identification is the process of identifying all situations or events that could give rise to the potential for injury, illness or damage to property. Hazard identification should take into account how things are being done, where they are done and who is doing them, and should also consider how many people are exposed to each hazard identified and for how long.

The following should be accorded top priority in the hazard identification process:

(a) <u>High frequency of accidents or near misses</u>

Sports activities with a high frequency of accidents or near misses pose a significant threat to safety

(b) <u>History of serious accidents causing fatalities</u>

Activities that have already produced fatalities, disabling injuries or illnesses, regardless of the frequency, should have a high priority in the hazard identification process.

(c) <u>Existence of a potential for serious harm</u>

Activities that have the potential to cause serious injury or harm should be analyzed by the hazard identification process, even if they have never produced an injury or illness.

3.11.5 Risk rating

The risk associated with a hazard should be a reflection of the likelihood that the hazard will cause harm and the severity of that harm. The two elements of risk, i.e. likelihood and severity, should be independent of each other. The vast majority of hazards are relatively straightforward and requiring only a simple method of risk rating. The method incorporates a judgment as to whether or not a risk is acceptable. Such a method is illustrated as follows:

(a) For each hazard identified for each job step or work process/activity, ask the question " what if?" . Realistically what is the worst likely outcome (i.e. the severity)? Is it a fatality, major injury/permanent disability including permanent ill health, a minor injury, or no injury and only property damage?

(b) Make a judgment of the probability or likelihood of harm occurring based on the following table:

Probability/Likelihood	Description
Likely/Frequent	Occurs repeatedly/Event only to be expected
Probably	No Surprise Will occur several times
Possible	Cold occur sometimes
Remote	Unlikely, though conceivable

Improbable	So unlikely that probability is close to zero

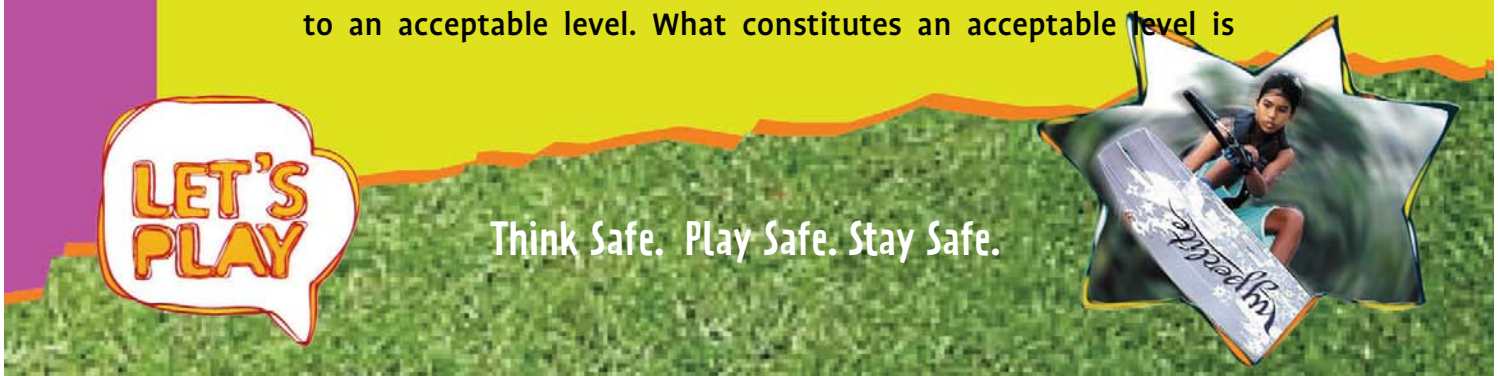
If the judgment is " improbable" , this needs to be subject to particularly rigorous scrutiny as, in reality, this is a relatively rare situation. Decisions as to whether or not action is needed can then be made by reference to the matrix formed by probability/likelihood and the worse likely outcome (i.e. severity). Items from the first rank would be prioritized first, followed by those from the second rank and then those from the third rank and so on.

Alternatively, numerical rating can be applied to both likelihood and severity; the risk of a hazard can then be determined by multiplying its likelihood rating by its severity rating. The higher the score, the higher the risk and the higher the hazard's priority for control measures.

There are a number of techniques available for formal assessing of risk of major or complex hazards. For example, the " hazard and operability study" which is an examination of the full process or those parts determined as " relevant" by hazard identification, the " failure mode and effect analysis" which examines systematically the components or parts of a system and questions on how it might fail and what the effects of failures on other parts or on the system will be, etc., and the " fault tree analysis" which identifies an event tree and traces out the sequence of failures preceding the event by assigning numerical values (failure rates) to each of the events and to estimate the ultimate failure rate of occurrence.

3.11.6 Designing risk control measures

Risk control is the measure, or measures, put into place to reduce risk to an acceptable level. What constitutes an acceptable level is



arguable but the association should be able to show that he has taken all relevant factors into account including, if appropriate, the costs of different types of control measures. This will normally require documentary evidence to show this has been done.

When deciding on risk control measures, the list below should be considered, in the order given. Risk control measures from lower down the list should only be used if it can be shown that using a measure higher up the list is not possible or, in the circumstances, would be too costly.

List of risk control measures

(a) Eliminating hazard at source: for example, using a Personal Floatation Device (PFD) instead not wearing one for any water activity;

(b) Reducing hazard at source: for example, using a certified PFD instead of a non-certified PFD (EN393 or US Coast Guard Type III);

(c) Removing personnel from hazard: for example, not allowing non-swimmers in water activities;

(d) Containing hazard by enclosure: for example, all non-swimmers must wear a PFD and activity confined to shallow waters;

(e) Reducing personnel exposure: for example, reducing activity hours to a maximum of two hours for non-swimmers for water sports activities;

In selecting appropriate risk control measures, it should be vital to start at the top and work down the list, selecting the highest method that is reasonably practicable in the circumstances.

3.11.7 Implementing and maintaining risk control measures

For a risk control measure to be implemented effectively and efficiently, it should be as far as practicable developed at the association by involving all personnel (i.e. management committee members, safety in-charge/safety committee members, staff, coaches, athletes, part-timers and participants) and getting their support. Feedback from the people implementing the risk control measure should be encouraged so that improvement to the measure can be made.

An important aid to implementation should be good design of risk control measures. Where it requires time to implement well-designed control measures and the situation demands it, interim arrangements should be in place.

Maintaining risk control measures should require scheduled inspections and scheduled maintenance. It should also involve ensuring that people continue to comply with safety procedures that are part of the control measures by rewarding compliance and imposing sanctions when there is non-compliance.

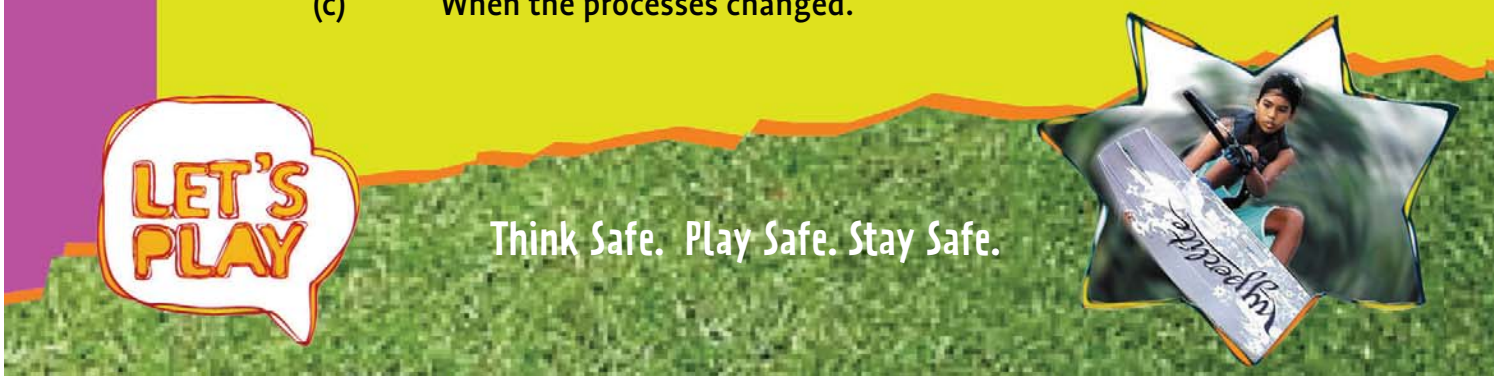
3.11.8 Reviewing

Whatever control measure is used, the assessment should be reviewed to ensure its effectiveness and efficiency if there is reason to suspect that it is no longer valid, or if there has been a significant change in the matters to which it relates. For example:

(a) When information is obtained about a previously unidentified hazard.

(b) When the design of equipment is enhanced, revised or modified.

(c) When the processes changed.



(d) When the association is relocated.

(e) When the committee and other key personnel changes.

(f) When there is any other change that makes the existing method of assessing risk irrelevant.

3.12 Promotion, development and maintenance of sports safety awareness in the association;

3.12.1 The objective of safety promotion is to develop and maintain awareness among all personnel, of the association's commitment to safety, and of the individuals' responsibility to support that commitment. Association should recognize that the promotion of safety is a valuable way of advancing the culture of safety in sports and of reinforcing the concept that safety are inseparable. Through continuous safety promotion, the association can increase the awareness, interest and willingness of all its members to act in ways that would increase their personal safety and that of the participants, and that would support the association's stated safety objectives.

3.12.2 The need for a safety promotion programme

In general, safety promotion programmes should be developed and maintained by association in order to put into practice the promotion of sports safety. The safety programmes should clearly demonstrate the commitment of the association to establishing an effective safety management system that will provide and maintain a safe sporting environment. The programmes should have clearly defined objectives and should require very careful thought and consideration if the maximum benefit is to be obtained.

Safety promotion programmes should take place during activity hours to demonstrate the management committee's commitment to sports safety. The use of gifts and other tangible rewards for effort and performance exhibited in the safety promotion programme can, if

correctly implemented, also play a part in encouraging the association to be more involved. The association should, as part of a safety promotion programme, develop a procedure to recognize and acknowledge good safety performance either by individuals and/or teams. The association should appoint a coordinator for such programme who will help making the programme more effective and will plan and co-ordinate implementation in the association.

3.12.3 Safety promotion approaches

A safety promotion programme should have a combination of the following approaches in safety promotion:

(a) <u>Promotion of safety in meetings</u>

A meeting can provide a good opportunity for promoting safety. Meetings suitable for promoting safety include orientation meetings for new members, coaches meetings and regular safety meetings. Safety films/videos of relevant sports should be selected and screened for the benefit of those in the meetings and time should be allowed for the discussion of the subject after the viewing.

(b) <u>Promotion of safety with individuals</u>

This should be done by the association to promote safety directly to all during the normal course of their activity. For an association that hires sports service providers, they should be treated as an individual for safety promotion by the association. Provisions in the contract for promoting safety by the sports service providers should be laid down.

(c) <u>Promotion of safety in print</u>

(i) Safety handbooks and brochures

Up-to-date safety handbooks and brochures on sports specific activity should be issued to increase safety awareness and as part of the safety training for individuals at different levels.

(ii) Safety bulletins and newsletters

Safety bulletins and newsletters should be published by the association to promote safety. They should contain interesting articles including case studies (local or overseas) about accidents, pictorial presentations of safety rules and safety procedures.

(iii) Safety notice boards

The boards should be used to post safety policy, rules, news, suggestions, accident reports, accident reporting procedures, emergency procedures, circulars, memos, notice of safety video shows and drills, etc.

(iv) Safety posters

Safety posters should be posted at strategic locations in the association (such as the main entrance, office, notice boards, toilets etc). They should be weatherproof, relevant, up-to-date, clear and attractive.

(v) Statistical reports

Statistical reports on safety performance or their summaries should be circulated to all members of the association to promote awareness of safety and health at work. The report should include progressive data on the disabling injury incidence and minor injuries. All disabling and minor injuries should be tabulated of the sports to allow further used for trend analysis.

(d) <u>Promotion of safety with awards and recognition</u>

Competitions between should be held with some tangible or intangible rewards for the winners at the end of the competitions. The purpose of safety awards is to recognize and promote sports safe practices and reinforce positive attitudes towards safety. The most important award an

individual or a group of individuals can receive is recognition of a contribution to safety. An award does not have to be large but it should be meaningful and appropriate for the occasion. Awards can be luncheons, gifts or free use of equipment etc.

3.12.4 Successful safety promotion programmes

Attributes for a successful safety promotion programme should include the following:

(a) Critical safety problems should be properly identified.

(b) Focus and safety slogan for the programme should be clearly determined.

(c) Objectives of the safety promotion programme such as raising awareness or increasing knowledge should be clearly established.

(d) Activities in support of the main theme or slogan of the programme should be organized.

(e) Programme should be related to accidents or practices in the association.

(f) Visuals and videos should be used to attract attention and interests.

(g) Incentives for participation in the programme should be provided.

(h) Programme activities should be coordinated with other elements of the safety management system, but there should be no overlapping of activities.

3.13 **Accident control and elimination of hazards before exposing committee members, staff, coaches, athletes and participants to any adverse environment; and**

3.13.1 This element refers to a process control programme which aims at identifying safety risks and properly planning the process to control those risks. The process control programme can be applied to all processes, from daily activity and athlete training to more specific process such as sending athletes for overseas competitions, etc. An effective process control programme requires a systematic approach to evaluating the whole process. Using this approach, the process design and technology, operational and maintenance activities and procedures, emergency preparedness plans and procedures, training programmes, and other elements that impact on the process are all considered in the evaluation.

3.13.2 The various lines of defense incorporated into the design and operation of the process to abate or reduce the safety risks need to be evaluated and strengthened to assure their effectiveness at each level. The following stipulates some of the main components of a process control programme.

3.13.3 Provision of process safety information

Complete and accurate written information concerning process, technology and equipment is essential to an effective process control programme and to a process hazard analysis as described in the next section. The compiled information should be a necessary resource to a variety of users including the members who will perform the process hazard analysis, those developing the training programme and the operating procedures, and the service providers who will be working with the process, if any. Besides, process information should be a part of the process safety information package and it should include appropriate diagrams (such as block flow diagrams, process flow charts etc.) of the process to be carried out.

3.13.4 Process hazard analysis

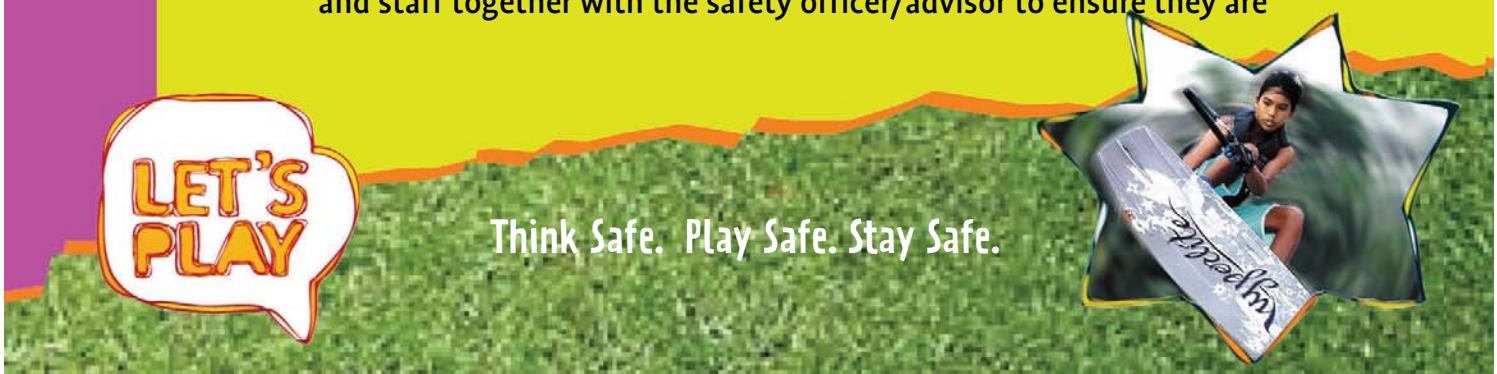
A process hazard analysis is similar to the risk assessment method as described in Point 3.11. It should be an organized and systematic effort to identify and analyze the significance of potential hazards associated with the carrying out of a specific activity in the association. It should provide information to assist the management committee in making decisions for improving sports safety standards in the process. A process hazard analysis should be directed towards analyzing the potential causes and consequences of the occurrence of accidents with injuries and fires etc. It should focus on equipment, instrumentation, utilities and human actions that might impact on the process. These considerations would assist in determining the hazards and potential failure points or failure modes in a process.

The selection of a technique to carry out a process hazard analysis would be influenced by many factors including the level of existing knowledge about the sports. Also, the size and complexity of the process would influence the decision as to the appropriate technique to be used. The simple checklist methodology works well when the process is very stable and no changes have been made, but it is not as effective when the process has undergone extensive change.

The techniques commonly available for formal assessment of major or complex hazards as described in Point 3.11, can be used to carry out the process hazard analysis.

3.13.5 Operating procedures and practices

Operating procedures should describe tasks to be performed, data to be recorded, operating conditions to be maintained, samples to be collected, and safety precautions to be taken. The procedures need to be technically accurate, understandable to all individuals involved and revised periodically to ensure that they reflect current operations. Operating procedures should be reviewed by management committee and staff together with the safety officer/advisor to ensure they are



accurate and provide practical instructions on how to carry out activity safely.

Operating procedures should include specific instructions or details on what steps are to be taken or followed in carrying out the stated procedures. Operating instructions for each procedure should include the applicable safety precautions and should contain appropriate information on safety implications.

3.13.6 Training

Besides those referred to in Point 3.3, all individuals involved, including Part-time and free-lance coaches (if any), should fully understand the safety hazards of the processes they work with for the protection of both themselves and their fellow participants. Also, additional training in subjects such as operating procedures and safety practices, emergency evacuation and response, safety procedures and other areas pertinent to process safety should be covered in the training programme.

Hands-on training where individuals are able to use their senses beyond merely listening will enhance learning and should be provided. Other training techniques using videos or on-the-job training should also be considered. The association should periodically evaluate the training programme to see if the necessary skills, knowledge, and routines are being properly understood and implemented by their trained personnel. In addition, careful consideration should be given to ensure that committee members, staff, coaches, athletes and participants including part-time, free-lance coaches and sports service providers (if any), have received current and updated training.

3.13.7 Sports Service Providers working with the process

There should be a system to evaluate, select and service providers (if any) working with the process. See Point 3.9 for details.

(a) Investigation of accidents/incidents

Besides those referred to in Point 3.7, the association should develop in-house capability to investigate accidents/incidents that occur in the facilities. For serious or alarming accidents/incidents, the association should as far as reasonably practicable assemble a team trained in the techniques of investigation including how to conduct interviews with witnesses, how to secure necessary documentation and how to write reports. It is preferable to have a multi-disciplinary team (involving staff from the Singapore Sports Council) to gather the facts of the event, to analyze them and to develop plausible scenarios as to what happened, and why. Team members should be selected on the basis of their training, knowledge and ability to contribute to a team effort to fully investigate the accident/incident.

(b) Emergency preparedness

An association should be well prepared for all reasonably foreseeable emergency situations. See Point 3.8 for details.

3.14 Protect committee members, staff, coaches, athletes and participants from hazards

3.14.1 It is the duty of the sporting association to ensure the safety of their committee members, staff, coaches, athletes and participants. The principles for protecting them from hazards through controlling risks are almost the same as those for safety. They consist of five basic stages:

(a) Hazard identification — identifying hazards that could cause harm;

(b) Risk assessment — assessing the risk that may arise from the hazards;

(c) Risk control — deciding on suitable measures to eliminate or control risk;

(d) Implementing and maintaining risk control measures; and

(e) Reviewing.

3.14.2 The nature of risks can make the link between sports activities and ill health less apparent than in the case of injury from an accident. Since health may be irreversibly damaged before the risk is apparent, it is essential to develop a preventive strategy to identify and control risks before anyone is exposed to them. One of such measure is voluntary or compulsory screening prior to the activity.

3.14.3 Hazard identification

This is the essential first step. The objective is to find out whether there exists any hazard in the training and/or activity site. Relevant sources of information should include:

(a) legislation and supporting codes of practice approved by the relevant sporting federations which give practical guidance and include basic minimum requirements;

(b) process information; information and advice from suppliers of equipment and other articles used for the activity;

(c) relevant international standards;

(d) the personal knowledge and experience of coaches and participants;

(e) accident, ill health and incident data from within the association or from other associations;

(f) expert advice and opinion and relevant research.

3.14.4 Besides, the hazard identification process should take into account the following hazards from sports activities:

(a) Sprains, strains and pains
- can be caused by manual lifting of heavy equipment;

(b) Noise
- noise levels that are too high can lead to hearing problem such as tinnitus (ringing in the ears), or noise induced hearing loss.
- E.g. Shooting

(c) Vibration
- too much vibration, can lead to hand-arm vibration syndrome, with circulation problems such as "white finger", where the fingers become numb and lose sense of touch.
- E.g. Motor sports, 4 x 4 off-road driving etc.

(d) Radiation
- Radiation such as ultra-violet radiation can all damage the eyes and skin.

(e) Extremes of temperature, pressure and humidity
- can affect individual's ability to participate safely and can cause harmful changes within their bodies, such as heat stress and 'the bends' (decompression sickness).

(f) Stress

– can affect all committee members, staff, coaches, athletes and participants. Stress is often behind a lot of sickness absences. It can contribute to coronary heart disease and illness caused by high blood pressure.

3.14.5 There should be a critical appraisal of all routine and non-routine sports activities. In the simplest cases, hazards can be identified by observation and by comparing the circumstance with the relevant information. In more complex cases, measurements such as air sampling may be necessary to identify the presence of health hazards. In the most complex or high risk sports (for example, water sports), special techniques and systems may be needed such as hazard and operability studies and hazard analysis techniques such as fault tree analysis. Specialist advice may be needed to choose and apply the most appropriate method.

3.14.6 Although specialist help may be needed to control risks, the association themselves remain responsible for managing sports activities in a way that will prevent their committee members, staff, coaches, athletes and participants being made ill by their sports.

3.14.7 Risk assessment

Risk assessment helps to decide which risks should be given priority. The aim is to identify what steps need to be taken to control risk. Risk assessments should be done by competent persons. A full description of risk assessment is detailed at Point 3.11.

3.14.8 Risk control

When risks have been analyzed and assessed, decisions about the precautions against hazards can be made. All final decisions about risk control methods should take into account the relevant legal requirements that establish minimum levels of risk prevention or control.

In devising risk control measures, the involvement of committee members, staff, coaches, athletes and participants and consultation encourage solutions that are relevant and practical for those who have to implement them. The details of the control measures should be discussed in the safety committee/in-charge.

3.14.9 Implementing and maintaining risk control measures

Same as that described in Point 3.11.

3.14.10 Reviewing

Same as that described in Section 11