BRITISH GLIDING ASSOCIATION

SAFETY MANAGEMENT SYSTEM

MANUAL

1. Amendment Procedures, Record of Amendment, Distribution and List of Contents

1.1 Amendment Procedures

Amendments will be promulgated by the Accountable Manager in conjunction with the Safety Committee and will be published online as a complete revised document.

All nominated post holders will be advised of published revisions.

1.2 Record of Amendment

Issue	Date	Issue	Date
Initial issue v10	8th January 2014		
Amended as v10.1	26th February 2016		

1.3 Distribution List

Promoted and available online at www.gliding.co.uk

Forwarded in e-format to;

- All Nominated Post Holders
- All BGA Executive Committee

1.4 Contents

2. Introduction

The British Gliding Association (BGA) consists of a central organisation and gliding clubs. This Safety Management System manual combines and documents BGA policy on the safety of gliding operations. It does not provide a means of compliance with occupational health and safety or environmental legislation.

The safety management system will monitor operational standards and procedures through a structured review and reporting schedule to ensure compliance where required with BGA and legislative requirements.

As a non-complex, non-commercial air sport activity, gliding within the BGA and its member clubs is regulated by the UK Air Navigation Order and applicable EASA regulations, and managed in accordance with the BGA's own operational regulations and guidance material.

The overall responsibility for the BGA organisations policy guidelines in respect of the BGA Safety Management System rests with the BGA Executive Committee. The responsibility for implementing the Safety Management System is delegated to the Accountable Manager and the Nominated Post Holders, including those at clubs, who ensure that an integrated approach to all operating standards is achieved and that all necessary regulatory and legal requirements are satisfied.

Proposed amendments may be initiated by any part of the BGA but must be submitted through the Accountable Manager, who is responsible for the amendment and production of the manual. Drafting of amendment proposals will be delegated to the relevant Nominated Post Holder.

This publication will be reviewed annually by the Safety Committee.

3. Safety Policy & Objectives

The British Gliding Association, which includes all member clubs, is committed to safe practices with the objective of facilitating a sport gliding environment where the levels of risk are as low as reasonably practicable. This will be achieved through the implementation of an effective Safety Management System and a process of continuous improvement.

The Accountable Manager has the responsibility to provide adequate resources to ensure that the BGA organisation can support and assist clubs and members to comply with all applicable legislation and procedural requirements to satisfy this policy.

The procedures necessary to achieve these aims are fundamental to this policy and apply to members, staff, and contractors.

The BGA gives priority to not harming any third parties, to continuing to reduce the fatal accident rate, and to avoiding any airspace infringements.

The British Gliding Association has an open reporting culture that encourages free and frank reporting within a just culture.

‘Safety is everyone’s responsibility’.

Signed:

Chief Executive and Accountable Manager

Signed:

BGA Chairman

4. Safety Organisation

4.1 Safety Management System - Scope

The BGA Safety Management System is designed to support safe operations by BGA clubs and members. Some risks potentially impact upon all members, visitors and other third parties, and need management by clubs and the BGA. These risks include those associated with airworthiness of aircraft, launching operations, and navigation to avoid controlled airspace.

Gliding is first and foremost an air sport activity. The appetite for risk from flying gliders varies among the sports participants. This aspect of risk is managed at three levels:

1. Third party visitors. Through training and risk-averse operational policies the risk is eliminated as far as is practicable.
2. Flights by unqualified** pilots who are therefore not equipped to effectively manage the risk for themselves. These risks include those associated with flight training and solo supervision.
3. Flights by qualified participants who can control the risk for themselves based on knowledge, the available information and experience.

**Qualified = holds either Bronze & Cross Country Endorsement or a recognised Glider Pilot Licence.

4.2 Safety Management Accountabilities and Responsibilities

The responsibility for implementing the safety and quality systems is delegated to the Nominated Post Holders who ensure that an integrated approach to all operating standards is achieved and that all necessary regulatory and legal requirements are satisfied.

4.2.1 Nominated Post Holders

The Safety Management System Nominated Post Holders are;

<u>Accountable Manager (Chief Executive Officer)</u>

The Chief Executive Officer as Accountable Manager has overall accountability for the management of safety and compliance and is responsible for;

- The management organisation, ensuring that all BGA-led operations, training and maintenance activity can be financed and carried out to a standard acceptable to the regulator
- Ensuring that the Safety Management System is effective in identifying hazards and risks and that they are mitigated and documented
- The promotion of safety and compliance within the BGA
- Acting as the Safety Manager
- The implementation and maintenance of the SMS

Nominated Post Holder – Club Chairman (supported as applicable by Club Officials including the Chief Flying Instructor and Club Safety Officer)

Clubs have responsibility through their club officials for the effective safe management of operations at their club sites. This includes ensuring that hazards and risk relating to their club sites are identified, reasonably mitigated & documented.

Nominated Post Holder - Airworthiness (Chief Technical Officer)

The Chief Technical Officer has responsibility for the effective safe management of BGA facilitated airworthiness activity.

Nominated Post Holder - Flight Training (Training Standards Manager)

The Training Standards Manager has responsibility for the effective safe management of BGA facilitated flight training activity

4.2.2 Nominated Post Holder Review

Training and Airworthiness nominated post holders shall ensure that documented reviews of safety management applicable to their areas of responsibility are carried out as appropriate including as required under a formal approval. Club Chairmen should periodically ensure that a documented safety review is carried out at their club. See 6.3 'Club Safety Review' below.

4.2.3 Safety Committee

The Safety Committee reviews all key safety and quality issues and reports to the BGA Executive Committee. The Safety Committee should meet at least twice per year.

The terms of reference for the Safety Committee are detailed in the BGA Committee Terms of Reference publication and summarised here as;

- Review the SMS publications
- Review significant incidents and findings
- Review and maintain the hazard matrix
- Ensure trends are monitored effectively
- Commission where required and review progress of safety improvement activity
- Ensure issues are effectively communicated
- Monitor the effectiveness of the safety management system

The Safety Committee consists of the;

- Safety Committee chairman
- Accountable Manager
- Safety Data Analyst
- Chief Technical Officer
- Training Standards Manager
- Club Safety Officer co-ordinator
- Invited Principal Accident Investigator
- Invited subject matter experts as required

4.3 Selection, Recruitment, Development and Training of People

Nominated post holder posts that affect the safety of operations should be filled by people on the basis of knowledge, skills, training and experience appropriate to the role.

Training needs must be considered at appropriate frequencies to ensure that performance levels remain high and, where required, complies with the relevant regulation.

Those responsible for compliance management should have received training covering the following;

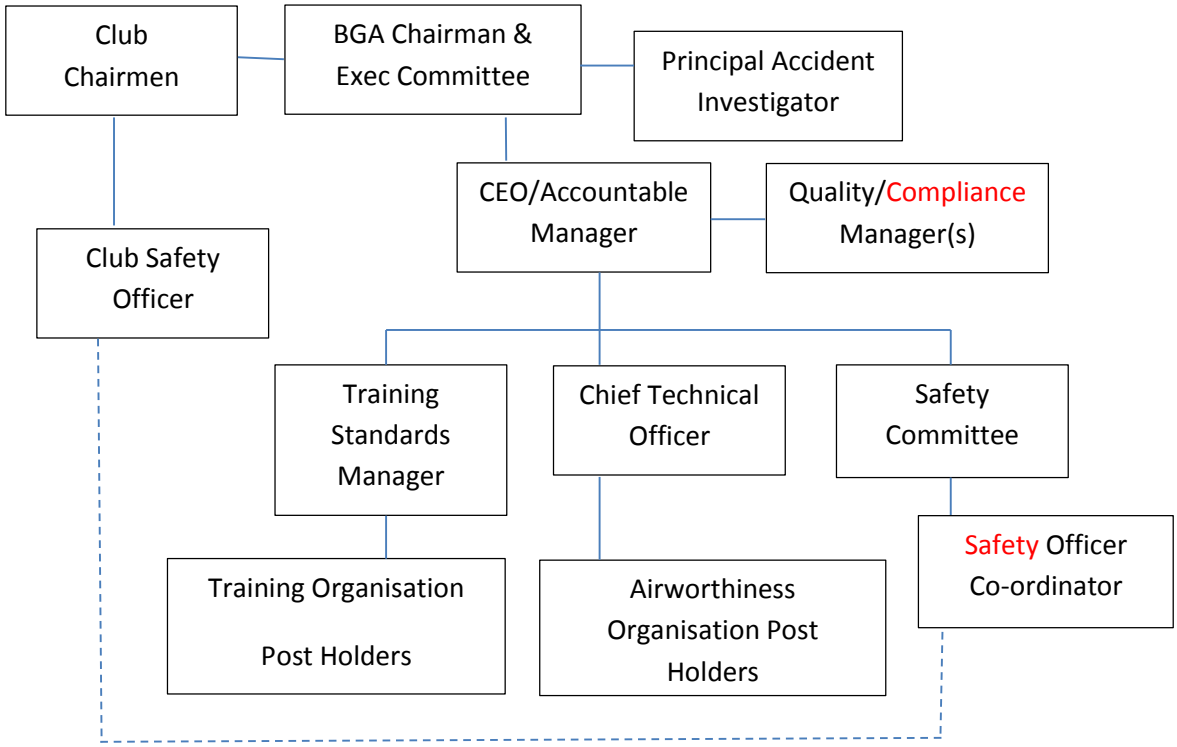
- An introduction to the concept of Quality Management
- Audit techniques
- Reporting and recording

4.4 Management Structure

The overall BGA governance responsibilities, including safety responsibilities, sit with the elected BGA Executive Committee. The BGA Executive Committee has an elected chairman. Club governance responsibilities, including safety responsibilities, sit with the relevant Club Committee. Each club has an elected or nominated chairman who is expected to appoint a club safety officer.

Organisation responsibilities and management structure is defined within the Airworthiness Exposition or manual.

The following diagram illustrates the management structure.



5. Publications

5.1 Procedures and Guidance

The procedures and guidance that apply to BGA operations are a fundamental element of safety management.

The Accountable Manager in consultation with the Executive Committee will determine what procedures and guidance should be made available in BGA publications. The publications will be made available to BGA clubs and their members.

Some clubs may have in place local procedures published in club publications, for example a club flying order book. Club Chairmen, as Nominated Post Holders, will maintain such club publications as necessary.

5.2 BGA Publication Control

BGA publications should be accessible to all who need them. This is normally facilitated by making the publications available online.

Master publications should be adequately protected and backed-up.

The BGA Office will maintain the Master publications. All amendments and any variations to procedures should be reviewed prior to incorporation and be approved by the Nominated Post Holder. If an amendment concerns any part of a CAA approval, the CAA must approve the amendment prior to it becoming effective. Changes must be communicated to users.

All documents in the master document list should be identified with their revision status. An audit trail of source and revision history should be maintained.

Manuals and procedures should be subject to regular review to retain the currency of the contained information.

5.3 BGA Master Publications

Publication	Responsible Post Holder
BGA Laws and Rules, Requirements & Guidance	Accountable Manager
BGA SMS Manual	Accountable Manager
BGA Airworthiness Exposition	Quality Manager
BGA Training Organisation Manuals	Compliance Manager

6. Hazard Identification and Risk Management

6.1 Reporting

BGA guidance on both the UK minimum legal requirement and BGA requirement for reporting accidents and serious incidents is described in BGA Laws and Rules.

In the case of accidents on a gliding club site, the Club on the site (usually by delegation to the club CFI or Safety Officer) must ensure the necessary report has been submitted to the AAIB/BGA. In all other cases, the pilot in command involved in the accident must ensure reporting is undertaken.

Incident and accidents reported to the BGA are recorded on the BGA incidents and accidents database.

6.1.1 Club internal incident reporting

Clubs should establish a club incident reporting system that proactively encourages reporting and includes a review and follow up process. Guidance is detailed at Appendix 2

6.2 Safety Investigations and remedial Action

The purpose of an investigation of any accident or incident is to establish the facts and cause and thereby prevent further occurrence. The purpose is not to apportion blame or liability. The BGA publishes an accident investigation protocol.

The BGA will cooperate fully with Investigators from appropriate State Authorities when a formal AAIB investigation is being carried out. The BGA Principal Accident Investigator will be the primary point of contact with the State Investigators. AAIB normally delegate non-fatal accident investigation to the BGA.

The BGA has an Accident Investigation Team led by the Principal Accident Investigator, who reports to the Chairman of the BGA. The BGA Accident Investigation Team terms of reference are detailed in the BGA Terms of Reference publication.

Depending on the outcome of the reported incident or accident, a club level investigation will normally be arranged by either the relevant club Chief Flying Instructor or Safety Officer, or a BGA investigation will be arranged by a BGA investigator. In each case, the investigator shall determine as quickly as possible the facts of the incident in order to initiate any necessary changes to procedures, operating or engineering standards, modifications of equipment or other measures.

6.3 Club Safety Review

Club safety reviews should be carried out periodically by clubs, ideally at least every three years. A copy of the report of the completed safety review should be sent to the BGA Office and maintained on file. Reports will be routinely reviewed by the Safety Committee to assist in identifying trends.

6.4 Hazard Identification and Risk Assessment

Hazard analysis and risk assessment tools are important in providing a proactive approach to safety management. They will identify areas of relatively higher risk and will also aid the development of safe, effective, procedures and practices.

6.4.1 Hazard Identification

Effective identification of hazards (potential to cause harm) is achieved by;

- Review of accidents/incidents from internal/external sources
- Identifying deficiencies during reviews
- Identifying hazards that are possible but have never occurred
- Periodical review of hazards if there are changes
- Known hazards mitigated through published BGA operational requirements and guidance material

Hazard identification is regularly conducted to provide a comprehensive assessment of the risks faced by the operation. Measures are put in place through the SMS process to mitigate the risks.

6.4.2 Risk Assessment

Risk assessment is a subjective, qualitative method of evaluating and predicting the likelihood and severity of loss inherent in the identified hazard. A Risk Matrix as illustrated in the two examples below will be used to determine the **Risk Tolerability** and identify the level and scope of mitigation measures.

Example Risk Matrix – Severity/Likelihood Values

Aviation Definition	**ILLUSTRATIVE SEVERITY OF OCCURRENCE**	**Value**
Catastrophic	Results in third party fatal or other accident with the potential to significantly damage gliding in the UK	5
Very Damaging	Fatal accident to a 3rd party on or near a gliding site	4
Serious	Fatal or Serious injury accident	3
Of Concern	Minor injury accident	2
Minor	Nil injury accident or incident	1

Qualitative Definition	**LIKELIHOOD OF OCCURRENCE**	**Value**
Frequent	Likely to occur many times	5
Occasional	Likely to occur sometimes	4
Remote	Unlikely to occur but possible	3
Improbable	Very unlikely to occur	2
Extremely Improbable	Almost inconceivable that the event will occur	1

Example Risk Tolerability Matrix (current risk matrix managed by the Safety Committee)

Risk Probability	Risk Severity				
	Catastrophic 5	Very Damaging 4	Serious 3	Of Concern 2	Minor 1
Frequent 5	Unacceptable	Unacceptable	Unacceptable	Review	Review
Occasional 4	Unacceptable	Unacceptable	Review	Review	Review
Remote 3	Unacceptable	Review	Review	Review	Acceptable
Improbable 2	Review	Review	Review	Acceptable	Acceptable
Extremely Improbable 1	Review	Acceptable	Acceptable	Acceptable	Acceptable

UNACCEPTABLE: The risk is unacceptable and major mitigation measures are required to reduce the level of risk to as low as reasonably practicable.

REVIEW: The level of risk is such that mitigation measures may be required to reduce the level of risk as low as reasonably practicable. Where further risk reduction/mitigation is not practical or viable, the risk may be accepted, provided that the risk is understood and has the endorsement of the Safety Committee.

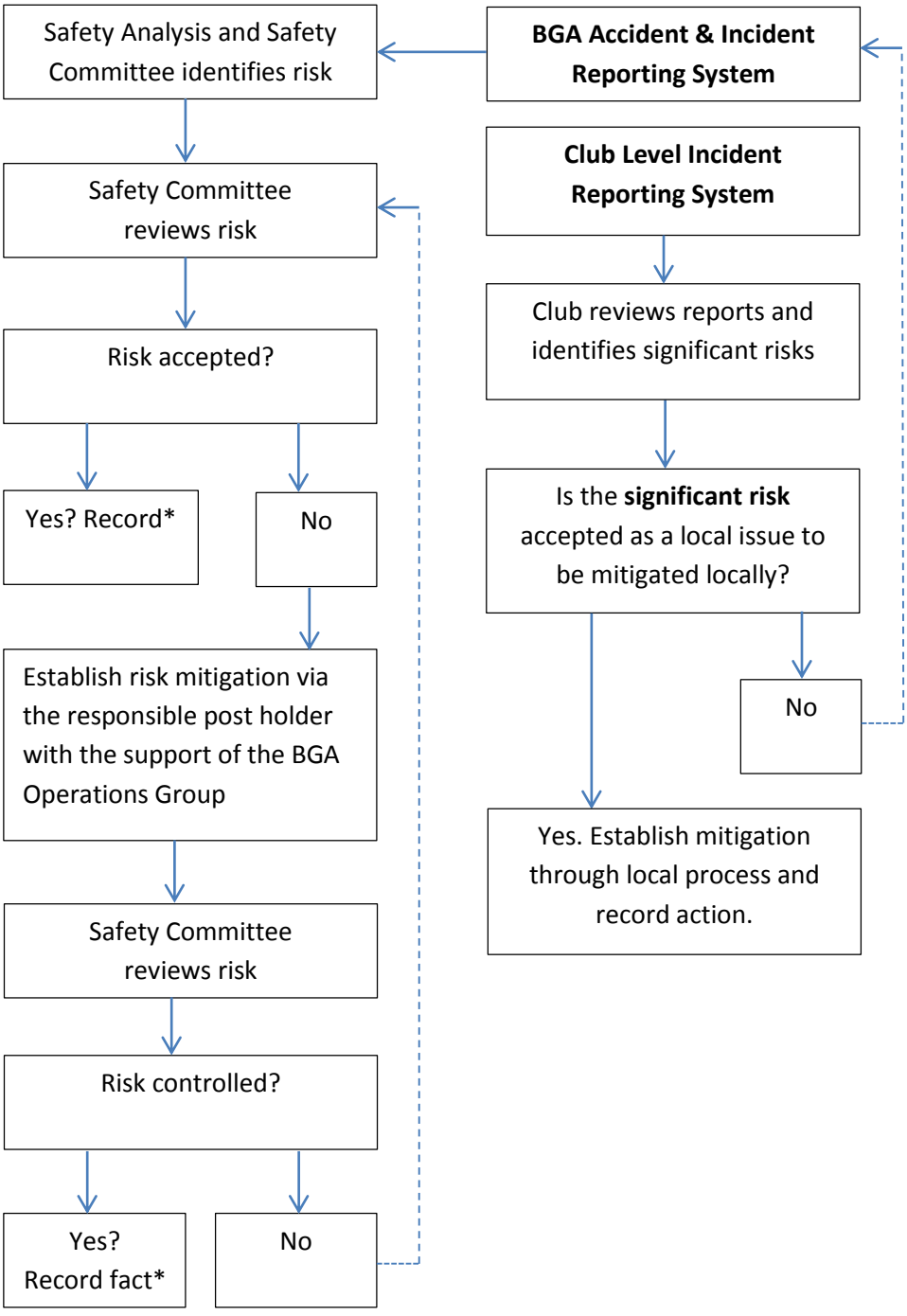
ACCEPTABLE: Risk is considered acceptable but should be reviewed if it recurs.

6.5 Risk Management Process

The risk management process is illustrated below.

Risk mitigation could take a number of forms. Change to procedure, change to BGA requirements and safety education are potentially simple and quick solutions. However, it is highly likely that significant risks may require focussed project work to ensure a sustainable measured reduction in risk.

The Risk Management Process



*Where records are made, the detail will be referenced in Safety Committee meeting notes.

7. Safety Assurance

7.1 Safety Assurance through Good Practice and Compliance Management

Safety assurance is established through good practice and compliance management. The BGA airworthiness and training activities are subject to compliance management processes that are independent from BGA airworthiness and training processes and post holders. Feedback from the airworthiness and training activities performance and findings are presented to the Accountable Manager at least annually.

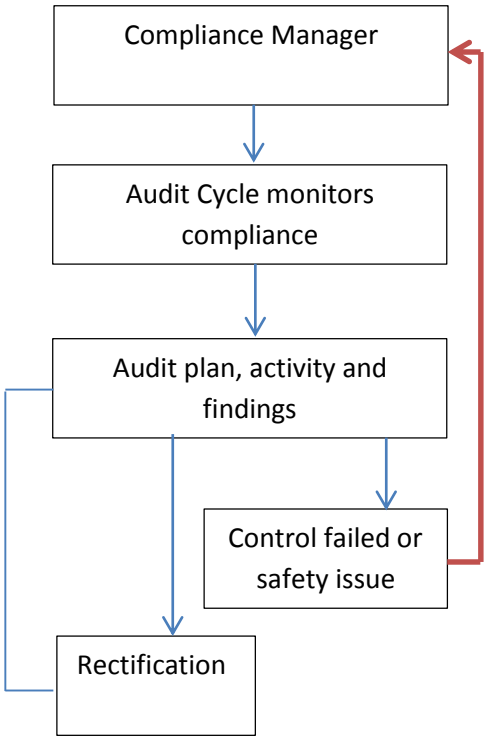
Wider safety assurance ie beyond airworthiness and training is met through the routine activity of the Safety and other Committees under their Terms of Reference.

7.2 Compliance Management Process & Procedures

The BGA Airworthiness Exposition and the BGA Training Organisation Manual describe the compliance management process and procedures required to satisfy the oversight of BGA, CAA and EASA requirements.

The compliance management processes are also designed to support and assist CAA surveillance of the BGA Airworthiness and Training Organisation approvals.

7.3 The Compliance Management Process - Schematic



8. Change Management Process

8.1 Change Hazard and Risk Assessment

Changes in process likely to impact on BGA airworthiness and training should be subject to hazard and risk assessment by the Safety Committee. A structured approach will be used as described in 6.4 above.

9. Emergency Response Planning

9.1 Emergency Response Plan

An emergency response plan should be established by all BGA sites that describe the actions to be taken in the event of an emergency related to flying operations. This does not include emergencies not related to flying operations, for example those directly associated with buildings (Health & Safety, fire, etc) and road traffic (accidents) which are subject to other response requirements.

The emergency response plan should be accessible during flying operations and should describe;

- How the flying operation will transition from normal to emergency operations
- Who will take charge of the emergency
- How efforts to resolve the emergency will be co-ordinated
- How operations will continue or return to normal after the emergency
- How the emergency response plan will be co-ordinated with other organisations, for example the emergency services
- Frequency of review and who is responsible

9.2 Guidance Material

The BGA-published ‘post-accident guide’ includes suitable information and templates.

Refer to the BGA website.

10. Communication

The promotion of safety and quality within the BGA is a responsibility of the Accountable Manager. Internal and external communication tools will be used to ensure relevant and timely safety education & promotion.

10.1 Communication of Safety Concerns

Communication is vital in matters of safety. Procedures are in place to ensure that any significant safety concerns can be reported within the organisation for resolution (refer to 6.1). It is essential that all significant safety concerns or suggestions are responded to by the safety organisation.

10.2 Safety Education Communication

The BGA shall maintain and develop its safety communication such that it;

- Ensures that clubs are properly consulted and informed on safety related matters
- Ensures that all key post holders throughout the BGA are aware of BGA SMS
- Conveys safety-critical information, especially that related to assessed risks and hazards
- Explains why particular actions are taken
- Explains why changes are introduced

Regular dialogue will take place between the Safety Committee and the Communications Officer.

APPENDIX 1 – EXAMPLE CLUB SAFETY REVIEW CONTENT

Name of Club:

Name(s) of Person(s) carrying out the Club Safety Review:

Date of Club Safety Review:

Club Management Structure

Is the club supervisory structure, as it relates to safety policy, practices and procedures, clearly defined and available to members?

Has the club a nominated safety officer? Does he report to the Chairman?

Does the club have a programme to evaluate hazards and promote safety in accordance with BGA SMS requirements?

Are there an adequate number of active and current instructors, and a CFI succession plan?

Information for Pilots

Are flying orders, local flying rules and letters of agreement readily available to members?

Are glider and other club aircraft manuals and BGA manuals readily available to members?

Where is safety information on display?

Are local and regional air maps available?

Are current NOTAMs and Met reports available?

How are pilots briefed before flying commences?

Aircraft

Are all club gliders equipped with energy absorbing cushions?

Are energy absorbing cushions encouraged in private gliders?

Are glider ballast weights readily available for club gliders?

How are they secured in the aircraft?

Are all club gliders provided with audio varios?

Winches and other Vehicles

Who is responsible for the maintenance of the equipment in efficient working order?

Are winch cables and cable assemblies fit for purpose, used with appropriate weak links and routinely inspected?

Are appropriate ground warning signs provided?

How do people on the airfield know that a winch launch is underway e.g. is there a beacon on the winch?

Airfield

How is access controlled?

What safeguards are in place to avoid conflict with other airfield users?

What public rights of way exist on the airfield?

What safeguards are in place to protect the public?

What obstacles or hazards, including rough ground, (temporary or permanent) exist on the airfield? How are these marked?

Pilots

How is pre-solo training recorded to meet BGA ATO requirements?

Has the club a post-licence development training programme?

Are visiting pilots given a site briefing?

Are members required to seek CFI approval for ownership of a new type?

Is aircraft conversion advice provided for new owners?

Operations

What supervision is provided at the launch point?

What circuit procedures are employed for both gliders and powered aircraft?

What R/T procedures are employed?

Are aerotow ropes and assemblies fit for the purpose, used with appropriate weak links, and inspected before use?

Visitors

Is there a recognised system for receiving and dealing with visitors?

Are there signs at the airfield entrance guiding visitors safely to a reception area?

Who is responsible for supervising visitors and briefing them regarding appropriate behaviour on the airfield?

Emergencies

Is the club disaster/accident plan up to date and readily available to club members at both the launch point and at the clubhouse?

Is the emergency equipment checked?

How often and by whom?

Do the emergency services know how to get to the airfield?

Has the club a list of members who are first-aid trained displayed at the launch point and in the clubhouse?

Is a check carried out at the end of flying to ensure that all aircraft are accounted for?

Follow up Actions (if required)

Review Findings

APPENDIX 2 – GUIDANCE ON CLUB LEVEL INCIDENT REPORTING

All accidents and incidents involving gliders, self-launching gliders, microlight gliders, TMGs and tugs normally based at a BGA club or resulting from the flying operations of BGA gliding clubs, including those foreign registered, must be reported to the BGA. This includes accidents also reported to the AAIB, flying accidents resulting in minor injury and/or minor damage, and accidents unconnected with flight, for example encounters with moving winch cables, towed gliders hitting an object, glider damage from livestock or wind.

An INCIDENT is an unusual event which takes place in connection with the aviation activities of the club, but with no injury to persons and no damage to aircraft or property.

All serious incidents and all incidents with safety implications beyond the originating club should be reported to the BGA.

All other incidents should be documented locally and managed by the club. As such, clubs are to establish a club incident reporting system that proactively encourages reporting.

Incident reporting to the BGA

Examples of incidents that should be reported to the BGA are indicated below:

	Examples
Preparation for flight	Rigging errors; glider incorrectly configured for flight
Technical	An aircraft component broke or did not operate correctly
Launch failures	Unusual failures; for instance glider on winch launch hits its own cable, frequent cable/launch equipment failures, tug upset
In flight	Inadvertent stall/spin, near collision with glider or tug, undershot airfield, uncontrolled or heavy landing, exceeded VNE, airbrake/undercarriage control confusion, lost above cloud, unusual weather/canopy misting, death from natural causes in a 2-seat glider
On ground	Winch cable dropping outside the airfield

Club Incident reporting

Examples of incidents best handled by the club are indicated below:

Inadequate DI
Potential collision taking off or landing
Hazardous circuit or approach
Poor handling
Ground-loop without damage
Poor parking/ ground collision risk
Hangar rash
Pedestrians on the airfield
Out of date or incomplete paperwork
Airmanship issues

Example Club Incident Reporting Form

A very simple form can suffice for club incident reporting. The important activities are to document the incident, to regularly review reported incidents, and to document any action taken, as indicated below:

MUCH SOARING GC - INCIDENT REPORTING

Club members are encouraged to report any incident that they believe had a safety implication.

Date	Event	Reported by	Follow up actions
28/4/14	*Approaching long on runway 25 after final glide, I encountered heavy sink and nearly undershot .*	*A Bloggs*	*Noted – A Hero, CFI*
16/5/14	*It was blowing 25kts and I found most of the club gliders at the launch point weren't parked properly.*	*D Jones (K8 pilot)*	*Noted. For next instructors meeting- A Hero, CFI*
17/5/14	*A K13 experienced a winch launch failure because the winch ran out of fuel. Landed safely.*	*F Smith (Duty Instructor)*	*Third occurrence of this type this year. New guidance on refuelling and daily checks now established – A Hero, CFI*
18/5/14	*During a Puch DI, I noticed that the energy absorbent cushions were missing. Found them in the cable tow out vehicle.*	*Linda Young*	*Noted – B Waire, Safety Officer*

SHEET NUMBER/YEAR *4 / 14*