# Cambridge International Airport

## Aerodrome Manual

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## PART B

### AERODROME SAFETY MANAGEMENT SYSTEM
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<table>
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<th>Mark Follows</th>
<th>Document Custodian</th>
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</tr>
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<td>Accountable Manager</td>
<td>A single, identifiable person having final responsibility for the effective and efficient performance of an organisation’s SMS.</td>
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<td>Corrective Action</td>
<td>Action to eliminate the cause of or reduce the effects of a detected hazard or potentially hazardous situation in order to prevent its recurrence.</td>
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<td>Defences</td>
<td>Specific mitigating actions, preventive controls or recovery measures put in place to prevent the realisation of a hazard or its escalation into an undesirable consequence.</td>
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<td>Error</td>
<td>Non-intentional action or inaction by a person that may lead to deviations from accepted procedures or regulations.</td>
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<tr>
<td>Failure</td>
<td>A loss of function, or malfunction, of a system or part thereof.</td>
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<td>Gap Analysis</td>
<td>A technique that assists in identifying the disparity between the current and the desired future state.</td>
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<tr>
<td>Hazard Identification</td>
<td>A process to establish a list of hazards relevant to the activity and the causes/threats that could release them.</td>
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<td>Just Culture</td>
<td>An organisational culture in which front line operators and others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated.</td>
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<td>Risk Assessment</td>
<td>An evaluation based on engineering and operational judgement and/or analysis methods to establish whether the achieved or perceived risk is acceptable or tolerable.</td>
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<tr>
<td>Safety</td>
<td>The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level</td>
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<td>Safety Assurance</td>
<td>All planned and systematic actions necessary to afford adequate confidence that a product, a service, an organisation or a functional system achieves acceptable or tolerable safety</td>
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<td>Safety Assurance Document/Safety Case</td>
<td>A document which clearly and comprehensively presents sufficient arguments, evidence and assumptions that system hazards have been identified and controlled for both engineering and operational areas to demonstrate that a facility, facilities or organisation is/are adequately safe in air traffic service requests.</td>
</tr>
<tr>
<td>Safety Audit</td>
<td>Testing of process, product, people, organisation or system to assure that safety requirements embedded in domestic and international regulations are complied with.</td>
</tr>
<tr>
<td>Safety Data</td>
<td>A defined set of facts or set of safety values collected from various aviation-related sources, which is used to maintain or improve safety</td>
</tr>
<tr>
<td>Safety Information</td>
<td>Safety data processed, organised or analysed in a given context to make it useful for safety management purposes</td>
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<tr>
<td>Safety Management</td>
<td>A systematic approach to hazard identification and risk management — in the interests of minimizing the loss of human life, property damage, and financial, environmental and societal losses.</td>
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<tr>
<td>Safety Management System</td>
<td>An organised approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures</td>
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<tr>
<td>Safety Objective</td>
<td>A brief high-level statement of safety achievement or desired outcome to be accomplished by the service provider’s SMS</td>
</tr>
<tr>
<td>Safety Performance</td>
<td>Service provider’s safety achievement as defined by its safety performance targets and safety performance indicators</td>
</tr>
<tr>
<td>Safety Performance Indicator</td>
<td>A data-based safety parameter used for monitoring and assessing performance. Lagging indicators are “Metrics that measure safety events that have already occurred including those unwanted safety events you are trying to prevent’ Leading indicators are “Metrics that provide information on the current situation that may affect future performance”.</td>
</tr>
<tr>
<td>Safety Policy</td>
<td>A safety policy is a declaration of a general plan of action set by the authority of management.</td>
</tr>
<tr>
<td>Safety Regulation</td>
<td>The process of rulemaking for and oversight of all the safety related aspects of the systems, procedures, practices and personnel under the control of the service provider.</td>
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<td>Safety Regulatory Requirements</td>
<td>Shall mean a risk-mitigation means, defined from the risk-mitigation strategy that achieves a particular safety objective, including organisational, operational, procedural, functional, performance, and interoperability requirements or environmental characteristics.</td>
</tr>
<tr>
<td>System Safety Requirements</td>
<td>Those requirements that define the safety behaviour of the System. Each System Safety Requirement is specified in terms of the Behavioural Attributes.</td>
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<tr>
<td>Safety Performance Target</td>
<td>The planned or intended target for safety performance indicator(s) over a given period that aligns with the safety objective</td>
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1. INTRODUCTION

1.1 Background to this Manual

This manual remains part of the Cambridge International Airport (CIA) Aerodrome Manual however it is produced as a standalone document to emphasise the primacy of the Safety Management System (SMS) in the Airport and Air Traffic Services (ATS) functions. As CIA is both the certificated aerodrome provider and Air Navigation Services Provider (ANSP), the SMS is established as an integrated system serving both certificated operations.

The definition of an SMS is as follows:

“A Safety Management System (SMS) is an organised approach to managing safety, including the necessary operational structures, accountabilities, policies and procedures.”

To achieve its safety objective, the CIA SMS must be able to demonstrate that it is:

a. systematic because safety management activities are in accordance with a pre-determined plan and applied in a consistent manner throughout the CIA ATS and Airport operations;
b. proactive because it builds upon an approach that emphasises hazard identification and safety risk management before events that affect safety occur; and
c. explicit because all safety management activities are documented, visible and therefore defensible.

These principles underpin the CIA Aviation SMS policy and procedures

1.2 Context

The CIA Safety Management System has been produced in compliance with the relevant legislation and requirements arising from:

a. ICAO Annex A9 – Safety Management
b. EU Regulations No 139/2014, No 1035/2011 No 373/2017
c. EASA AMC/GM
d. Air Navigation Order 2016 and Regulations
e. ICAO Doc 9859 – Safety Management Manual
f. CAP 795 – Safety Management Systems - Guidance for Organisations

Note: EU 373/2017 is effective from 01 Jan 2020 and supersedes EU 1035/2011. This SMS will comply with EU 373/2017 for the ATM element
The SMS is concerned with the operational safety and management of risk at the aerodrome, relative to aircraft and airfield operations. There are other key areas of risk at CIA; Occupational Health and Safety, and Business Impact Risk, Environmental and Security. Whilst all of these elements of risk are crucial and necessary, it is important to emphasise that the aviation SMS detailed in Part B focuses on just one of these – the Operational Safety. The other areas illustrated below do naturally cross-over and complement each other.

Figure 1 CIA Risk Areas
1.3 **Scope**

The following areas will be addressed by all elements of the SMS:

a. Air Traffic Services (ATS)
b. Airside Operations
c. Airport Fire Service
d. Airport Jet Centre

1.4 **SMS Document Hierarchy**

This Safety Management Manual must also be used in conjunction with the following, at a minimum, to maintain an acceptable level of safety performance:

![Diagram of SMS Document Hierarchy]

*Figure 2 CIA SMS Document Hierarchy*
1.5 Staffing Levels

CIA will ensure that adequate staffing levels are consistently available to be able to cope with the workload presented and to operate all areas of the airport safely. Line managers are responsible for rostering and highlighting shortfalls in staff numbers, with the Airport Director ultimately accountable for ensuring adequate staff are employed.

For AFS, the FSM will ensure sufficient staff are rostered to provide the appropriate level of fire cover to those aircraft landing or taking off at CIA, in accordance with the Task Resource Analysis.

For Air Traffic Control services, the Manager ATS will ensure staff are rostered to cover operational requirements, in accordance with SRATCOH. The Manager ATE has the responsibility for ensuring adequate engineers are available to support CIA’s Air Traffic equipment and systems.

For Airport Operations the Airport Operations Manager will ensure that sufficient staff are rostered to cover pre-operational, operational and post operational tasks as required.

For Airport Jet Centre the Airport Jet Centre Manager will ensure that sufficient staff are rostered to cover pre-operational, operational and post operational tasks as required.
2 SAFETY POLICY AND OBJECTIVES

2.1 CIA Aviation Safety Policy

The Management of Cambridge International Airport is committed to conducting its activities in a safe and environmentally responsible manner – for our staff, our customers, our partners and the public. Everyone who works for Cambridge International Airport is responsible for meeting this requirement. To this end, the following policies and practices will be an integral part of the daily operation at our site.

Our commitments are to:

- Achieve the highest levels of safety performance
- Seek to achieve zero harm to people and minimal impact on the environment through our business operations
- Comply with industry best practice to reduce risk to all airport users as far as is reasonably practicable
- Systematically manage aviation safety matters through the application of a formal SMS
- Rigorously audit and review the safety implications of all our aviation activities
- Appoint competent, qualified staff to manage safe Airport operations, AJC, ATS, AFS and facilities management services
- Consult with staff and encourage participation at all levels within our organisation
- Learn and benefit from our experiences and the experiences of others
- Establish a ‘Just Culture’, in which all airport staff share these commitments.

To achieve these commitments we will develop, implement and maintain an effective aviation safety management system and procedures that enable us to:

- Identify, assess and manage hazards, impacts and risks from our aviation activities
- Meet and, where possible, exceed legislative and regulatory requirements
- Train and deploy competent staff and allocate responsibilities and tasks commensurate with each individual's skills
- Set, achieve and report against objectives and targets to demonstrate continual performance improvement
- Identify areas for improvement through comprehensive incident reporting and investigation
- Sustain equipment and facilities that meet or exceed legislative and regulatory requirements
- Maintain a culture to encourage the free and honest reporting of aviation safety issues.
This policy is a key part of the airport's overall aviation strategy and provides the framework for management to put in place the organisation and arrangements for carrying it out. This policy will be actively distributed, adopted, and reviewed. Reviews will be carried out annually.
Although there is an overriding emphasis on senior management commitment to ensure that the safety policy and supporting procedures are managed effectively, there is an equivalent requirement placed on all staff to be familiar with and understand the safety policy. Senior management should actively encourage safety reporting amongst the staff and to this end, understand the importance of establishing a **Just Culture** throughout the airport organisation.

A signed and dated copy of the safety policy is located in Annex B

### 2.2 CIA Safety Organisation

Cambridge International Airport is owned by the Marshall Aerospace and Defence Group (MADG). The MADG Operations Director is the Accountable Manager and reports to the MADG CEO.

![Diagram of CIA Senior Management]

*Figure 3 CIA Senior Management*
Figure 4 Airport Organisation Chart
2.3 Safety Accountabilities and Responsibilities

Safety accountabilities and responsibilities are necessary to ensure that CIA is committed and can demonstrate as far as is reasonably practicable at all levels, the objectives of the aviation safety policy.

Within the SMS framework, it is essential that all individuals who have a safety function whether management or operators should be fully aware of their safety accountabilities and responsibilities. Furthermore, these safety accountabilities and responsibilities should be clearly defined, communicated and followed up by all disciplines within the CIA operation if they are to be carried out as intended.

- **Safety accountability** is the obligation to demonstrate task achievement and take responsibility for safety performance in accordance with agreed expectations and to answer for an action. Safety accountability cannot be delegated.

- **Safety responsibility** is the obligation to carry out a safety related task to its successful conclusion. Safety responsibility can be delegated or cascaded down within the scope of job responsibilities provided such delegation is documented.

The specific safety accountabilities and responsibilities for managerial personnel with a duty for the provision of safe Airport Operations or Air Traffic Services are defined below and in the Annex A.

2.4 Chief Executive Officer

Safety Accountability

The Chief Executive Officer is accountable to the MADG Board for ensuring that the safety performance of the CIA Provider functions, namely the Airport operation, meet the Acceptable Level of Safety established by the UK State Safety Programme.

Safety Responsibilities

The Chief Executive Officer is responsible for:

i. appointing key safety personnel

ii. ensuring that safety remains a core organisational function by the effective direction and management of the CIA Safety Policy and procedures

iii. promoting a positive safety culture supported by a clearly defined Just Culture

iv. ensuring that all necessary resources are made available to achieve the CIA safety policy objectives

v. instilling in managers and supervisors the need to put safety as an absolute priority
2.5 Head of Safety

The Head of Safety is accountable to the Chief Executive Officer for all Safety related matters.

Safety Responsibilities

i. heading up the MADG Safety cell
ii. ensuring all recommendations arising from incident investigations are investigated and actioned if required
iii. escalating safety related matters and actions for approval if required
iv. Tracking the progress of incident investigations and actions arising
v. Providing support on safety related matters to CIA staff members

2.6 Accountable Manager

Safety Accountability

The Accountable Manager is accountable to the Chief Executive Officer for the efficient and effective implementation and operation of the CIA SMS within Airport operations and ATS functions.

Safety Responsibilities

The Accountable Manager is responsible for:

i. ensuring that aviation safety is a core organisational value and has overriding priority within all CIA airport and ATS activities;
ii. ensuring that a systematic and pro-active approach is taken to safety through the application of the SMS policy and its procedures and that the aviation activities comply with, and where possible exceed, legislative and regulatory requirements;
iii. ensuring that CIA provide sufficient resources to meet the Safety Policy requirements;
iv. establishing safety objectives and safety targets to measure safety performance;
v. appointing key safety personnel and ensuring that they are allocated appropriate safety accountabilities and responsibilities;
vi. ensuring that all managers are trained and competent to achieve the highest level of safety performance,
vii. taking final responsibility for the resolution of all aviation safety issues.
viii. provide independent advice to the MADG Board on safety-related matters.
2.7 Aviation Safety Manager

Safety Accountability
The Aviation Safety Manager is accountable to the Accountable Executive for the implementation, development, and maintenance of the SMS to ensure effective operation and consistency throughout the CIA aerodrome and ATS functions.

Safety Responsibilities
The Aviation Safety Manager is responsible for:

i. ensuring that the safety risks associated with CIA ATS and airport operations have been identified, assessed and, where necessary, satisfactorily reduced or mitigated;

ii. acting as the focal point for the development, administration and maintenance of the SMS including the interface with contractors’ SMS;

iii. undertaking appropriate audits of the safety management system as directed by the Accountable Manager;

iv. monitor the effectiveness of corrective actions;

v. maintaining all internal and external safety documentation in a safety library

vi. provide periodic reports on safety performance;

vii. attending airport Safety meetings and other relevant external safety committees as agreed with the Accountable Manager;

viii. liaising with other aviation organisations and the regulatory authorities to collate and disseminate safety information;

ix. fostering and developing Industry best practice, and

x. developing and delivering training courses and presentations on safety management
2.8 Key Safety Personnel

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<th>Position</th>
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<th>Position Authorised to Deputise in the Event of Absence</th>
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<tr>
<td>Accountable Manager</td>
<td>Mark Follows</td>
<td></td>
</tr>
<tr>
<td>Aviation Safety Manager</td>
<td>David Rowe</td>
<td>AOM/MATS</td>
</tr>
<tr>
<td>Airport Director</td>
<td>Kevan Craske</td>
<td>Airside Operations Manager</td>
</tr>
<tr>
<td>Airside Operations Manager</td>
<td>Gary Renault</td>
<td>Airport Duty Manager</td>
</tr>
<tr>
<td>Manager of Air Traffic Services</td>
<td>Vacant</td>
<td>ATS Compliance and Technical Manager</td>
</tr>
<tr>
<td>Estates and Buildings (Facilities) Manager</td>
<td>Andrew Challis</td>
<td>Facilities Supervisor</td>
</tr>
<tr>
<td>Fire Service Manager</td>
<td>David Thomas</td>
<td>AFS Station Manager</td>
</tr>
</tbody>
</table>

Figure 5 Key Safety Personnel

2.9 Operational Authority

The Airport Duty Manager (ADM) will hold Operational Authority for day-to-day airfield operations when on shift. This authority will give them overall responsibility for airfield decision making and the serviceability of the aircraft movement area.
2.10 Deputising for Absence

When members of staff with key safety responsibilities are absent from work, it is essential that a competent colleague assumes their safety responsibilities.

Any person assuming the responsibilities of another must be deemed competent in terms of technical / operational knowledge to do so. A senior manager who, out of necessity, is required to authorise action on behalf of another, but who lacks the relevant competency, must act in accordance with advice from a suitably competent peer or subordinate.

Outside of normal office hours it may be necessary for a subordinate to take over their manager's safety responsibilities. For example, the ADM takes over the AOM’s safety responsibilities. The AOM and ADMs are deemed competent and authorised to take action as required to ensure the immediate safety of aircraft operations at any time, including in the absence of the Airport Director.

The ATC Watch Supervisors are deemed competent to deputise for the Manager ATS and authorised to take action required to ensure the immediate safety of aircraft operations at any time, commensurate with the privileges of their licence.

2.11 Urgent Matters / Last Resort

At times when an immediate decision needs to be made, the most senior person available (judged using the organisation chart in this manual), is authorised to make a decision that resolves a temporary situation. At the earliest opportunity, temporary decisions will be reviewed through the standard formal processes described in this manual and any further action or changes taken as appropriate.

In an emergency situation, senior management are contactable via the FACT 24 emergency notification system, which when activated will send email, voice and text message alerts.

2.12 Long-Term Absence

Should a key post-holder with safety responsibilities remain absent for an extended period (i.e. over four weeks), arrangements should be made to introduce a temporary position to act up. The position that is temporarily covered would be preceded by the word “Acting” e.g. Acting Fire Service Manager. This temporary post would then assume the full safety responsibilities of the post being covered.

2.13 Safety Accountabilities and Responsibilities for other CIA Personnel

Safety Accountabilities and Responsibilities for all applicable Airport staff are held in Annex A to this document.
2.14 Exceptional Circumstances

There may be rare occasions where a need arises to carry out operations against set policies for a temporary period, such as during development works. Any temporary procedures will be carefully assessed and special measures put in place to ensure that safety is not compromised. Operations not in accordance with procedures during such exceptional circumstances will require approval from the Airport Director, AOM or ADMs.

2.15 Safety Committees

Safety Committees allow for oversight and review of safety performance throughout CIA’s operations. They also ensure a framework for safety-related issues to be raised in a formal environment that includes senior managers and operational staff. The following structural chart does not include committees covering landside or general health and safety matters.

![Safety Committee Diagram]

*Figure 6 CIA Safety Committees*
Terms of Reference for each committee / group are contained in the following sections.

The Air Safety Meeting carries overall responsibility for the Marshal Aerospace and Defence Group. It brings together representation from all Marshall divisions and sets group-wide safety and operational targets, and analyses trends. The Airport Director attends this meeting as the representative for CIA.
2.16 Accountable Manager Air Safety Meeting (CIA Safety Review Board)

Terms of Reference

The Air Safety Meeting incorporates the CIA Safety Review Board and has standing agenda items to review airport safety and top risks, trend analysis and agree plans and objectives. It is responsible for agreeing the allocation of financial resource and ensuring compliance with the conditions of the Aerodrome Certificate and EASA regulations.

Objectives

i. Review Cambridge International Airport operational performance.

ii. Ensure that appropriate funds are allocated to safety improvements and safety critical projects, resources or equipment.

iii. Oversee safety standards across the whole airport site.

iv. Discuss and review the Cambridge International Airport aviation risk register to determine the top risks and a strategy for safety improvement and reduction of risk.

Conduct

- The Board will hold regular meetings at the required frequency or as necessary in unusual circumstances. The Chairperson shall be responsible for meeting arrangements. Agendas and other relevant information will be circulated in advance for consideration.

- The Chairperson may from time to time establish and nominate specialist working groups to consider and report on particular safety issues or operational procedures.

- There will be a distribution of meeting minutes, with assigned actions and details of the next meeting.

- The Chairperson will apprise the Marshall Aerospace & Defence Group Safety Review Board with any findings from the CIA SRB Meetings.

In respect of SMS, the SRB takes a strategic view and monitors:

i. CIA safety performance against the safety policy and objectives;

ii. Effectiveness of the safety oversight of sub-contracted organisations;

iii. Corrective or mitigating actions are being taken in a timely manner;

iv. Effectiveness of CIA safety management processes.

Attendees

Accountable Manager, Airport Director, Aviation Safety Manager
Frequency

Quarterly
2.17 Aerodrome Safety Action Group

Terms of Reference

The aim of the Aerodrome Safety Action Group is to review and disseminate the latest airfield and ATS safety information between operational managers, and to assess risks and make recommendations to the Safety Review Board. It will serve as the forum for discussion of safety performance and safety objectives, as well as giving members the opportunity to raise safety concerns or suggestions for safety improvement.

Objectives

i. To provide advice and recommendations to the Safety Review Board on aviation safety matters at CIA.

ii. To provide feedback to the Safety Review Board on safety mitigation measures already in place.

iii. To consider and assess risks relating to all aspects of operational safety, including those related to ATS, Airside Operations, Ramp Operations, Fuel and Airfield Maintenance.

iv. To review the discussion points raised and actions required from other safety groups.

v. To task members of the Airport Safety Action Group (ASAG) with actions and projects, based on the outcome of discussions between ASAG attendees.

vi. To assess the impact of airfield development or changes to procedures on the risk register / risk assessments.

vii. To oversee recommendations from incident / accident investigations and audits, and tasking members of the ASAG with further actions as required.

viii. To disseminate all “lessons learned” from incident/accident investigations to all CIA management and operational staff.

ix. To disseminate the results of internal, third party and CAA / EASA audits.

x. To identify Safety Performance Indicators and set safety performance targets (Objectives) and review overall safety performance.

xi. To discuss airside developments which may affect CIA staff and assess the impact of change.

xii. To review runway safety incidents and consider the outcomes of ASAG discussions on this topic.

xiii. Review out of hours operations.
Conduct

- The Group will hold regular meetings at the required frequency or as necessary in unusual circumstances. The Chairperson shall be responsible for meeting arrangements. Agendas and other relevant information will be circulated in advance for consideration.

- The Group may from time to time establish and nominate specialist working groups to consider and report on particular safety issues or operational procedures.

- There will be a distribution of meeting minutes, with assigned actions and details of the next meeting.

In addition to the above, the ASAG will:

1. comply with any strategic directives issued by the SRB
2. promote a safe airside environment at the Airport;
3. review operational safety matters;
4. promote the continuous improvement culture in safety matters;
5. promote effective liaison between all parties involved at the airport.

At every meeting the committee will review:

1. any Accident or Incident reports and investigations that have occurred;
2. any Safety Issues that have been reported;
3. any new or existing risks assessments and mitigations relating to the Airport to ensure they remain valid and that they are prioritised according to their level of consequence;
4. proposed updates or amendments to procedures;
5. safety issues arising from external sources
6. Review the Aerodrome Manual and ATS Local Instructions on an annual basis
7. Participate in safety audits as required including follow up of non-compliances and observations

Attendees

CIA Airport Director (Chair), Manager ATS, Manager ATE, AOM, FSM, ADM, AJC, MADG Facilities Manager, Fuel and Ramp Supervisor, Aviation Safety Manager, Security Manager and others as required

Frequency

Monthly
2.18 Airfield and Flight Safety Committee

Terms of Reference

The aim of the Airfield and Flight Safety Committee is to promote and maintain airside and flight safety, and report safety concerns into the Aerodrome Safety Action Group. It is the premier forum for the discussion and resolution of all apron, manoeuvring area and flight safety issues, and incorporates the Local Runway Safety Team. It is comprised of senior managers and safety representatives from CIA and MADG, tenant companies and the FBO.

Objectives

i. To oversee operational performance and ensure that hazard identification and risk management are agreed for any changes to operations or new equipment or procedures.

ii. To discuss airside developments which may affect airfield users and assess the impact of change.

iii. To review the outcomes of any audits and inspections and any corrective actions/mitigation, including regulatory, company and third-party audits.

iv. To discuss and identify trends in accident, incident and near miss reporting, and to ensure that mitigation actions are put in place to reduce risk in a timely manner.

v. To jointly develop and implement new safe working practices which will benefit all airfield users.

vi. To review airside operations procedures including Airside Driving, Winter Operations, Ramp Operations, Wildlife Control and the maintenance of airfield infrastructure.

vii. To assess any issues or procedures relating to fire safety and emergency response, both to aircraft on the ground and in the air.

viii. To develop and promote safety initiatives and safety awareness as part of an effective Safety Management System.

ix. To review Air Traffic / Airspace hazards and risk, flight safety incidents and any MORs filed in the period since last meeting.

x. To review runway safety incidents, including incursions, excursions, hotspots and other safety significant events, to comply with the European Action Plan for the Prevention of Runway Incursions (EAPPRI) guidelines, as amended and develop/share new runway safety initiatives.
Conduct

- The Committee will hold regular meetings at the required frequency or as necessary in unusual circumstances. The Chairperson shall be responsible for meeting arrangements. Agendas and other relevant information will be circulated in advance for consideration.
- The Committee may from time to time establish and nominate specialist working groups to consider and report on particular safety issues or operational procedures.
- There will be a distribution of meeting minutes, with assigned actions and details of the next meeting.

Attendees

CIA (AOM (Chair), ADM, Manager ATS, FSM, AJC, Fuel and Ramp Supervisor), Flight Test & Operations, Tenants and the FBO.

Frequency

Quarterly
2.19 Emergency Planning Group

Terms of Reference

The aim of the Emergency Planning Group is to direct and oversee the multi-agency emergency planning arrangements at Cambridge International Airport, in order to reduce the effects of an emergency with respect to saving lives and minimising damage.

Objectives

To ensure that the Aerodrome Emergency Orders are effective for dealing with all foreseeable aircraft and non-aircraft emergencies at CIA.

i. To ensure that the Aerodrome Emergency Plan clearly defines internal and external multi-agency response actions and that they are accurate and fit for all foreseeable scenarios.

ii. To outline CIA’s emergency exercise regime, including full-scale and interim table-top exercises and the scope of emergency scenarios which exercises may cover.

iii. To review incidents that have occurred since the last EPG, including local standbys, full emergencies and actual accidents, and the outcomes of debriefs and learning points from the response.

iv. To consider the requirements for contingency planning and business continuity during an emergency.

v. To consider the location of the Survivor Reception Centre and Friends and Relatives Reception Centre, and the facilities, equipment, supplied and manning required at such locations.

vi. To allocate the persons responsible for media liaison and the communications that will be given.

vii. To determine incident command and control structure for various scenarios / types of emergency.

Conduct

- The Group will hold regular meetings at the required frequency or as necessary in unusual circumstances. The Chairperson shall be responsible for meeting arrangements. Agendas and other relevant information will be circulated in advance for consideration.

- The group may from time to time establish and nominate specialist working groups to consider and report on particular emergency response scenarios or other emergency planning matters.

- There will be a distribution of meeting minutes, with assigned actions and details of the next meeting.
Attendees

CIA (FSM (Chair), AD, AOM, Manager ATS, Manager ATE, ADM, AJC, Facilities Manager Fuel and Ramp Supervisor), Emergency Response Agencies (Cambridgeshire Police, Cambridgeshire Fire and Rescue, East of England Ambulance, Special Branch, UKBF), Local Authorities, Voluntary Organisations (Red Cross, St John Ambulance)

Frequency

Quarterly
2.20 Safety Committee Attendance

It is mandatory for post holders with aerodrome safety responsibilities to attend and contribute to formal safety related committees as detailed in the matrix below. If post holders cannot attend, they are responsible for briefing and sending a nominated deputy in their absence.

<table>
<thead>
<tr>
<th>Post</th>
<th>Safety Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SRB</td>
</tr>
<tr>
<td>Accountable Manager</td>
<td>✓</td>
</tr>
<tr>
<td>Aviation Safety Manager</td>
<td>✓</td>
</tr>
<tr>
<td>Airport Director</td>
<td>✓</td>
</tr>
<tr>
<td>Airside Operations Manager</td>
<td></td>
</tr>
<tr>
<td>Manager ATS</td>
<td>✓</td>
</tr>
<tr>
<td>Fire Service Manager</td>
<td>✓</td>
</tr>
<tr>
<td>Airport Duty Manager</td>
<td>✓</td>
</tr>
<tr>
<td>Manager ATE</td>
<td>✓</td>
</tr>
<tr>
<td>Fuel and Ramp Supervisor</td>
<td>✓</td>
</tr>
<tr>
<td>Estates and Buildings (Facilities) Manager</td>
<td></td>
</tr>
<tr>
<td>FBO / Aviation Security and Compliance Manager</td>
<td>✓</td>
</tr>
<tr>
<td>Flight Test and Operations</td>
<td></td>
</tr>
</tbody>
</table>
2.21 Emergency Response Planning

CIA is committed to ensuring that effective emergency plans are in place to respond to various types of emergency that may occur. The responsibility for emergency planning is assigned to the FSM, and to draft and maintain the Airport Emergency Plan (AEP). The scope of emergency planning is contained in this manual, with policies and procedures relating to emergency scenarios found in the AEP.

The AEP describe all aspects of emergency response, including:

- Categories of emergency
- Initial response actions, roles and responsibilities
- Incident command and control structure
- Post-incident follow-up actions
- Emergency response guidance
- Contingency planning arrangements
- Emergency exercise details

Co-ordination of emergency policies and plans is managed by the Emergency Planning Group which is held quarterly and chaired by the FSM (see Para 2.19)

2.22 Safety Interface with Stakeholders

UK Civil Aviation Authority

The UK CAA is the nominated Competent Authority and is responsible for:

- certification and oversight of aerodromes and its aerodrome operators;
- certification and oversight of ANSP;
- oversight of providers of apron management services

The relationship between CIA and the UK CAA ensures that both parties are aware of any changes that are planned and that safety is always given high priority. The primary points of contact between CIA and the UK CAA will be:

- Airport Director  Aerodrome Certification
- Airside Operations Manager  Airfield Operations and Maintenance
- Manager Air Traffic Services  Air Traffic Control
- Manager Air Traffic Engineering  Air Traffic Engineering
- Fire and Security Manager  AFS Audit
- Airport Jet Centre Manager  FBO Audit
External Emergency Services

The FSM holds the responsibility for maintaining a close relationship with representatives of all of the external emergency and support services, who have a role to play within the AEP. The FSM, through the Emergency Planning Group and ad-hoc meetings, keeps abreast of any changes to the operating structure, key personnel and equipment of the emergency services.

Tenants and Service Partners

CIA has a number of tenants and service partners operating on the airfield, including flight training organisations, air ambulance and aircraft engineering. CIA communicates with these partners via the Airfield and Flight Safety Committee meetings and channels such as operational and safety instructions.

The FSM, through the Emergency Planning Group will co-ordinate the emergency plans of these tenants and service partners to ensure compatibility with the CIA AEP.

2.23 Document, Data and Record Management

CIA departments issue safety-related documents to promulgate safety information to relevant members of the airport community. Some documents are issued regularly or periodically, such as the Aerodrome Manual and Airport Emergency Plan, whereas some documents are issued as required, such as Airside Safety Bulletins. Documents will also be updated as changes are made to regulatory documents.

This section outlines the process for managing safety-related documentation.

Numbering and Version Control

Cambridge International Airport documents will all have the prefix ‘CIA’. Documents at CIA will generally be sub-divided into one of the following types, and referenced accordingly:

- **M** Manual
- **P** Procedure
- **D** Document
- **I** Instruction
- **F** Form or Record
- **T** Training presentation
- **MISC** Miscellaneous
The document will have a reference to the originating department:

- AFS  Airport Fire Service
- ATS  Air Traffic Services
- ATC  Air Traffic Control
- ATE  Air Traffic Engineering
- AOPS Airside Operations
- FUE  Fuel Department
- AJC  Airport Jet Centre

A document reference will be in the following format for ease of tracking by type and by department:

- CIA – Type – Dept. - ###  e.g. CIA-M-AOPS-001 – Aerodrome Manual

**Document Change Process**

Prior to the creation of a new document or change to an existing document, the document owner must ensure that they have followed the following steps:

i. Identify the document requirement / change

ii. Create new, or draft amendment to the existing document

iii. Fill out a document change request form (CIA-F-SMS-003)

iv. Submit completed change request form to a department appointed document controller

v. Review draft changes with other operational areas that may be impacted by the change

vi. If regulatory approval is required by the originator or any impacted department, this should be requested with sufficient notice

vii. Change request form signed off by relevant manager and department document controller

viii. Notify all persons on the distribution list of the new/amended document, the issue date and compliance date

ix. Update the appropriate document control register

**Document Issue**

Documents are normally issued electronically so that recipients receive the latest version as soon as possible and also to reduce the need for printed controlled copies. The latest copies of documents are available on the SharePoint Site. An email will be sent to affected departments/companies when a new version of a document is available.
Hard copies of documents may be kept ‘controlled’ or ‘uncontrolled’ and will be clearly marked accordingly. Document issue and control is the responsibility of nominated persons in each department.

Records relating to aviation activities may be stored in paper or electronic format, and for a minimum period of five years. Records stored electronically will be backed up on at least a daily basis (within 24 hrs of any new entry).

**Document Amendments**

Documents such as an Airside Operational Instruction are issued when required but are not updated with subsequent version numbers. If an instruction requires a change (other than administrative only), it will be completely re-issued with a new reference number and the previous document cancelled to avoid any confusion. It is important that documents are easily identifiable and that different versions of the same document are prepared in a way so as to allow easy indexing and referencing. Documents will therefore be named in the following manner:

<table>
<thead>
<tr>
<th>Aerodrome Manual</th>
<th>YYYYMMDD / Airport Name / Aerodrome Manual / Version #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>i.e. 20180101 Cambridge International Airport Aerodrome Manual / Version 1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency Plan</th>
<th>YYYYMMDD / Airport Name / Emergency Plan / Version #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>i.e. 20180101 Cambridge International Airport Emergency Plan Version 4.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>i.e. AOI 2018/09</td>
</tr>
</tbody>
</table>

*Figure 8 Document Reference Numbers*

**Operational and Administrative Changes**

An **Operational Change** is a significant alteration to existing work practices that is permanent. Such changes require a new version of the relevant document(s) to be issued.

An **Administrative Change** is something such as spelling, grammar, page numbering or similar. This does not require a new version of the relevant document(s) to be issued, and as such, changes will be made without notification.

**Obsolete Documents**

Obsolete documents are to be stored in the ‘Archive’ folder to ensure a fully auditable trail. Any hard copies of obsolete documents are to be removed and destroyed to prevent out of date information and procedures accidentally being used.
Change to Regulatory Documentation

It is important that when changes are made to regulatory documents by the CAA or EASA, that these changes are reflected in local CIA documentation. All operational senior managers will subscribe to the automatic updates from the CAA and EASA websites, and incorporate necessary updates into the documents for which they are responsible. When notification of a new CAA or EASA document is received, the relevant manager will be responsible for completing an impact assessment using form CIA-F-SMS-004.

Changes may initially be promulgated via an ATOI, TOI or SI pending a full review of the relevant CIA document.

Aeronautical Data Quality

To ensure the quality and accuracy of data promulgated in the UK Aeronautical Information Publication (AIP), an AIP editorial team will meet periodically to discuss necessary amendments or additional inclusions. The team will be led by the AOM, attended by operational managers, and will aim to align with the Aeronautical Information Regulation and Control (AIRAC) cycle. The AOM or other nominated sponsor from Aerodrome Operations will be responsible for submitting AIP change requests to NATS.

For further information see CIA-P-AOPS-002 Management of Aeronautical Data and Aeronautical Information.

Recording of Aircraft Movements

All aircraft movement records at CIA are stored on the Copperchase system. Data is entered by the duty ATSA or ATCO. Data will be taken from the flight progress strips. Data is stored in the database indefinitely and archived annually. The system records the number, type and date of each movement, and the number of passengers.

Completed flights are displayed in the movement log with either a yellow, green or red box to the left-hand side. A yellow box indicates that the flight has been completed, but not yet accessed by the Air Ops system (used for reports and invoicing). A green box indicates that the flight has been completed and has been accessed by the Air Ops system. A red box indicates that the flight details are incomplete or there is an error, for example the aircraft registration or runway in use has not been entered.

Record Keeping

See CIA-P-SMS-004 Record Keeping.
3. SAFETY RISK MANAGEMENT

3.1 Introduction

Safety Risk Management (SRM) is a key component of safety management and includes hazard identification, safety risk assessment, safety risk mitigation and risk acceptance. SRM is a continuous activity because the aviation system is constantly changing, new hazards can be introduced and some hazards and associated safety risks may change over time. In addition, the effectiveness of implemented safety risk mitigation strategies need to be monitored to determine if further action is required.

The starting point in the SRM process is to identify hazards that are present in the aviation system or its environment, A hazard is defined as any existing or potential condition that can lead to injury, illness, or death to people; damage to or loss of a system, equipment, or property; or damage to the environment or simply anything with the potential to cause harm.

It is important to understand that a hazard has “potential” to cause harm which can trigger potential consequences or undesirable outcomes. By clearly defining the hazard first then it becomes easier to identify possible consequences.

When all possible consequences are identified, the next SRM stage is to assess the risk by establishing the probability or the likelihood of the consequence occurring together with severity of the consequence. Having established the risk, it can be determined whether the risk is acceptable, unacceptable or placed under review. In the case of the latter two states, the As Low as Reasonably Practicable (ALARP) principle is applied to reduce the risk down to acceptable or tolerable.

This section describes the operational safety risk management process for CIA operational areas, as stated in Section 1.2. Note that a separate method of risk assessment is used throughout the Marshall Group for assessment of hazards relating to the activities of other divisions, general/occupational health and safety hazards and job function-related tasks.

3.2 Risk Assessment Methodology

General

CIA’s general methodology is based on the risk assessment model shown in ICAO Doc 9859 Safety Management Manual and incorporates industry best practice. Assessments will in principle follow the identification, assessment and mitigation process detailed in ICAO Doc 9859, as shown below.
Scope

Hazard identification and risk management processes are required in many circumstances at CIA and the following list whilst not exhaustive provides examples of when they are required.

a. Implementation of new, or changes to, communications, surveillance or other safety significant systems and equipment, including those providing new functionality and/or capabilities.

b. Physical changes to the layout of runways and/or taxiways at an aerodrome.

c. Physical changes to apron road schemes.

d. Introduction of a new aircraft type or class to an aerodrome.

e. Development or modifications of aerodrome procedures, including new procedures to operate at the aerodrome premises, changes to fire and rescue procedures etc.

f. Changes/Establishment of training or re-training of operational and technical staff.
g. A change to separation minimum to be applied within an airspace or at an aerodrome.

h. New operating procedures, including departure and arrival procedures, to be applied within an airspace or at an aerodrome.

i. Organisational changes which may involve:
   - structural re-organisation at all levels of the company
   - the appointment of key management personnel
   - HR and management processes
   - staff terms and conditions

Risk Assessment Documentation

Operational risk assessments shall be completed using the risk assessment template. The results will then be added to the aviation risk register. In the case of major projects, the risk assessments will form part of the project safety case.

Competence for Carrying out Risk Assessments

Competence for carrying out risk assessments in line with this methodology is determined through a combination of training and experience. Assessors will be given formal training in risk assessment techniques, which may be delivered internally (through the MADG Safety Department) or externally.

Contributing Personnel

If all potential hazards are to be identified, the people involved in the risk assessment must have a good understanding of the safety risk management process and the operational area being assessed. Contributors will be selected based on their experience and knowledge of an operational function.

3.3 Risk Assessment and Mitigation

Guidance to the detailed process of risk assessment and mitigation following the flow chart above can be found in CAP 760 Chapter 3 which in turn is based on ICAO Doc 9859 - Safety Management Manual. It is essential for personnel carrying out the hazard identification and risk management processes are fully aware of the guidance contained within these two publications. The generic description of the steps identified in the flow chart are as follows:
Step 1 - Safety concern perceived/system description

The first step in the safety assessment process is to prepare a system description of the proposed system or change and the environment in which it will operate. This allows the personnel involved in the assessment to have a good understanding and how it will interface with the other components of the overall aerodrome or ATS system of which it is a part so that all potential hazards can be identified.

Step 2 - Hazard and Consequence Identification

The hazard identification step should be initiated at the earliest possible stage in the project lifecycle and consider all the possible sources of system failure. All possible configurations of the system should be considered, for example, if staffing levels are different at night than during the day, both configurations should be examined for hazards. Non-standard aerodrome operating configurations should also be considered such as during Low Visibility Operations or whilst there is 'Work in Progress'.

The consequences of the hazard are determined by analysing what could happen if the hazard manifested itself into an accident or incident. Some consequences may be obvious, with there being only one possible outcome as the result of a hazard. However other hazards may result in a range of consequences of varying severity. Once all the hazards have been identified they must be entered in the Hazard Log together with their potential consequences.

Step 3 - Estimation of the Probability of Consequences

The probability (or likelihood) of a consequence occurring shall be scored using the matrixes below, both for the initial risk (with existing control measures) and for the residual risk (after further controls have been implemented).
### PROBABILITY OF OCCURRENCE – AIRPORT OPERATIONS

<table>
<thead>
<tr>
<th>Qualitative Definition</th>
<th>Permanent Operations</th>
<th>Temporary Project</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequent</strong></td>
<td>About once a week</td>
<td>Almost certain to occur several times during the programme or activity</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Known to occur at CIA about 50 times per year on average</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Occasional</strong></td>
<td>Can be expected to occur at least once during the programme or activity</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>About once a month</td>
<td><strong>Remote</strong></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Known to occur at CIA about 10 times per year on average</td>
<td>Possible, but unlikely to occur during the programme or activity</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Improbable</strong></td>
<td><strong>Extremely Improbable</strong></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Occurs about every 5 to 10 years</td>
<td>Very unlikely to occur during the programme or activity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May rarely have happened at CIA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Known to be reported in the industry, but infrequently</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Extremely Improbable</strong></td>
<td>Highly unlikely to occur during the programme or activity</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>On average, occurs less than once every 10 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Almost impossible; should virtually never occur but may be known rarely worldwide</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 10 Risk Assessment – Probability Airport Operations*
## Probability of Occurrence – Air Traffic Services

<table>
<thead>
<tr>
<th>Qualitative Definition</th>
<th>ATC: Permanent Operations</th>
<th>ATE: Quantitative Annual / Daily Definition</th>
<th>ATE: Quantitative Hourly Definition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent</td>
<td>About once a week</td>
<td>Once per hour to once in 40 days</td>
<td>1 to $10^{-3}$ per hr.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Known to occur at CIA about 50 times per year on average</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occasional</td>
<td>About once a month</td>
<td>Once per 40 days to once in 10 years</td>
<td>$10^{-3}$ to $10^{-5}$ per hr.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Known to occur at CIA about 10 times per year on average</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote</td>
<td>About once a year</td>
<td>Once in 10 years to once in 1000 years</td>
<td>$10^{-5}$ to $10^{-7}$ per hr.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>May occur at CIA once in a few years on average</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reported in the industry occasionally</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improbable</td>
<td>Occurs about every 5 to 10 years</td>
<td>Once in 1000 years to once in 100,000 years</td>
<td>$10^{-7}$ to $10^{-9}$ per hr.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>May rarely have happened at CIA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Known to be reported in the industry, but infrequently</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extremely Improbable</td>
<td>On average, occurs less than once every 10 years</td>
<td>Never</td>
<td>$&lt; 10^{-9}$ per hr.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Almost impossible; should virtually never occur but may be known rarely worldwide</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 11 Risk Assessment - Probability Air Traffic Services*
Step 4 – Estimation of the Severity of Consequences

The severity of a consequence occurring shall be scored using the matrixes below, both for the initial risk (with existing control measures) and for the residual risk (after further controls have been implemented).

### SEVERITY OF OCCURRENCE – AIRPORT OPERATIONS

<table>
<thead>
<tr>
<th>Aviation Definition</th>
<th>Meaning</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Catastrophic</strong></td>
<td>Aircraft destroyed / damaged beyond repair</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Vehicle or equipment destroyed with associated loss of life</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single or multiple fatalities, or multiple major injuries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Major fire or explosion with substantial loss of facilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Catastrophic damage</td>
<td></td>
</tr>
<tr>
<td><strong>Serious</strong></td>
<td>Major injury; loss of limbs, permanent disability (RIDDOR serious)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Aircraft damaged requiring prolonged major repairs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vehicle damaged beyond repair and associated serious injury</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loss or relocation of facility damaged beyond use (several days or weeks)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very high workload to key personnel, with likely impairment of performance or accuracy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multiple bird or wildlife strike causing major aircraft damage</td>
<td></td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td>Moderate to serious damage to an aircraft, unserviceable pending repairs</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Vehicle, equipment or property damage, out of service with costly repairs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Significant operating limitations and significant disruption (several hours)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lost time injuries to person(s) (RIDDOR reportable)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demanding workload to key personnel, potential for loss of attentions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bird or wildlife strike with a high risk species causing significant damage</td>
<td></td>
</tr>
<tr>
<td><strong>Minor</strong></td>
<td>Light damage to an aircraft (visible but no adverse effect)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Light or moderate damage to vehicles (unfit for use)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minor injuries (first aid treatable)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short-term disruption to operations or some facilities (up to a few hours)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bird or wildlife strike causing minor damage to an aircraft</td>
<td></td>
</tr>
<tr>
<td><strong>Negligible</strong></td>
<td>Nuisance or distraction but nil injury or near miss</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Procedure violated with no adverse effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bird or wildlife strike with a single, small, low-risk species</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slightly reduced safety margin but controlled within existing procedures</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 12 Risk Assessment - Severity Airport Operations*
<table>
<thead>
<tr>
<th>Aviation Definition</th>
<th>Meaning</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catastrophic</td>
<td>Accident; as defined in Regulation (EU) No 996/2010. Also includes loss or substantial damage to major aerodrome facilities. Serious injury or death of multiple staff or other users of the aerodrome.</td>
<td>5</td>
</tr>
<tr>
<td>Serious</td>
<td>Serious Incident; as defined in Regulation (EU) No 996/2010 For the aerodrome, an event where an accident nearly occurs. No safety barriers remaining or no ability to provide ATC. The outcome is not under control and could very likely lead to an accident e.g. only pilot action / TCAS / providence prevents an accident. Damage to major aerodrome facilities. Serious injury to staff or other aerodrome users.</td>
<td>4</td>
</tr>
<tr>
<td>Moderate</td>
<td>A major incident with the operation of an aircraft, in which safety may have been compromised, leading to a near collision between the aircraft with ground or obstacles. A large reduction in safety margins. Outcome is controllable by existing emergency procedures or equipment. The safety barriers are few, approaching none. Severe impairment of ATC effectiveness and increased workload. ATC recovery difficult. Minor injury to persons or minor damage to aircraft or major aerodrome facilities.</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>Significant incident involving circumstances indicating that an accident, serious or major incident could have occurred, if the risk had not been managed within safety margins, or if another aircraft had been in the vicinity. A significant reduction in safety margins but several safety barriers remain to prevent an accident. Reduced ability of the flight crew or ATC to cope with increase in workload. Only on rare occasions could the occurrence develop into an accident. Nuisance to personnel.</td>
<td>2</td>
</tr>
<tr>
<td>Negligible</td>
<td>No immediate effect on safety. No direct or low safety impact. Existing safety barriers may come into play to avoid the event turning into a significant incident or accident.</td>
<td>1</td>
</tr>
</tbody>
</table>

*Figure 13 Risk Assessment - Severity Air Traffic Services*
Step 5 – Evaluation of Risk

The acceptability of a risk is dependent on both the likelihood of it occurring and the severity of its consequences. Acceptability is therefore usually based on comparison with a severity/probability matrix called the Risk Classification/Tolerability Matrix.

Therefore, each consequence should be checked for tolerability by placing the scoring for probability and severity for each consequence into the correct Table Cell.

<table>
<thead>
<tr>
<th>Catastrophic</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Minor</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Negligible</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Figure 14 Risk Assessment – Risk Classification/Tolerability Matrix
A judgement is then made as to whether the level of risk at present is tolerable and whether further control measures are required. A safety risk will be scored using the red/amber/green method which corresponds to the definitions below.

<table>
<thead>
<tr>
<th>Tolerability</th>
<th>Risk Score</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unacceptable</td>
<td>13 - 25</td>
<td>Stop process or operation immediately. Risk is not acceptable under current circumstances – activity should be terminated pending further mitigation or control measures to reduce the likelihood and/or the severity of the hazard consequences. Only the Accountable Manager can approve such operations in exceptional circumstances.</td>
</tr>
<tr>
<td>Tolerable</td>
<td>5 – 12</td>
<td>The severity or likelihood of the consequence is of concern; however the risk is acceptable based on existing mitigation and periodic review of control measures, and with the endorsement of the Airport Director or Accountable Manager. Further mitigation should be planned to reduce the risk to ALARP.</td>
</tr>
<tr>
<td>Acceptable</td>
<td>1 – 4</td>
<td>Risk is acceptable – the activity can continue or commence without change to existing measures, as the consequence is improbable or not severe enough to be of concern. However, where possible, further mitigation shall be considered and applied to reduce the risk to ALARP.</td>
</tr>
</tbody>
</table>

*Figure 15 Risk Assessment - Actions Required*

To ensure that relevant managers are made aware of the safety risks, a sign-off process is required, in accordance with a hierarchy related to the level of risk tolerability. This ensures that the correct level of authority is issued to the appropriate level of risk. The colour-coded boxes below indicate the level of sign-off that is required.

<table>
<thead>
<tr>
<th>SIGN-OFF AUTHORITY FOR RISK ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk is not acceptable</td>
</tr>
<tr>
<td>Airport Director / Accountable Manager</td>
</tr>
<tr>
<td>Department Manager</td>
</tr>
</tbody>
</table>

*Figure 16 Risk Assessment - Sign-off Authority*
Step 6 - Risk Mitigation and Safety Requirements

Risk mitigation measures may work through reducing the probability of occurrence, or the severity of the consequences, or both. Achieving the desired level of risk reduction may require the implementation of more than one mitigation measure.

Mitigation measures that are necessary for the system to meet the safety criteria are referred to as Safety Requirements and must be clearly documented. Putting the system into operational service cannot proceed until all these Safety Requirements are met.

Step 7 - Documenting the Safety Risk Process in a Safety Case

This step is included for completeness as most safety assessments will be documented in a hazard log and the risk register. Nevertheless, some projects will require more detail to support the claims, arguments and evidence that the Safety Objectives and Safety Requirements have been met. This information will be documented in the project safety case which is the key document that demonstrates that the system is safe.

It (or a summarised version of it in the form of a Safety Case Report) is the document that the Regulator may audit to ensure that the ANSP or aerodrome operator has satisfied themselves that the system has been fully analysed and demonstrated to be safe.

3.4 Considerations

Hazards are constantly identified and reviewed through reactive, proactive and predictive sources and methods of safety information, collected and analysed as identified elsewhere in this manual. It is a continuous process whereby safety data and near miss observations are analysed to identify new hazards or determine whether existing hazards require review.

Examples of the scope of factors and processes to be considered in hazard identification include:

- Natural hazards, such as terrain, adverse weather and geophysical events (e.g. floods)
- Technical factors, hardware, software, tools and equipment
- Design factors
- Procedures and operating practices, including documentation and checklists
- Communications, including means, terminology and language
- Organisation factors, such as company policies, operating pressures, training and allocation of resources
• Environment factors, such as noise, vibration, temperature, lighting and the availability of PPE
• Human factors and performance, such as medical conditions, physical and mental limitations, fatigue, overload, experience and distraction

Hazard may be identified through reports of actual safety occurrences (accidents, incidents, near misses), or they may be identified through proactive and predictive processes aimed at identifying hazards before they trigger safety events.

Sources for identifying hazards include, but are not limited to:
• Safety reports and performance analysis
• Formal investigations and accident reports
• Safety audits and surveys
• Knowledge and experience from subject matter experts
• Feedback from training or peer observations
• External industry sources, such as CAA safety data and other organisations
3.5 Control and Mitigation Measures

Control measures are aimed at blocking the causes from leading to a hazard being present. It must be realised that this is not always possible, for example, preventing fog from forming or thunderstorms from occurring. Safety mitigation and control measures are aimed at limiting the level of consequence if a hazard is realised.

Once these mitigation techniques and/or control measures have been successfully implemented, a re-assessment of the risk will be required to define whether an acceptable level of safety now exists and whether it is ALARP.

Safety risk mitigation must be balanced on the following:

- **Effectiveness**: To what extent will the consequences be reduced?
- **Cost/benefit**: Will the benefits of the mitigation outweigh the costs?
- **Practicality**: Is the mitigation practical in terms of technology, finances, political will and legislation and regulations?
- **Challenge**: Can the mitigation withstand scrutiny from all stakeholders?
- **Enforceability**: If new rules or regulations are implemented, are they enforceable?
- **Durability**: Will the mitigation stand the test of time?
- **Residual risk**: After mitigation, what will be the residual safety risks?
- **New problems**: What new safety risks may be introduced by the proposed mitigation?
Risk control and mitigation measures may include one or more of the following controls, which are listed in a hierarchy of effectiveness:

- Remove the hazard entirely or cease / cancel the process or activity it relates to
- Design the hazard out by modifying the system
- Install physical barriers or guards that prevent or reduce exposure to the hazard, or reduce the severity of consequences
- Issue warnings, advisories or signs for the hazard
- Make procedural changes to avoid the hazard or to reduce the likelihood or severity of the associated consequence
- Provide training to avoid the hazard or to reduce the likelihood of an associated consequence
- Ensure that a suitable response and contingency plan are in place.

3.6 Bow Tie Risk Assessment Tool

Bowtie is a visual tool which effectively depicts risk providing an opportunity to identify and assess the key safety barriers either in place or lacking between a safety event and an unsafe outcome.

The bowtie model consists of different elements and revolves around the hazard (the activity with potential cause damage or harm) and the top event (the release or loss of control of the hazard). The model is split into two distinct parts: the threat analysis and the consequence analysis. Diagrammatically, the hazard and top event are placed at the centre, with the top event forming the 'knot' of the bow tie. The threats and their control measures are on the left-hand side, and the consequences with their recovery measures on the right-hand side.

![Figure 17 Bow Tie Risk Assessment Example](image-url)
The current use of the BowTies are to assess the airport’s perceived ‘top risks’, to facilitate workshops or carry out reviews of incidents. It is recognised that operational risk assessments are to be converted to BowTies in due course; until this transfer is complete, the existing forms will continue to be used.

3.7 Temporary Hazard Analysis (THA)

A THA may be used to address a short-term situation where the scope and impact are limited and can be reasonably handled at Duty Management level at, or near to, the time of the event. Such an event might be:

- Unplanned/emergency maintenance work on a taxiway surface
- Failure of an AGL system
- Depletion of AFS capability
- Blocked section or infringement of manoeuvring area
- Surface contamination or damaged movement area surface

A THA will be carried out in accordance with the THA checklist (CIA-F-SMS-005), and will normally entail a discussion between the ADM, a representative from ATC and other key operational post-holders. There is no requirement for a formal recorded assessment of specific risks, but rather the process will show what issues have been considered and what measures have been put in place to mitigate any reduction in facilities or capability. Actions to address each of the checklist items will be agreed between the parties and recorded on the checklist before affected operations are permitted to continue.

3.8 System Safety Cases

Safety Cases or Safety Assurance Documentation (SAD) for Airside Operations, Airport Jet Centre and AFS are the responsibility of the AOM, AJCM and FSM respectively, and are likely to be produced in-house. For more complex cases, external consultants may be used. The structure of the safety case may vary depending on the project being assessed.

The production of a safety case for Air Traffic Services is a specialist task and as such, depending on the complexity, CIA may produce this in-house or commission this responsibility to an external specialist, whom is experienced and competent in the production of ATS safety cases. ICAO Annex A1 requires that any significant safety-related change to the ATC system shall only be implemented after a safety case has demonstrated that an acceptable level of safety will be maintained. CIA will follow the guidance in CAP 760.

A completed safety case will require formal sign-off and approval from the Accountable Manager.
4. SAFETY ASSURANCE

4.1 Introduction

CIA is required to develop and maintain the means to verify the safety performance of the organisation and to validate the effectiveness of safety risk controls. The safety assurance component of this SMS provides these capabilities.

The elements of Safety Assurance are:

- Safety performance monitoring and measurement
- Management of change
- Continuous improvement of the SMS

The core function of safety assurance is the collection and processing of data to provide meaningful safety information which enables the monitoring process and the means to detect changes or deviations that may introduce emerging safety risks or the degradation of existing safety risk controls. The diagram below shows the relationship between risk controls and the assurance processes.
Applying the systemic approach in the CIA SMS and using the safety risk management processes, risk controls (barriers) are developed and implemented however:

- CIA is responsible to assure that the controls continue to be in place and work as intended
- SMS procedures are designed to provide confidence as to the performance and effectiveness of the controls
- through the Safety committee structure and SMS procedures, CIA will monitor continually its operations and the environment to assure that it recognises changes in the operational performance

4.2 Safety Performance Monitoring and Measurement

Safety performance monitoring and measurement is the process by which the safety performance of CIA functions is verified in comparison to the safety policy and objectives, identified safety risks and the mitigation measures.

This process should include the setting of safety performance indicators and safety performance targets and measuring the CIA safety performance against them.

The essential element in starting the measurement process is the collection and analysis of safety data. The primary source for this information is from the mandatory and voluntary reporting systems in place at CIA however other sources provide invaluable data. These include:

a. internal incident investigations and recommendations
b. hazard identification and reporting
c. internal and external audits
d. inspections
e. safety surveys
f. safety reviews

The flow chart below defines the process of collecting safety data and processing it for use by the various stakeholders. The data from the various sources is collected and assembled for the Aviation Safety Action Group for analysis. From the safety information derived from the analysis, the ASAG will identify safety performance indicators (SPIs) and set safety performance targets (SPTs).
Figure 19 Safety Data and Information Diagram

The areas within the CIA operation that have been identified as critical to the safety performance of the airport and ATS are listed in the table below. A quarterly Airfield Safety Report is produced for the ASAG by the Aviation Safety Manager.

The measurement of CIA safety performance requires the use of both pro-active and reactive safety performance indicators for monitoring.

**Leading indicators (process based)** are pro-active measuring and monitoring criteria and provide input or activity-based information in the absence of any accident, damage to equipment and/or significant reduction in safety margins. Leading indicators are forward looking and predictive; they are aimed at raising the awareness of the possibility of incidents that might happen. These indicators measure and monitor what should be done for managing the SMS.

**Lagging indicators (outcome based)** are reactive measuring and monitoring criteria, providing output-based information on incidents that have occurred and in addition providing insights into means of preventing similar incidents in the future. Lagging indicators provide evidence of deficient SMS performance. These indicators identify weaknesses in the SMS.

**NOTE:** Guidance on safety performance management is detailed in Annex B to this document.
### Critical areas to be monitored

<table>
<thead>
<tr>
<th>AREA</th>
<th>REPORTABLE DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runway Safety</td>
<td>Runway incursions&lt;br&gt;Runway excursions&lt;br&gt;Runway friction results&lt;br&gt;Runway lighting serviceability</td>
</tr>
<tr>
<td>Wildlife Control</td>
<td>Confirmed strikes&lt;br&gt;Unconfirmed strikes&lt;br&gt;Wildlife observation stats&lt;br&gt;Grassland/habitat management</td>
</tr>
<tr>
<td>Air Navigation Services</td>
<td>Airprox&lt;br&gt;Level busts&lt;br&gt;Airspace infringements&lt;br&gt;Loss of separation&lt;br&gt;Equipment unserviceability&lt;br&gt;MOR summary</td>
</tr>
<tr>
<td>Manoeuvring Area Safety</td>
<td>Taxiway serviceability&lt;br&gt;FOD-related incidents&lt;br&gt;Obstructions to taxiing aircraft&lt;br&gt;Other reportable events</td>
</tr>
<tr>
<td>Ramp Safety / Turnarounds</td>
<td>Aircraft damage events&lt;br&gt;Vehicle/equipment damage events&lt;br&gt;FOD-related incidents&lt;br&gt;Aircraft towing errors</td>
</tr>
<tr>
<td>Safety Assurance</td>
<td>Airfield occurrence report summary&lt;br&gt;AFS emergency callouts&lt;br&gt;Airfield and ATC audits</td>
</tr>
<tr>
<td>Safety Promotion</td>
<td>Airside Safety Bulletins&lt;br&gt;Airside Operational Instructions&lt;br&gt;Dissemination of lessons learned&lt;br&gt;Airfield Safety Newsletter</td>
</tr>
</tbody>
</table>

*Figure 20 Critical Areas to be Monitored*
4.3 Safety Reporting and Investigation

Regulation (EU) 376/2014 lays down the legal infrastructure for the reporting, analysis, and follow-up investigation of occurrences in civil aviation. Regulation (EU) No 996/2010 aims to prevent accidents by facilitating the prompt holding of efficient and high-quality safety investigations. In the event of an accident or a serious incident, notification of the occurrence is also subject to Regulation (EU) No 996/2010.

Experience has shown that accidents are often preceded by safety-related incidents and deficiencies revealing the existence of safety hazards. Safety information is therefore an important resource for the detection of potential safety hazards. In addition, whilst the ability to learn from an accident is crucial, purely reactive systems have been found to be of limited use in continuing to bring forward improvements. Reactive systems should therefore be complemented by proactive systems which use other types of safety information to make effective improvements in aviation safety.

To ensure that CIA personnel report occurrences that pose a significant risk to aviation safety, a voluntary reporting system has been put in place by CIA which complements the mandatory reporting systems. These allow CIA personnel to report details of aviation safety-related occurrences.

The sole objective of occurrence reporting is the prevention of accidents and incidents and not to attribute blame or liability.

Mandatory Occurrence Report (MOR)

An ‘occurrence’ means any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an accident or serious incident. Occurrences, which may represent a significant risk to aviation safety, shall be reported under the MOR scheme by persons including:

- Pilot in command or crew next in the chain of command
- Air traffic controller or flight information service officer
- Airport management
- Air traffic engineer
- Ground handling staff
- Airport Jet Centre staff

Examples of occurrences that should be subject to a mandatory report are listed in EU (IR) 2015/2018
Details of any occurrence subject to a mandatory report shall be reported using the European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS) community portal at www.aviationreporting.eu. Reports must be submitted within 72 hours of the event occurring, unless exceptional circumstances prevent this.

Any report submitted to the ECCAIRS portal should also be recorded on an internal AOR using the procedures detailed in the Company Safety Reporting System detailed below. Company policy is for reports to be submitted internally within 24 hours of the occurrence.

Contractors serving MADG should report through the ECCAIRS portal and inform their MADG host who will complete a company safety report on their behalf.

Mandatory reports submitted by CIA and other parties will be reviewed and discussed at the Airfield and Flight Safety Committee and/or ASAG meetings, unless they have been submitted confidentially

**Voluntary Report**

The purpose of the voluntary reporting scheme is to facilitate the collection of:

i. Details of occurrences that may not be captured by the mandatory reporting system;

ii. Other safety-related information, which is perceived by the reporter as an actual or potential hazard to aviation safety.

The appropriate scheme for this is the Marshall Safe reporting scheme which allows personnel not listed above to make an occurrence report which they consider to be safety related.
Company Safety Reporting System

CIA operates a company safety reporting system that complies with the requirements of EASA AMC1 ADR.OR.D.030 and EU 376/2014. The system is designed to capture both mandatory and voluntary safety reports. The electronic system used to capture reports is the ‘Safety Matters’ page on the company intranet. Reports submitted via this method are entered into an incident reporting database on Q-Pulse software, by a member of the MADG Safety Cell (BMS 1221).

The purpose of the scheme is to enable:

i. Proactive and reactive reporting of accidents, incidents, near incidents and occurrences
ii. Subsequent mitigating actions to be taken
iii. Lessons learned to be identified and fully disseminated
iv. Trends to be identified

The scheme can also be the starting point in identifying where changes to existing systems and procedures or the introduction of new systems or procedures might be required.

The scheme also allows staff to confidentially report issues. However, it should be noted that when confidential reports are raised no feedback can be provided to the originator. Where it is known who has submitted the Incident Report this will enable direct feedback to be provided on the outcome of the report.

Reports can also be filed confidentially using paper forms positioned at strategic locations around the airport site. This reporting system provides a means to allow airfield users to raise safety concerns that can be responded to and investigated further, whilst maintaining anonymity and without fear of disciplinary or punitive action.

The electronic reporting system is available to airport and MADG staff; based aircraft operators and other organisations operating at CIA are able to report via paper reporting forms or to Airport Operations, who will complete an occurrence report on their behalf. Alternatively, other organisations may contact their MADG host who will complete the company reporting procedure electronically on their behalf.

The AOM or Manager ATS will submit to the CAA in a timely manner any occurrence submitted via the company voluntary reporting scheme, which they consider may involve an actual or potential aviation risk.
ATS Specific Reporting Procedures

Certain ATS related occurrences such as AirProx, level bust, TCAS RA and airspace infringement, are subject to specific reporting procedures in addition to any company procedures.

These specific procedures together with any follow up action to be taken by AAIB, the Regulator or ATS management are detailed in CAP 493 Manual of Air Traffic Services Chapter 6 and CIA MATS Pt 2 and 4.

Just Culture

‘Just culture’ is an essential element of a broader ‘safety culture’, which forms the basis of a robust safety management system. An environment embracing ‘safety culture’ principles should not prevent action being taken where necessary to maintain or improve the level of aviation safety.

The establishment of a Just Culture within an organisation is an enabler for:

- operational staff to report safety occurrences
- monitoring the safety performance of the system
- making appropriate safety interventions to improve safety performance

‘Just culture’ means a culture in which front-line operators or other persons are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but in which gross negligence, wilful violations and destructive acts are not tolerated.

CIA supports and promotes a ‘just culture’ which creates an environment where employees can report all incidents, accidents and safety concerns without the fear of punitive action or punishment, threat of disciplinary action or loss of employment, except for where it can be proven that there has been gross negligence, wilful violation of safety standards or blatant disregard for airport policies and procedures. See Just Culture policy MAP-SM-002 and BMS 0950.

Incident and Accident Investigation

The sole objective of the investigation of an accident or safety occurrence is the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability. The purpose of an investigation is to gather data, reconstruct the accident/occurrence, carry out an analysis and make recommendations which include corrective actions that reduce the likelihood of re-occurrence of the event and/or reduce the risk.
The investigation will be undertaken objectively applying ‘just culture’ principles, but avoiding where possible, the application of hindsight. It is important to understand the contextual conditions that existed at the time of the occurrence.

The investigation will be fully documented using the Q-Pulse software (BMS1221). Every reported occurrence will be investigated and potential safety hazards identified. Once the investigation is complete, a conclusion will be written with recommendations made, and presented to the MADG Safety Cell for consideration and closure. The AOM, FSM, AJCM or Manager ATS will be responsible for determining the final actions to be taken, however the Accountable Manager is ultimately responsible for ensuring any funding required is made available. Corrective/preventative actions are scrutinised at the relevant safety meetings.

Where an actual or potential safety risk has been identified as a result of the investigation analysis, the preliminary results of the investigation will be uploaded to ECCAIRS within 30 days of the notification of the occurrence. The final results of the investigation will be uploaded in principle no later than three months from the date of notification of the occurrence.

The target times for the completion of incident investigations are:

i. Immediate assessment - on the day of the incident carried out by the supervisor to establish whether the involved staff member is fit to continue duty

ii. Management investigation - ≤ 30 days target ≤15 days carried out by MATS, FSM, AJCM or Airside Ops Manager

iii. Final report to be completed ≤ 45 days

**Implementation of Safety Actions**

As part of the investigation process, the investigator(s) may make recommendations for corrective actions to reduce the likelihood of re-occurrence and/or to reduce the risk. The number and type of actions required will depend on the outcome of the incident investigation and may include:

- Procedures may be modified
- New procedures may be introduced
- Staff involved may require additional or refresher training
- Modifications to infrastructure or equipment
- Withdrawal of equipment or procedures
- Analysis of investigation results
CIA investigators using Eurocontrol SOAM will make recommendations for corrective actions which address deficient barriers and organisational factors. Each identified absent or failed barrier and each identified organisational factor must be addressed by at least one corrective action. The Accountable Manager will assign responsibility for completing actions together with a date for completion. The Safety Manager will monitor progress to ensure that the actions are completed on time.

In accordance with Just Culture principles, corrective actions should be directed at individuals and their errors or violations.

Occurrences will be added to the agenda for the forthcoming ASAG meetings for discussion and resolution.

**Monitoring Effectiveness of Safety Actions**

Once a safety action has been implemented, a date will be established by the Accountable Manager for a review of the effectiveness of the action. This date will normally be three months from the date of action implementation. The Accountable Manager and other relevant personnel will assess whether the action is still effective, is it understood by the persons affected and are any changes required. The ASAG meetings will be used as a mechanism for monitoring effectiveness.

**Report Acknowledgement and Feedback**

All reporters will receive an acknowledgement email from the safety cell, usually within 24hrs of the report being submitted.

On completion of the investigation, the lead investigator will provide feedback to the reporter, detailing the findings and actions that are planned or have been taken to reduce or eliminate the risk of a reoccurrence, for example, changes to procedures or infrastructure or additional training. The responsible person will aim to provide feedback to the report originator and all other relevant persons within 28 days.

**Dissemination of Investigation Findings**

The lessons arising from safety occurrence investigations and other safety activities, and trend analysis of statistics, will be disseminated within the organisation at management and operational levels. This may be in the form of content on a safety newsletter, an Airside Operational Instruction or discussion at a safety forum.

**Data Collection and Analysis**

All AORs that are received will be entered into the occurrence database. The database will show the reference number and summarised title, as well as a category, the status (open/closed) and whether feedback has been sent to the reporter.
The accuracy and currency of data is the responsibility of the Safety Manager. The data will be used to analyse trends and look at areas of higher risk. This data will be used in monthly and annual safety statistics reports.

**Safety Critical Event Categorisation**

Safety occurrences that are reported will be assigned a Safety Critical Event (SCE) rating between 1 and 5, which will be used to determine the level of investigation and review required, as well as setting Safety Performance Objectives (SPOs) and analysing safety data for trends. SCE definitions for various event types are on document CIA-D-SMS-002.

Objectives will be set against the number and severity of events reported and updated annually to reflect the latest data. Objectives can be set against specific categories of event, rather than just against an operational area. For example, a more exact target could be set of “no more than 2 moderate wildlife strike events in a year”, rather than just stating “no more than 20 total wildlife strikes per year”.

**Notes:**

1. Any airfield occurrence events that are not listed on the matrix, and where CIA staff and/or facilities are not a contributing factor, shall be categorised as ‘negligible’.

2. Any airfield occurrence events that are not listed on the matrix, and where CIA staff or facilities are a contributing factor, shall be categorised according to the judgement of the Accountable Manager, in conjunction with the relevant manager or head of department.

3. A fuel spill could be categorised SCE 2 – SCE 5, depending on the size of the spill and the environmental effect. To be categorised as SCE 1 it would have to lead to an aircraft accident and would therefore be recorded as an aircraft damage event. Spills caused by third parties may be categorised as SCE 5.

4. A runway or taxiway excursion would be categorised according to the level of damage to the aircraft. If the excursion could not be attributed to CIA staff or facilities, then it would be classified as negligible/SCE 5.

5. A non-compliance with a published procedure, or a report identifying the lack of an adequate procedure for a task, would normally be categorised depending on the perceived level of risk caused as a result.

6. SPOs will be established for the following metrics to measure operational safety performance at CIA:
- Air Traffic Services occurrences
- Accidents involving aircraft
- Runway incursions
- Runway excursions
- Wildlife strike events
- Accidents involving damage to vehicles, equipment or infrastructure
- FOD or surface damage incidents
# Categorisation of Airfield and ATC Occurrences

<table>
<thead>
<tr>
<th>TYPE OF EVENT</th>
<th>SCE 5</th>
<th>SCE 4</th>
<th>SCE 3</th>
<th>SCE 2</th>
<th>SCE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIR TRAFFIC SERVICES EVENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airprox</td>
<td>Anomaly beyond the authorised safety/control regime. This may be due to equipment failure, human error or procedural inadequacies.</td>
<td>Traffic conflict or non-risk-bearing ATS event, but with sufficient defence remaining to avoid any significant adverse effect and to cope with additional failures.</td>
<td>An ATS event where urgent intervention was required to prevent the incident from becoming serious or a near miss.</td>
<td>A risk-bearing ATS event such as airprox/near miss/near mid-air collision that was narrowly avoided due to providence alone.</td>
<td>Any aircraft accident involving one or more than one in-flight aircraft, resulting in death, serious injury or substantial damage to aircraft or equipment.</td>
</tr>
<tr>
<td>Loss of separation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level bust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airspace infringement TCAS R/A alert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RUNWAY INCURSION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>DAMAGE TO AIRCRAFT (on the ground)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Damage on any scale caused to an aircraft, for which CIA staff or facilities are not a contributing factor.</td>
<td>Damage visible but no adverse effect and the aircraft remains airworthy.</td>
<td>Aircraft unserviceable due to damage.</td>
<td>Aircraft requires prolonged major repairs. Any reportable injury.</td>
<td>Aircraft destroyed or beyond economic repair. Loss of life.</td>
<td></td>
</tr>
<tr>
<td><strong>DAMAGE TO VEHICLE, EQUIPMENT OR INFRASTRUCTURE</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evidence of contact is visible but damage is minor or cosmetic only, i.e. scratch or small dent.</td>
<td>Damage is present that requires minor repairs, but the equipment or infrastructure remains serviceable.</td>
<td>Damage is sufficient enough to render the asset unfit for use.</td>
<td>Damage is significant enough to render the asset unfit for use and requires major prolonged repairs.</td>
<td>Damage is catastrophic or brings the asset beyond economic repair, causing moderate or serious business impact.</td>
<td></td>
</tr>
<tr>
<td>Damage caused, for which CIA staff or facilities are not a contributing factor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WILDLIFE STRIKE</strong> (Definitions in CAP 772)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Unconfirmed strike or significant event on aerodrome, with no adverse effect on flight.</td>
<td>Confirmed strike by single or multiple low risk category. No adverse effect on flight.</td>
<td>Confirmed strike by single medium or high risk category. Possible impact on flight but no material damage.</td>
<td>Confirmed strike by multiple medium or high risk category, or a strike that impacts a flight or where material damage is evident.</td>
<td>Aircraft destroyed or beyond economic repair.</td>
<td></td>
</tr>
<tr>
<td><strong>FOD OR SURFACE DAMAGE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of minor FOD in a non-critical area of the airfield which causes negligible risk to aircraft.</td>
<td>Presence of FOD or surface damage on the manoeuvring area, but where aircraft were at no immediate risk.</td>
<td>Presence of FOD or surface damage discovered on the manoeuvring area which posed a risk to aircraft operating at CIA.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td><strong>FUEL SPILLAGE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small fuel spillage of up to approx. 20 litres that is easily contained and cleared, or any spill for which CIA staff or facilities were not a contributing factor.</td>
<td>Fuel spill of above 20 litres that can be contained and cleared without unreasonable effort or expense.</td>
<td>Fuel spill that is not containable and which has the potential to cause an environmental impact or cause damage to infrastructure.</td>
<td>Fuel spill that is not containable and is proven to have contaminated a water course or have serious environmental impact.</td>
<td>Spillage which leads to catastrophic environmental damage and/or leads to fire or explosion.</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 21 Categorisation of Airfield and ATC Occurrences**


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4.4. Compliance Monitoring

CIA is required to monitor compliance with the procedures it has designed, to ensure that services are provided with the required safety levels and quality. In doing so, as a minimum, and where appropriate, monitor compliance with:

i. privileges of the aerodrome certification
ii. manuals, logs, and records
iii. training standards
iv. required resources
v. management system procedures and manuals.

For aerodrome operations, CIA is required to measure safety performance and compliance with the requirements of EASA Part-ADR-OR.D.005(b)(11) and Part-ADR-OPS,

For ATS operations CIA is required to measure safety performance and compliance with the requirements of EASA Part-ATM/ANS-OR.B.005(c), as well as other applicable regulatory or customer requirements.

Internal Audit

The main vehicle for compliance monitoring at CIA is the internal audit which is an essential safety assurance tool. An internal audit is a systematic and independent comparison of the way in which SMS policies and procedures are being conducted against the way in which the approved SMS policies and procedures say it should be conducted.

An internal audit must be a formal and planned function which must be carried out by a trained auditor and must adhere to auditing principles and requirements. The objectives of the audit are to:

- assess compliance or noncompliance of the organisation with its SMS policy and procedures and applicable regulatory requirements
- verify the effectiveness of the SMS policy and procedures in meeting specified safety objectives.
- assess the performance and effectiveness of the safety risk controls put in place by the safety risk management procedures
- provide an opportunity to improve the organisation’s safety performance
- provide Managers and Safety Committees with data and proposals for corrective action when required

Internal audits should be initiated:
i. as a routine examination of the organisation’s safety system to verify it continues to meet requirements. An annual audit programme should be prepared at the commencement of the “audit” year

ii. as a consequence of particular circumstances such as introduction of new equipment or procedures, follow up of corrective actions or a significant safety report.

**Annual Audit Programme**

The audit programme should ensure that the core SMS components are audited within an agreed timescale. Each department should submit their internal audit programme to the Safety Manager prior to the commencement of the audit year.

Each audit programme should systematically cover all elements of SMS procedures as implemented by the respective departments. The *Safety Manager* should prepare the organisation audit programme for the year based on the submitted departmental audit programmes so that the resulting audit findings should present an accurate view of the efficacy of the CIA’s SMS methodologies.

The CIA internal compliance-monitoring programme is a proactive management mechanism by which any non-compliance within the organisation’s operation is identified and rectified.

Deficiencies can be brought to the attention of the Safety Review Board for further action.

**Internal Audit Process**

An audit can be broken down into four basic phases:

i. Planning
ii. Conducting the audit
iii. Analysis of results
iv. Reports and corrective actions (including follow up audits)

These phases can be regarded as the audit lifecycle, which is not finished until each of the above phases has been completed.

**Planning phase**

The planning phase is important to ensure that the auditor establishes the objective and scope of the audit. Having done so, the criteria against which the audit will be conducted are specified. These criteria must be relevant to the department being audited and address the applicable parts of:
i. EASA Acceptable Means of Compliance (AMC) and Guidance Material (GM)
ii. CIA Safety Policy
iii. CIA Safety Management System
iv. CIA Aerodrome and ATS operational documentation

Having established the objective and scope of the audit, the auditor must prepare documentation to assist the conduct of the audit. In effect, the auditor will conduct a preliminary review of the available documentation and then construct a checklist to be used as the plan of action e.g. what needs to be examined, sampling size, specific questions to ask and clarification of responsibilities.

To ensure that the audit activities keep disruption of the operational task to a minimum, the auditor should notify the department of the audit plan and arrange to have personnel to be available at planned times.

**Audit Conduct**

Each audit should start with an opening meeting whose purpose is to:

i. confirm the agreement of all parties (e.g. auditee, audit team) to the audit plan
ii. introduce the audit team (if appropriate)
iii. ensure that all planned audit activities can be performed
iv. the auditee has the opportunity to ask questions
v. confirm details of the closing meeting

The auditor requires objective evidence to establish compliance or otherwise with the criteria; the techniques to achieve this include:

i. review of documentation (paper trails)
ii. staff interviews
iii. observations by the auditor

The other area of evidence gathering that the auditor should consider is by “observing” procedures and equipment being used operationally. For example, this can be achieved by,

- Observing a control position
- Observing aircraft refuelling
- Accompanying an engineer on a site visit
- Sampling a training session

These observations can be time consuming so adequate time should be allowed for in the audit plan.
It should be acknowledged that audits, particularly in small departments can appear to
be intrusive or even threatening therefore to ensure successful completion of an audit,
the co-operation of the personnel concerned is essential. The audit should be based
upon the following principles:

- The objective is to gain knowledge – suggestions of punishment or blame will
  prove counter-productive
- The auditee shall make all relevant documentation available to the auditor and
  be available for interview as required
- Facts will be examined in an objective manner
- A written audit report describing the findings and recommendations will be
  presented to those concerned within a specified time period
- Staff and management concerned will be provided with feedback detailing the
  findings of the audit
- Positive feedback will be highlighted regarding the good points observed in the
  audit
- Deficiencies will be identified; however negative criticism will be avoided.

Audit Findings

The audit findings can include statements of compliance as well as non-compliance.
When declaring a non-compliance, the auditor must:

i. identify the audit area
ii. specify the issue (regulation, procedure, etc) and audit criteria against which a
   non-compliance has been raised
iii. provide detailed evidence (documentary, observation, sampling etc) to support
     the declaration of non-compliance
iv. categorise the non-compliance.

Writing clear, factual non-compliance statements is one of the most difficult aspects for
many auditors. Stating opinions is easy, and bad auditors will resort to this but:

- opinions are only opinions
- they cannot be defended without corroborating facts
- it may sometimes be acceptable to state opinions in reports alongside
  conclusions reached from an audit, but they must all bear some relationship to
  the actual facts found
- opinions must not be used to support a statement of non-compliance
Having declared a non-compliance, the auditor must assess the seriousness of the deviation from the audit base and categorise according to the tables below. Emphasis must be focused on the risk that the non-compliance poses for CIA therefore the auditor is required to undertake safety or risk assessment.

**Closing Meeting**

A closing meeting will be held between the auditor/audit team and management of the relevant department(s) to brief them on the audit findings and recommendations. Factual accuracy can be confirmed.

An opportunity will be given for feedback from management and audit participants to correct any misunderstandings and give further comments. Comments made during the closing meeting will be considered in the preparation of the final audit report. Any issues which cannot be agreed between the lead auditor and audit participants will be forwarded to the AGM for resolution.

**Corrective Action**

Having declared a non-compliance, the auditor in consultation with the auditee, agree:

i. the cause of non-compliance

ii. the appropriate corrective action to be taken which may be subject to the SMS change procedure

iii. that any action is proportionate to the size of the problem

iv. who is responsible for corrective action and their authorities

v. that the auditee implements corrective action within an agreed timescale

vi. to track progress on the corrective action through the establishment of milestones

vii. that the auditee documents all changes in written procedures

viii. that the auditee records the changes made

ix. that when the corrective action is completed, the auditor will be notified and will review or audit the outcome of the corrective action.

**Audit Report**

The audit report should be an objective presentation of the results of the safety audit. As soon as possible after audit completion, a report will be filed and forwarded to the relevant manager(s) for review and comments.

The Accountable Manager will also be issued a copy of the audit report to ensure awareness of areas of non-compliance or specific risks that have been identified.
Audit Response and Follow-up

Following receipt of the final audit report, managers will be expected to develop a response to each audit finding, to be forwarded to the lead auditor. This should set out the actions to be taken to resolve identified non-compliances or safety shortcomings.

The primary purpose of an audit follow-up is to verify the effective implementation of corrective actions. Follow-up is also required to ensure that any action taken pursuant to the audit does not in any way degrade safety. It is important that no higher risks can surface as a consequence of the audit.

Failure to follow-up on agreed corrective actions will jeopardise the validity of the entire audit process. The implementation of accepted corrective action in order to improve safety and compliance will be monitored through observation, with potential follow-up visits.

External Regulatory Audit – Civil Aviation Authority

As a minimum the Civil Aviation Authority will conduct one Aerodrome and one ATS Audit per annum.

The Aerodrome Audit will be conducted to verify the aerodrome operator’s continued compliance with Regulation EC 216/2008 of the European Parliament and of the Council, It’s implementing rules under Commission Regulation 139/2014 (Aerodromes), the aerodrome Certification Basis, the Terms of the Certificate and the Aerodrome Manual.

The ANSP Audit will be conducted to verify the ANSP’s continued compliance with Regulation EC 216/2008 of the European Parliament and of the Council, It’s implementing rules under Commission Regulation 373/2017, the ANSP Certification Basis, the Terms of the Certificate and the Aerodrome Manual.

Actions in the Event of Identified Non-Compliances

On receipt of an Audit Oversight Report which identifies non-compliances the Accountable Manager in conjunction with Unit Management shall;

II. ensure that all changes to written procedures are documented and impact assessed.
III. ensure that all changes are recorded
IV. using the initial report notify the CAA when the corrective actions have been completed

Upon receipt of the completed report the CAA will review or audit the corrective actions prior to acceptance.

Audit Finding Categorisation

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Timescale for Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Any non-conformity with a regulation, or requirement, or CIA arrangements or procedures which creates a significant safety hazard.</td>
<td>The timescales for the corrective action must be related to the significance of the safety hazard. This may result in the need for immediate corrective action or corrective action within very short timescales, such as 3 days.</td>
</tr>
<tr>
<td>2</td>
<td>Any non-conformity with a regulation or requirement or the CIA arrangements or any shortcoming with CIA arrangements or procedures which is likely to have a significant or adverse impact on safety.</td>
<td>The auditor and auditee, and if appropriate, in conjunction with Safety Manager, are to agree an appropriate timescale for implementing corrective action which takes account of the potential impact on safety due to the non-conformity.</td>
</tr>
<tr>
<td>3</td>
<td>Any non-conformity with a regulation or requirement or the CIA arrangements or any shortcoming with CIA arrangements or procedures that may not have a direct impact on safety but must be corrected.</td>
<td>The auditor and auditee, and if appropriate, in conjunction with Safety Manager, are to agree an appropriate timescale for implementing corrective action.</td>
</tr>
<tr>
<td>4</td>
<td>Observation leading to identification of a potential non-conformity or where further information or clarification is required.</td>
<td>Follow up action by the auditee is encouraged. However the auditee must acknowledge the finding and where action is not taken, must justify the rationale for not accepting the finding.</td>
</tr>
</tbody>
</table>

Figure 22 Audit Finding Categorisation
4.5 Safety Surveys

The objectives of safety surveys are to:

i. Ensure that all safety-related activities within the CIA functions are addressed periodically

ii. Review a particular area of safety concern where hazards appear or are suspected.

Safety surveys can provide a mechanism to obtain significant information regarding many aspects of airport and ATS operations, including:

- Perceptions and opinions of operational personnel;
- Level of teamwork and cooperation among various employee groups;
- Problem areas or bottlenecks in daily operations;
- Corporate safety culture;
- Current areas of dissent or confusion; and
- Proposals for solutions from the staff and line management

Safety Surveys to be conducted should cover the following Airport functions and related elements:

- Operations
- Equipment (hardware and software)
- Personnel (training-staffing-etc)
- Environment
- Relations with users
- CIA Safety culture

The Safety Manager shall take these components into account when planning the Safety Survey programme. The safety Survey Programme will be managed through the Q-Pulse System. It should be noted that the Safety Review Board might from time to time direct the Safety Manager to implement a survey on a safety issue, which has given concern during their review of the safety data.

Safety Survey Team

The Safety Manager shall identify individuals that have the required personal traits, motivation and experience. Following acceptance by those individuals, the Safety Manager shall make arrangements for training and participation in safety surveys.
Surveys are conducted as part time work, i.e. surveyors are taken (within the pool of trained surveyors) from their sections after prior coordination with their manager or supervisor. Randomly selecting those to be surveyed will reduce the risks of bias in information collected.

**Report Content**

The gathering and analysis of the information, development of the recommendations and preparation of the final report of a survey will take time. It is therefore desirable to conduct a brief review with those responsible as soon as the survey has been completed. If any conclusions are immediately obvious, they should be discussed informally and if safety critical, the team leader should advise the Safety Manager as soon as possible and prior to the completion of the survey report.

During the survey, the team may identify hazards or make recommendations for improvement therefore a risk assessment is to be carried out. The assessment needs to consider the potential consequences on the air and ground elements attributable to the identified hazards.

Recommendations should be practical and within the scope and ability of CIA to act upon. Sensitive issues must not be avoided, but the team should exercise care to ensure that they are presented in a fair, constructive and diplomatic manner.

The final report is to contain the following:

i. Introduction
ii. Objective
iii. Scope
iv. Standards to be compared against
v. Methodology used in the survey
vi. Details of the survey
vii. Risk assessments where applicable
viii. Conclusions

**Result of the survey and recommendations**

There are no standard forms associated with this process, however the final report will follow the format above.

Each Safety Survey is to be presented for review by the Safety Review Board.
Safety Culture Questionnaires

Safety Culture is the way safety is perceived, valued and prioritised in an organisation. It reflects the real commitment to and understanding of safety at all levels in the organisation. Organisations need both an SMS and a healthy safety culture in order to achieve acceptable safety performance.

As part of the safety survey programme, the Safety Manager will periodically distribute safety questionnaires to be issued to operational CIA staff. These questionnaires will provide anonymous statistical data which can be used to measure the development of the safety culture across the airport and provide a baseline from which to measure future maturity of the safety culture.

4.6 Management of Change

Change is a constant in any organisation and this applies to CIA ATS and Airport operations. Change may affect the effectiveness of existing safety risk controls. In addition, new hazards, and related safety risks may be inadvertently introduced into an operation when change occurs. Hazards should be identified and related safety risks assessed and controlled as defined in the CIA’s existing hazard identification or SRM procedures.

Generically, changes can be classified as either organisational or system (functional).

An organisational change which may have an impact on airport or ANSP certification such as:

- structural re-organisation
- changes to key staff personnel
- re-allocation of safety accountabilities and responsibilities
- HR and management processes

System or functional changes are those affecting equipment, procedures and staff in the operational environment and include:

- implementation of a new procedure
- modification of existing systems
- the introduction of new systems
- revised staffing and training
Assessment of Change

A safety assessment for a change should include:

i. identification and notification of the proposed changes
ii. the identification of the scope of the change,
iii. identification of hazards;
iv. determination of the safety criteria applicable to the change
v. risk analysis in relation to the harmful effects or improvements in safety related to the change
vi. risk evaluation and, if required, risk mitigation for the change to meet the applicable safety criteria
vii. verification that the change conforms to the scope that was subject to safety assessment, and meets the safety criteria, before the change is put into operation
viii. the specification of the monitoring requirements necessary to ensure that the aerodrome and its operation will continue to meet the safety criteria after the change has taken place.

EASA COMPLIANCE

Airside operations is to comply with EASA ADR.OR.B 040 produced to meet Regulation (EU) 139/2014.

ATS is to comply with EASA ATM/ANS.OR.B 010 produced to meet Regulation (EU) 2017/373. Compliance is achieved by adherence to SRG 1430 procedure - Notification of a Proposed Change by an Air Navigation Service Provider

4.7 Contracted Activities

All Contractors working within the airport shall be required to comply with the requirements of the CIA SMS unless they have their own SMS in place operating effectively and is acceptable to CIA. Where Contractors have an SMS, this will be subject to audit as determined by CIA. There shall be a single person identified within the Contracting organisation responsible for safety acting as the point of contact with the CIA Aviation Safety Manager.

The Airport Director is responsible for ensuring that contractors and third-party entities employed on airside tasks are clear about their safety responsibilities and the requirement to comply with CIA SMS policy and procedures
Selection and Approval of Contractors

Prior to an external organisation being approved for a contracted activity at CIA, they will be required to complete and return a contractor pre-approval health and safety questionnaire.

EASA AMC1 ADR.OR.D.010 states that aerodrome operators should have a written agreement with external organisations that are contracted to provide aviation services. It also requires the contracted activities to be included in the aerodrome’s compliance monitoring programme.

The process for the selection of contractors for aviation activities is contained in CIA-P-SMS-003.

Flight Inspections

ILS/DME flight inspections for runway 23 and AGL flight inspections for runways 23/05 take place every six months. This function is carried out by a licensed contractor arranged by the Manager ATE. The contractor also carries out the Annual inspection of the Non-Directional Beacon.

Compass Swing Facility

A Compass Swing Base (CSB) is provided on the airfield for use by based and visiting aircraft, which require compass re-calibration prior to flying again. The CSB is located on taxiway “Charlie”.

The CSB is certified to Compass Calibration Base Class 2 standards. QinetiQ plc, who are approved by the Government, carry out calibration and re-certification at 5-year intervals. A calibration certificate is held by the Facilities Department and may be viewed at any reasonable time.

Aerodrome Survey Data and Treatment of Obstacles

CAP 232 sets out the required specification for Aerodrome Licensing topographical and Obstacle limitations surveys. CIA procures surveys under contract with a CAA-approved provider.

Habitat Management

CIA contracts airfield habitat management activities to a specialist company. This includes managing the airfield grassland in accordance with the long grass policy, short grass parking areas, grass runway maintenance, bottoming out and selective grass treatments.
Aeronautical Ground Lighting

First line maintenance of airfield light fittings is carried out by CIA facilities staff. All planned preventative maintenance and photometric testing is completed by a contractor.

Other Activities

CIA will from time to time procure other services from external contractors, such as airfield line marking, tree maintenance and pavement works.

4.8 Personnel Training and Competence

All personnel prior to working either airside or within ATC are required to have completed training courses to a satisfactory standard and where applicable, hold a licence or certificate issued by the regulatory authority. Before operating without supervision, staff must be assessed as competent to perform those duties for which they are trained by an approved assessor or examiner.

The training and education of CIA staff is supported by competency frameworks in place throughout all operational areas (Operation, Airport Jet Centre, ATS, Rescue and Fire-fighting, maintenance and management). The competency frameworks include safety training and specific training relating to individual job roles. They also assess non-operational roles (i.e. management positions) to ensure that suitable and qualified persons are employed in safety critical roles.

Airport Operations and AFS

The Airside Operations Training Manual (CIA-M-AOPS-002) and AFS Training Manual (CIA-M-AFS-002) contain the training programme for airport operations, maintenance and management, and airport fire service personnel respectively.

The training manuals contain the following:

- Responsibilities of trainers and assessors
- Frequency of training
- Syllabi or reference to frameworks
- Training standards
- Procedures for training and checking of trainees
- Procedures if personnel do not achieve the required standard
- Documentation to be stored and retention periods
Air Traffic Services

Air Traffic Controller training consists of training courses for each endorsement established for Cambridge ATS unit as defined in the Unit Training Plan, which includes training in:

- Operational procedures;
- Task-specific aspects;
- Abnormal and emergency situations; and
- Human factors

The ATE training programme defined in MATS Pt 4 is a combination of:

- Theory
- Practical
- OJT

Continuing Competence

Each discipline within CIA is required to assess personnel competence within a period lasting not more than 24 months and in the case of ATCOs, 12 months.

For Airside Operations and AFS personnel, the training manuals contain information on the proficiency check programmes, including frequencies, procedures in the event that personnel do not maintain the required standard and documentation of proficiency checks.

The ATC Unit Competency Scheme is applicable for assessment of ATCO continuing competence and ATEs are assessed in accordance with MATS Pt 4 requirements.

Airside Safety Training

All airside ID pass holders are required to attend airside safety training, including FOD awareness.

Human Factors Training

CIA recognises the importance of understanding human factors and their potential impact on aviation safety. Training on human factors is provided to all key aerodrome post-holders and operational staff members.
Third Party Company Staff

The training, education and competency of third-party companies’ staff is the responsibility of the company itself, however CIA will support their training where possible, for example airside safety inductions and airside driver training courses.

CIA will monitor Training and education of third parties through third party oversight and audit.

Personnel Training Records

Each department is responsible for maintaining comprehensive training records for each member of their respective staff.

External Groups

To further the knowledge and development of key CIA staff, and to stay current with industry best practice, there is regular attendance at the following groups:

- Airport Operators Association – Operations and Safety Group
- UK Bird Strike Committee
- Winter Operations Committees
- CAA Aerodromes Seminars
- Airport Fire Officers Association Working Groups and Committees

4.9 Continuous Improvement of the SMS

The primary responsibility of the Safety Review Board is to monitor the performance of the CIA SMS with the overall objective of continuous improvement through:

i. identifying the causes of sub-standard SMS performance
ii. determining the implications of sub-standard performance in operations
iii. eliminating such causes

Continuous improvement of the SMS, as part of the safety assurance, is achieved through the application of:

i. internal evaluations facilities, equipment, documentation, and procedures
ii. proactive evaluation of an individual’s performance, to verify the fulfilment of that individual’s safety responsibilities
iii. independent audits (both internal and external)
iv. strict document controls
v. continuous monitoring of safety controls and mitigation actions.
5 SAFETY PROMOTION

5.1 Introduction

Safety promotion is a major component of the Safety Management System (SMS) and together with the Safety Policy and Safety Objectives is an important enabler for continuous safety improvement achieved mainly through the two “operational components” of the SMS: risk management and safety assurance.

Safety Promotion encourages a positive safety culture and creates an environment that is conducive to achievement of the CIA safety objectives. This is achieved through the combination of technical competence that is continually enhanced through training and education, effective communications, and information sharing. Senior management provides the leadership to promote the safety culture throughout CIA.

Safety Promotion is one of the four components of the ICAO SMS model. For the purposes of the CIA SMS, this component is divided into two elements:

- Safety Training and Education
- Safety Communication

5.2 Safety Training and Education

In addition to the personnel training requirements outlined in 4.8, CIA is required to develop and maintain a SMS training programme that ensures that personnel are trained and competent to perform their safety accountability and responsibilities. The scope of the training shall be appropriate to everyone’s accountability and responsibilities.

All levels of CIA staff with safety related tasks are required to undergo such training, appropriate to their CIA position, to ensure a level of competency to undertake SMS procedures when required.

Department managers, in conjunction with the Safety Manager, shall develop a SMS training programme, which includes:

- A list of those requiring SMS training
- The timing of each staff member’s specific safety training courses
- The type of training for each staff member
- Safety induction courses for staff with no previous SMS training/background
- Recurrent safety courses for all operational safety-critical personnel
- Evaluation of the safety training effectiveness
Part of this training programme should contain a mandatory element for all staff which covers the following topics:

i. CIA safety policies and safety objectives
ii. CIA safety accountabilities and responsibilities
iii. safety culture and application of Just Culture
iv. basic SRM principles
v. safety reporting systems
vi. CIA SMS processes and procedures
vii. human factors
viii. promote a just culture

In addition to the above, certain staff may be selected to undertake specialist SMS procedures. The Safety Manager will arrange such courses as required. These will include, among others

i. Hazard identification and Risk Management
ii. Safety Case development
iii. Safety Audit
iv. Occurrence Reporting and Investigation

### 5.3 Safety Communication

The objective of safety communication within CIA is to:

i. ensure that all staff are fully aware of the SMS
ii. convey safety-critical information
iii. explain why particular actions are taken
iv. explain why safety procedures are introduced or changed
v. promote positive safety culture
vi. provide feedback to personnel submitting safety reports on what actions have been taken to address any concerns identified
vii. convey “nice-to-know” information.

Safety information is available from many sources within CIA and number of ways that these will be communicated such as:

- Airfield Safety Committee and Aerodrome Safety Forum meetings
- Verbal and written feedback from incident reports and investigations
- Airfield Safety Performance Reports
- Annual safety report
- Airside Safety Bulletins (ASB)
- Airside Works Notices (AWN)

As safety communication is an important enabler for improved safety performance, the Safety Review Board has overall responsibility for ensuring that CIA staff are fully informed about SMS and safety issues. Specifically, the Aerodrome Safety Action Group has responsibility for safety lesson dissemination as a vital element of safety communication because lessons learned from past experiences implemented within CIA reduce the chances of accident and incident recurrence and thus improve safety.

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