Civil Aviation Authority

CAP 784

State Safety Programme for the United Kingdom

Produced by the United Kingdom Civil Aviation Authority in conjunction with the Department for Transport's Aviation Directorate, the Air Accident Investigation Branch, the Ministry of Defence and Air Safety Support International

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List of Effective Pages

Chapter	Page	Date
	iii	October 2008
Contents	1	October 2008
Contents	2	October 2008
Foreword	1	October 2008
Glossary	1	October 2008
Glossary	2	October 2008
Chapter 1	1	October 2008
Chapter 2	1	October 2008
Chapter 2	2	October 2008
Chapter 2	3	October 2008
Chapter 2	4	October 2008
Chapter 2	5	October 2008
Chapter 2	6	October 2008
Chapter 2	7	October 2008
Chapter 2	8	October 2008
Chapter 2	9	October 2008
Chapter 2	10	October 2008
Chapter 2	11	October 2008
Chapter 2	12	October 2008
Chapter 3	1	October 2008
Chapter 3	2	October 2008
Chapter 3	3	October 2008
Chapter 3	4	October 2008
Chapter 4	1	October 2008
Chapter 4	2	October 2008
Chapter 4	3	October 2008
Chapter 4	4	October 2008
Chapter 4	5	October 2008
Chapter 5	1	October 2008
Chapter 5	2	October 2008
Chapter 5	3	October 2008
Chapter 5	4	October 2008
Chapter 5	5	October 2008
Chapter 6	1	October 2008
Chapter 6	2	October 2008
Attachment 1	1	October 2008
Attachment 1	2	October 2008
Attachment 1	3	October 2008
Attachment 1	4	October 2008
Attachment 1	5	October 2008
Attachment 1	6	October 2008
Attachment 1	7	October 2008
Attachment 1	8	October 2008
Attachment 2	1	October 2008
Attachment 2	2	October 2008
Attachment 2	3	October 2008
Attachment 2	4	October 2008
Attachment 3	1	October 2008
Attachment 3	2	October 2008

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Contents

Chapter 6 UK Aviation Safety Promotion

Attachment 1 Aviation Safety Legislative Frameworks

Attachment 2 An Acceptable Level of Safety

Attachment 3 Safety Risk Management Process

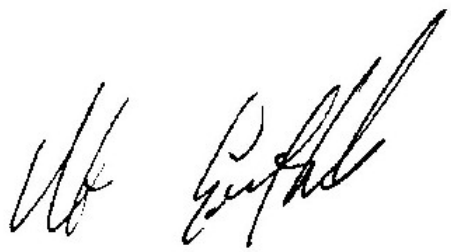
Foreword

New ICAO Standards place a responsibility on ICAO contracting States to have a State Safety Programme (SSP). This is an ambitious undertaking and one that the United Kingdom welcomes. For a State to produce an SSP, it requires the State to examine its own legislation, policies and processes in a new light. Although it may have assumed that all was in order, the SSP may reveal issues that should be resolved to improve the way in which aviation safety is managed in the State.

As the UK Civil Aviation Authority (CAA) has regulatory responsibility for aviation safety in the UK, the Department for Transport (DfT) has agreed that the co-ordination of the UK State Safety Programme document should be undertaken by the CAA. I would like to thank the CAA for undertaking this task. It is clear that most essential elements of the safety framework are well established. However, a number of items have been identified for improvement and we will be working on these before the ICAO Audit of the UK.

The SSP highlights the structure of aviation regulation in the UK, which consists of multiple authorities (DfT, CAA, European Aviation Safety Agency (EASA)) working together to achieve aviation safety. The SSP also highlights that the UK has differing relationships with its Overseas Territories and Crown Dependencies. The UK's partnership with EASA and the European Commission (EC) through the Single European Sky (SES) initiative continues to develop. The SSP clarifies these links and notes that there will inevitably be change in the future.

It is for this reason that we plan to keep this document up-to-date on the DfT/CAA website and we will also work with our colleagues in EASA and the European Commission to develop their complementary Community Safety Programme.



Peter Griffiths

Director General of Civil Aviation
Department for Transport

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Glossary

AAG.....CAA Accident Analysis Group
AAIB.....UK DfT Air Accidents Investigation Branch
AD.....DfT Aviation Directorate
ADREP.....ICAO Accident/Incident Data Report
AGNA.....EASA Advisory Group of National Authorities
AIC.....Aeronautical Information Circular
AIP.....Aeronautical Information Publication
ALARP.....As Low As Reasonably Practicable
ALoS.....Acceptable Level of Safety
ANO.....The UK Air Navigation Order
ANSP.....Air Navigation Service Provider
ARCC.....UK Aeronautical Rescue Co-ordination Centre
ARE.....CAA Aviation Regulation Enforcement Department
ASSI.....Air Safety Support International.
ATM.....Air Traffic Management
BAT.....British Antarctic Territory
BIOT.....British Indian Ocean Territory
CAA.....UK Civil Aviation Authority
CAP.....CAA Civil Aviation Publication
CD.....Crown Dependencies
CFIT.....Controlled Flight into Terrain
CHIRP.....Confidential Human Factors Incident Reporting Programme
CI.....CAA International
CR.....Common Requirement
CSP.....EASA Community Safety Programme
DAP.....CAA Directorate of Airspace Policy
DASMS.....Defence Aviation Safety Management System
DARS.....Directorate of Aviation Regulation and Safety
DCA.....Director of Civil Aviation
DfT.....UK Department for Transport
DGCA.....DfT Director General of Civil Aviation
EASA.....European Aviation Safety Agency
EC.....European Commission
ECAC.....European Civil Aviation Conference
ECCAIRS.....European Co-ordination Centre for Accident and Incident Reporting Systems
ER.....Essential Requirements
ESARR.....Eurocontrol Safety Regulatory Requirement
ESSI.....European Strategic Safety Initiative
EU.....European Union
Eurocontrol.....European Organisation for the Safety of Air Navigation

FAST.....Future Aviation Safety Team
FCO .....Foreign and Commonwealth Office
FDM .....Flight Data Management
GA .....General Aviation
GASIL .....General Aviation Safety Information Leaflet
GNSS.....Global Navigation Satellite System
IAIP.....Integrated Aeronautical Information Package
ICAO.....International Civil Aviation Organisation
IR.....Implementing Rule
JAA.....Joint Aviation Authorities
JSP .....Joint Service Publication
MARDS .....Military Aviation Regulatory Document Set
MARSB.....MoD Aviation Regulatory and Safety Board
MCA .....UK DfT Maritime and Coastguard Agency
MoD .....Ministry of Defence
MOR.....Mandatory Occurrence Report
MORS.....CAA Mandatory Occurrence Reporting Scheme
NATS .....National Air Traffic Services
OT .....UK Overseas Territories
OTAA.....Overseas Territories Aviation Authorities
OTACs .....Overseas Territories Aviation Circulars
OTARs .....Overseas Territories Aviation Requirements
RAF .....UK Royal Air Force
SAFA .....Safety Assessment of Foreign Aircraft
SAR .....Search and Rescue
SARPs .....ICAO Standards, Recommended Practices and Procedures
SES.....Single European Sky
SMS.....Safety Management System
SPC.....CAA SRG Policy Committee
SRC .....Eurocontrol Safety Regulation Commission
SRG .....CAA Safety Regulation Group
SRMP .....Safety Risk Management Process
SRMS .....CAA Safety Regulatory Management System
SRR .....Search and Rescue Region
SRT.....CAA Safety Risk Team
SSP.....State's Safety Programme
THREAT.....CAA The High Risk Events Analysis Team
USOAP .....ICAO Universal Safety Oversight Audit Programme
UK.....United Kingdom
UKBSC.....UK Birdstrike Committee
UKMCC .....UK Mission Control Centre

Chapter 1 Introduction

1 ICAO standards now require States to establish a State Safety Programme (SSP) in order to achieve an Acceptable Level of Safety (ALoS). They also explicitly require States to establish an ALoS to be achieved, as a means to verify satisfactory performance of the SSP and service providers' Safety Management Systems (SMS). ICAO describes an SSP as 'an integrated set of regulations and activities aimed at improving safety'.

2 The requirement for an SSP recognizes that States as well as service providers have safety responsibilities and provides a framework within which service providers are required to establish SMS.

3 Currently, ICAO standards for an SSP are contained in Annexes 6 (Operation of Aircraft), 11 (Air Traffic Services) and 14 (Aerodromes). However, as an SSP is an overarching requirement placed on States, ICAO is proposing to amend Annexes 1 (Personnel Licensing), 8 (Airworthiness of Aircraft), 6 (Part III - Helicopters) and 13 (Aircraft Accident and Incident Investigation) to include the requirements for an SSP and service providers SMS[1]. ICAO envisages an applicability date for amendments to Annexes 6, 11, 13 and 14 of 19 November 2009. A separate applicability date of 18 November 2010 is envisaged for the proposed provisions in Annexes 1 and 8.

4 ICAO standards also require that the ALoS to be achieved is established by the State(s) concerned. The concept of establishing an ALoS attempts to complement the current approach to safety management based on regulatory compliance with a performance based approach. Some guidance on what constitutes an ALoS is provided by ICAO.

5 In Europe, there is activity in both EASA and Eurocontrol to address both an SSP and the ALoS, but the activities have yet to be linked. Eurocontrol is promoting a European Safety Programme[2] and EASA is developing a Community Safety Programme (CSP) and promoting management systems (that include SMS) for air operators[3].

6 Although the requirement for this UK SSP stems from ICAO international civil standards, it is recognized that much activity in UK airspace involves both civil and military aviation. For this reason, the UK SSP addresses the safety oversight arrangements for both civil and military aviation in the UK.

7 Finally, this UK SSP has been developed using the ICAO SSP framework and guidance material, including the ICAO SSP gap analysis document. As much as possible, the headings proposed by ICAO in its framework document have been adopted in this document.

1. ICAO State Letter AN 12/51-07/74 dated 7 December 2007 - Proposal for the amendment of Annex 1, Annex 6, Parts I and III, Annex 8, Annex 11, Annex 13 and Annex 14, Volume I, to harmonize and extend provisions relating to safety management.
2. Eurocontrol's European Safety Programme (ESP) was launched on 28 February 2006.
3. EASA Position Paper dated 14 November 2007 (EASA R/AGNA/03/00) on the compliance of the EASA system and EU-OPS with ICAO Annex 6 SMS standards and recommended practices for air operators.

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Chapter 2 UK Aviation Safety Oversight Arrangements

1 Introduction

1.1 The purpose of this Chapter is to describe the safety oversight arrangements in place in the various elements of the UK as an ICAO contracting State. It explains the relationships between these elements and the UK Government and, ultimately, to ICAO. This Chapter also references the six different aviation safety regulatory legal frameworks in place in the various elements of the UK (see Attachment 1).

2 General – UK as ICAO Contracting State

2.1 When the UK ratified the Convention on International Civil Aviation (the Chicago Convention) in March 1947, it did so on behalf of the various colonies, protectorates and dependencies that existed at the time. Today, the UK's adherence to the Chicago Convention covers the United Kingdom of Great Britain and Northern Ireland (UK "Main"), the UK's Overseas Territories (UK OT) and the Crown Dependencies (UK CD).

2.2 Figure 1 below shows a simplified relationship between the various elements of the contracting State and ICAO.

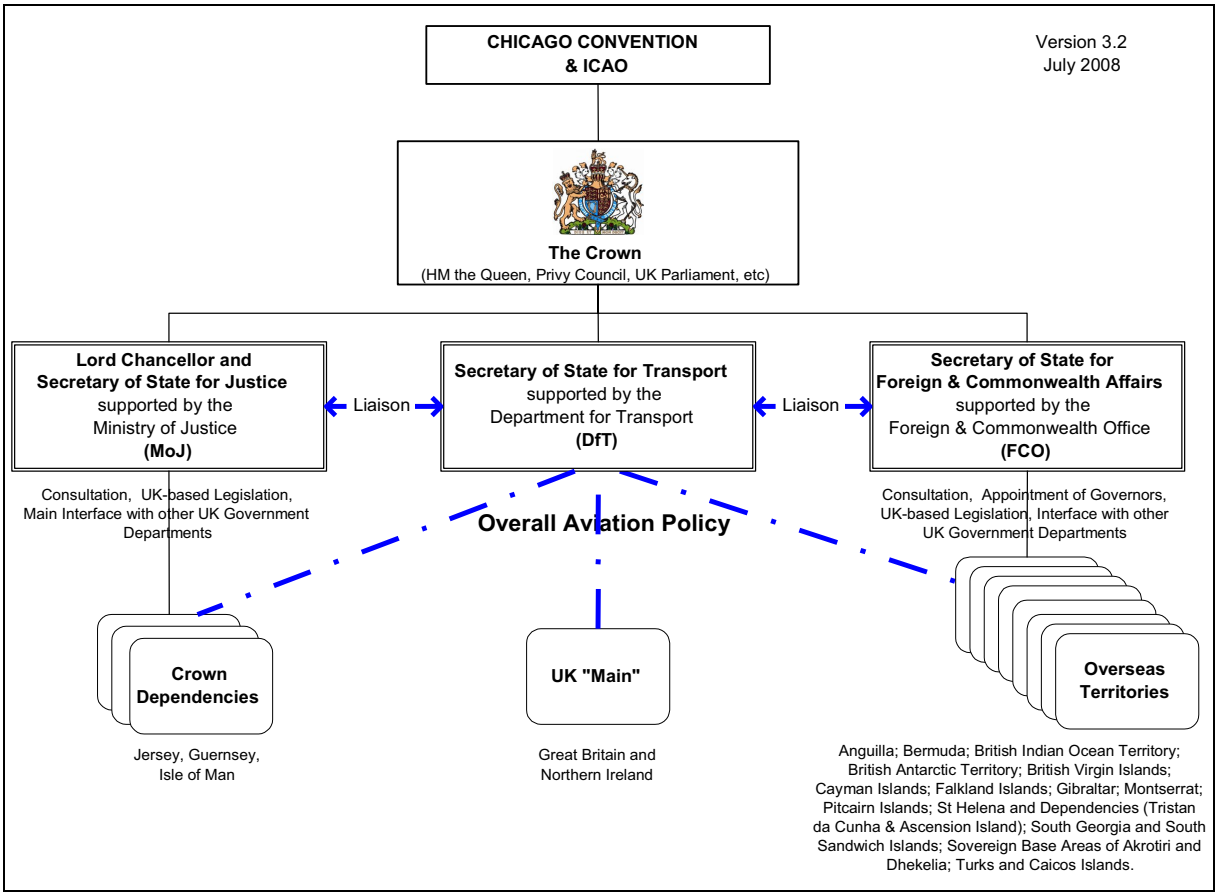

Figure 1

2.3 The 'Crown', the common factor in all three elements above, is a term used to refer to the collectivity that now comprises the monarch in her governmental capacity, ministers, civil servants and the armed forces. The functions of the Crown include the Executive, the Legislative and the Judicial.

2.4 The Privy Council consists of all the members of the British Cabinet, former Cabinet ministers, and other distinguished persons appointed by the Sovereign including past and present leaders of the British opposition parties. Its functions include advising the Queen on Orders in Council, granting Royal Charters, and, through its Judicial Committee, acting as the final court of appeal from courts in the Overseas Territories. The British Cabinet remains formally a committee of the Privy Council.

2.5 Orders in Council are approved by the Queen at meetings of a small number of Privy Counsellors. Orders in Council establishing legal requirements are Statutory Instruments and are normally subject to UK Parliamentary scrutiny, as is the case with most other statutory instruments. The Order in Council is an important method of giving force of law to the more significant executive orders. Orders in Council are also used to extend civil aviation legislation to the Overseas Territories, as well as to the Crown Dependencies. The Office of Public Sector Information provides access to legislation of the UK made available online including all amendments. The UK Statute Law Database provides a similar service using consolidated versions of the statutes.

2.6 The UK Department for Transport (DfT) is the primary governmental body responsible for civil aviation in the UK and for upholding the UK's compliance with the Chicago Convention. As such, the DfT establishes overall aviation policy across all three elements of the UK in co-operation with the Foreign and Commonwealth Office (FCO) for the Overseas Territories and the Ministry of Justice for the Crown Dependencies.

3 The United Kingdom of Great Britain & Northern Ireland – UK 'Main'

3.1 General

3.1.1 Aviation safety oversight arrangements in the UK are divided principally between the DfT and the Civil Aviation Authority (CAA). Increasingly, however, the European Commission (EC) and the European Aviation Safety Agency (EASA) are playing a significant role. Figure 2 attempts to portray this relationship.

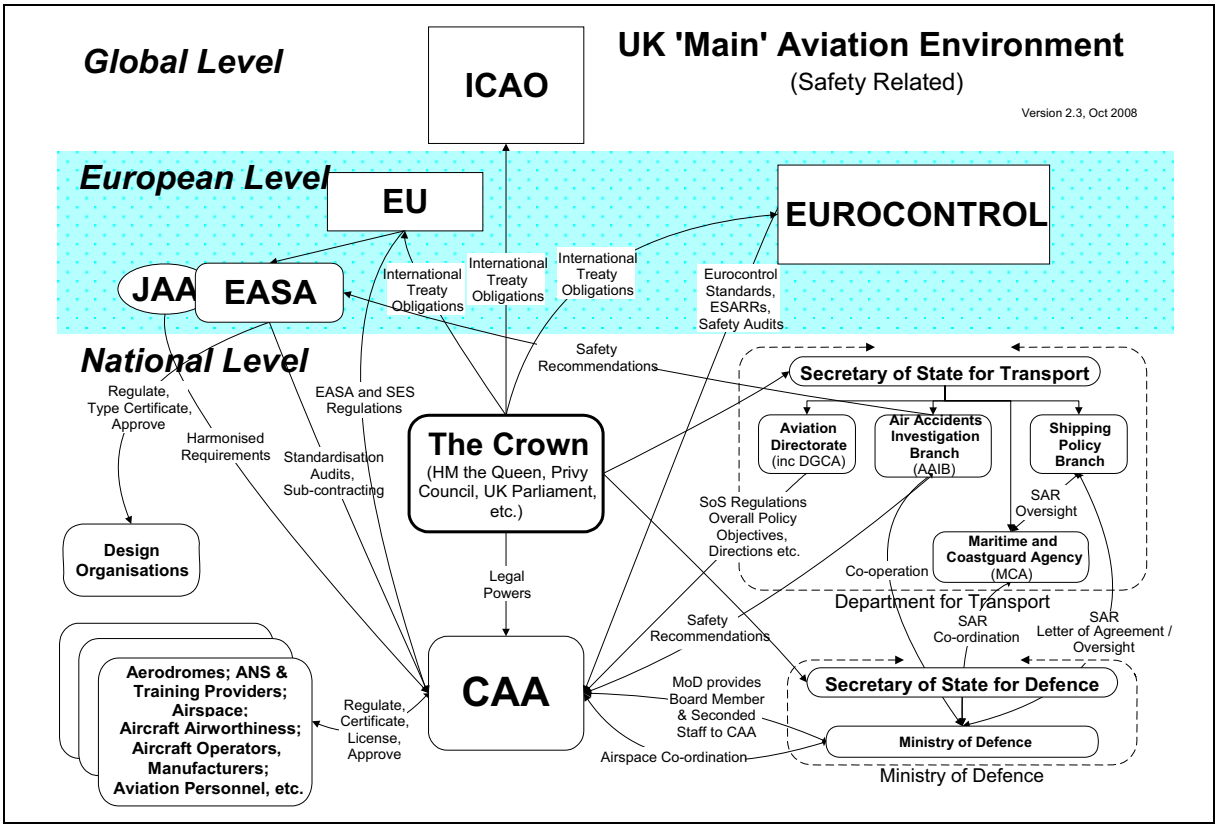

Figure 2

3.1.2 The primary legislation dealing with aviation matters in UK "Main" is the Civil Aviation Act 1982 (last updated in 2006). This is supplemented by specific provisions in other primary legislation such as the Transport Act 2000, the Airports Act 1986 and the Railways and Transport Safety Act 2003. The principal Acts lay complementary duties on the Secretary of State and the CAA.

3.1.3 In general, air navigation services and aerodromes are provided by the private sector although the Government does hold a share in the ownership of NATS (the provider of en route air traffic services in the UK, which also provides air traffic services at the major airports) and some military aerodromes are made available to civil international traffic.

3.2 Responsibilities of the DfT

3.2.1 The Secretary of State has a general duty of organising, carrying out and encouraging measures for the development of civil aviation, for the promotion of safety and efficiency in the use of civil aircraft and for research into questions relating to air navigation. This duty falls to the Secretary of State for Transport who is supported by the DfT.

3.2.2 The DfT's aims and objectives are developed and set out each year in its Business Plan. Specific objectives within that fall to relevant business units, including the Aviation Directorate, the Air Accidents Investigation Branch (AAIB) and the Maritime and Coastguard Agency (MCA). The latter is an Executive Agency of the DfT. The Head of the Aviation Directorate of DfT is assigned various policy responsibilities and takes on the title of the UK Director General of Civil Aviation.

3.2.3 The Secretary of State and the DfT are responsible for developing and amending primary aviation legislation and for making secondary legislation, such as operating regulations, in areas covered by the Annexes to the Convention. Section 60 of the Civil Aviation Act provides that the Privy Council, subject to approval by Parliament, may make Air Navigation Orders (ANO) to implement the Annexes to the Chicago Convention and to regulate air navigation generally. Under an agreement between the DfT and the CAA, the responsibility for drafting the ANO rests with the CAA.

3.2.4 The Secretary of State appoints the Board of the CAA and is accountable to Parliament for the activities of the CAA. He/she may also issue Directions to the CAA in certain circumstances e.g. to ensure compliance with international obligations.

3.2.5 Separately, as part of the overall aviation security regime, the Secretary of State for Transport through the DfT's Transport Security and Contingencies Directorate (Transec) exercises powers under the Aviation Security Act 1982 (as amended by the Aviation and Maritime Security Act 1990) in relation to aviation security. Compliance with the necessary security standards on the part of operators and aerodromes is ensured through Transec and its inspectors.

3.3 Responsibilities of the CAA

3.3.1 The CAA is responsible for the safety regulation of the civil aviation industry, for the development of policy on the sustainable use of UK airspace and for ensuring the provision of necessary supporting infrastructure for air navigation. The functions of the CAA are laid out in the Civil Aviation Act 1982, the Transport Act 2000, the Civil Aviation Authority (Air Navigation) Directions 2001 and the Civil Aviation Authority (Chicago Convention) Directions 2007.

3.3.2 The ANO gives the CAA a number of functions relating to the issue of licences, certificates and approvals. The standards that applicants are expected to meet in order to be granted such a licence, certificate or approval are contained in supporting documentation developed and adopted by the CAA. This includes the Civil Aviation

Publications (CAPs) developed and adopted by the CAA itself or the European Joint Aviation Requirements (JARs) which the CAA has developed in co-ordination with the European Join Aviation Authorities (JAA).

3.3.3 The ANO also empowers persons authorised by the CAA to enter aerodromes to inspect any aircraft or relevant documents as well as the aerodrome itself. A large number of CAA staff are authorised to exercise some or all of these powers, including flight operations inspectors, airworthiness surveyors, ATM and aerodrome inspectors.

3.3.4 The CAA has no direct regulatory responsibility for the safety oversight of aviation in the UK's Overseas Territories or Crown Dependencies (although see below under the UK OT and UK CD sections for CAA involvement in these areas), nor is it responsible for accident investigation, search and rescue or the safety oversight of foreign aircraft in the UK.

3.4 The EU dimension to Air Navigation Services and Safety Regulation

3.4.1 The European Community adopted in 2002, Regulation (EC) No 1592/2002 (the Basic EASA Regulation) of the European Parliament and of the Council on common rules in the field of civil aviation and establishing EASA. This Regulation and Commission Regulations (Implementing Rules) covering the certification of aeronautical products and their continued airworthiness (with specified exceptions) have direct legal effect in the UK. The UK Government informed ICAO and its Contracting States on 5 December 2003 that EASA is the Government's authorised agent for the fulfilment of specified State of Design and State of Manufacture obligations under ICAO Annex 8.

3.4.2 The Basic EASA Regulation and Implementing Rules provide for national aviation authorities of Member States to issue some certificates and approvals. These certificates and approvals must be issued under and in accordance with the EASA Regulations and take account of advice, guidance and means of compliance published by EASA. The national aviation authorities undertaking these tasks are subject to standardisation visits by EASA teams to ensure consistency across the European Community. The certificates and approvals issued by NAAs are -

- individual certificates of airworthiness
- production organisation approvals
- maintenance organisation approvals
- individual maintenance engineer licences

3.4.3 The CAA is designated as the competent authority for the United Kingdom and so exercises these functions in the United Kingdom These functions are in addition to the functions it has under domestic legislation described in 3.3 above.

3.4.4 The Basic EASA Regulation has since been superseded by EC Regulation 216/2008 which has extended EASA's remit to cover rulemaking responsibility for aircraft operations and flight crew licensing. This empowers the EC to adopt Implementing Rules for these areas, on the basis of drafts developed by EASA. Such rules, however, are unlikely to come into force before 2010.

3.4.5 In the meantime, certain JARs will remain as the UK's means of compliance with the Regulation except for commercial air transportation by aeroplanes where the European Community has adopted (by Commission Regulation 1899/2006[1] Annex III to Regulation 3922/1991 – commonly known as EU-OPS. This came into force on 16 July 2008 and supersedes national legislation.

1. A revised version of Annex III is now inserted by Commission Regulation 8/2008.

3.4.6 For Air Navigation Services (ANS), the EC has developed a suite of Regulations to assist with the implementation of the European Community's vision for a Single European Sky (SES).

3.4.7 The SES initiative originated with the EC in 1999 when there was general dissatisfaction with the levels of delay experienced by airlines and passengers. Following examination of the underlying issues, the Member States of the EU agreed four high level legislative measures, which came into force in April 2004. These were a Framework Regulation, an Airspace Regulation, a Service Provision Regulation and an Interoperability Regulation (see Attachment 1, paragraph 1.4). The objective of this package was to enhance current safety standards and overall efficiency for civil air traffic in Europe, to optimise capacity meeting the requirements of all airspace users and to minimise delays.

3.5 Accident Investigation

3.5.1 The Secretary of State has made Regulations, under Section 75 of the Civil Aviation Act 1982. The Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 1996 provide for the appointment of inspectors of air accidents and a Chief Inspector and provide appropriate powers for those inspectors to conduct independent investigations into accidents and serious incidents involving civil aircraft. The Regulations also provide for the continued establishment of The Air Accident Investigation Branch (AAIB).

3.5.2 EU Council Directive 94/56/EC on the fundamental principles governing the investigation of civil aviation accidents and incidents states that 'Member States shall define in the framework of their respective internal legal systems, a legal status of the investigation that will enable the Investigator in Charge to carry out his or her task in the most efficient way and within the shortest time'. The 1996 Regulations provide the AAIB with the necessary legal powers to conduct accident investigations and fulfils the UK's obligation in relation to ICAO Annex 13 and EU Directive 94/56/EC.

3.5.3 The AAIB conducts an independent accident and investigation process. The sole objective of this process is to support the management of safety in the UK; it is not to apportion blame or liability. AAIB is established within the DfT, separately from the Aviation Directorate, and separate from the CAA. The Chief Inspector reports, on matters concerning aviation accidents and incidents, directly to the Secretary of State.

3.5.4 The AAIB also interacts with the UK's OTs and CDs through the establishment of Memoranda of Understanding (MoU) with each OT and CD. These MoU provide for the AAIB to accept the appointment as Investigator-in-Charge in the event of an accident or serious incident in the relevant OT or CD.

3.6 Search and Rescue (SAR)

3.6.1 Responsibility for civil aeronautical and maritime SAR policy rests with the DfT. As such, the DfT is responsible, through the UK SAR Strategic Committee, for setting the criteria for and assessing the adequacy of UK civil aeronautical and maritime SAR resources, response and co-ordination.

3.6.2 The Ministry of Defence (MoD), under an agreement dating back to 1947, has responsibility, through the Royal Air Force (RAF), for civil aeronautical SAR on behalf of the DfT. The MoD RAF SAR Force has established and maintains the UK Aeronautical Rescue Co-ordination Centre (ARCC) for the operation and co-ordination of civil and military aeronautical SAR.

3.6.3 The ARCC, based at RAF Kinloss in Scotland, exists to assist in the saving of life through the efficient co-ordination of information and assets. Working closely with the Police, HM Coastguard and Ambulance Authorities, the ARCC provides SAR

helicopter, long range fixed wing aircraft and mountain rescue team assistance for a range of incidents UK wide. The ARCC operates 24 hours a day, 365 days a year ready to task SAR assets in the saving of life within the UK's Search & Rescue Region (SRR), spanning approximately a million square miles. The ARCC is the central co-ordination unit for all SAR helicopters throughout the UK.

3.6.4 As well as responding to calls from the emergency services, the ARCC is also home to the UK Mission Control Centre (UKMCC), a satellite distress detection system (one of only 29 such operational units in the world) where emergency electronic beacons are detected and rescue action initiated.

3.6.5 As an integral part of worldwide SAR, the UKMCC operates as part of the COSPAS-SARSAT satellite aided tracking system to detect and locate mariners, aviators, and recreational enthusiasts in distress almost anywhere in the world at anytime and in most conditions. The satellites relay distress signals from emergency beacons to a network of ground stations and ultimately to the UKMCC at RAF Kinloss. The UKMCC processes the distress signal and alerts the appropriate SAR authorities responsible for the SRR in which the distress signal has been detected.

3.6.6 The Maritime & Coastguard Agency (MCA) provides a response and co-ordination service for maritime SAR, counter pollution and salvage. The SAR role is undertaken by HM Coastguard (part of the MCA), which is responsible for the initiation and co-ordination of civil maritime SAR. This includes the mobilisation, organisation and tasking of adequate resources to respond to persons either in distress at sea or to persons at risk of injury or death on the cliffs and shoreline of the UK. As part of its response, the MCA provides Auxiliary Coastguard Rescue Teams for cliff and shoreline SAR purposes. In a complex or extended rescue, the RAF will provide co-ordination and "top cover" for civilian assets, such as the helicopters operated by HM Coastguard.

3.6.7 The responsibility for the co-ordination of land-based and inland waters SAR rests with the Police Service and is derived from their duty to protect life and property.

3.6.8 A number of charities and voluntary organisations dedicated to SAR also play a significant role. These authorities and organisations are committed to a cohesive and co-operative partnership, the aim of which is the continued provision of an effective national SAR capability.

3.7 Military Aviation – Aviation Safety Oversight Arrangements

3.7.1 The authority to operate and regulate UK Military Aviation[1] is vested in the Secretary of State for Defence. This authority to regulate military aircraft is delegated to the 2nd Permanent Under Secretary (2nd PUS) who chairs the Defence Environment and Safety Board (DESB). The 2nd PUS in turn delegates[2], to the Chair[3] of the MoD Aviation Regulatory and Safety Board (MARSB), the responsibility for establishing the MoD policy for the safety and regulation of defence[4] aviation. The role of Chair of the MARSB is assigned to the Assistant Chief of the Air Staff, who is the CAA Board Member as detailed in Figure 2 above. Additionally, the Chair of the MARSB is responsible for amending the contents of the Military Aviation Regulatory Document Set[5] (MARDS) on behalf of the other Assistant Chiefs (see Attachment 1, paragraph 1.8).

1. Aircraft, Aerodromes and Air Traffic Services.
2. This is done by personal letter of delegation.
3. Assistant Chief of the Air Staff, who has the authority to act on behalf of the other assistant Chiefs of Staff in this matter.
4. 'Defence' is used in preference to 'military' in this context to indicate that the scope of the MARSB's responsibilities encompass all organisations involved in delivering military aviation capability, which is wider than military staff and equipment.
5. Joint Service Publications 550, 551, 552, 553, 554, 556, JAP 100A 01 and 02 and AvP67.

3.7.2 The Chair of the MARSB discharges his delegated safety duties through the Defence Aviation Safety Management System (DASMS). The DASMS is the collection of departmental aviation safety policy, standards and management arrangements that are designed to reduce aviation safety risks to ALARP, thereby helping to deliver enhanced operational capability and fulfil the MoD's duty of care to its employees and the wider public. The MARSB requires all defence aviation organizations to implement an aviation safety management system (ASMS) in accordance with the MARDS JSP 550 R445, and have established broad ASMS criteria[1] by which subordinate ASMS are assessed, thus ensuring consistency across the MoD. This 'system of systems' that constitutes the wider DASMS is used to provide strategic oversight and assurance to 2nd PUS of the department's aviation safety performance. Full details are published in the MARSB Operating Manual, which is produced and maintained by the Directorate of Aviation Regulation and Safety (DARS). Figure 3 below is taken from the Operating Manual and summarizes the top-level assurance arrangements for defence aviation regulation and safety.

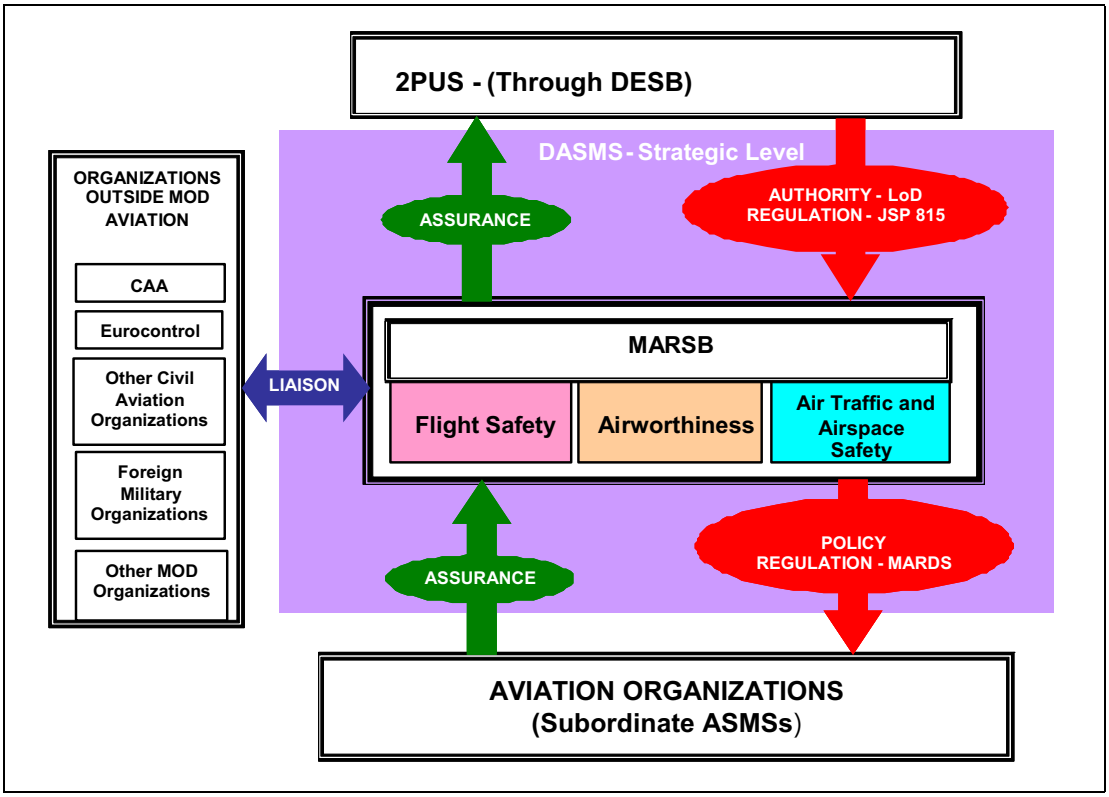

Figure 3

3.7.3 The MoD full-time lead on aviation safety policy, standards setting, regulation and scrutiny is the Director DARS, who receives his authority by personal letter of delegation from Chair MARSB and is independent of the delivery of defence aviation safety. Direction of the regulatory and safety work is carried out by two pan-defence groups: the MoD Aviation Regulatory Group and the MoD Aviation Safety Group. Both Groups work through the D DARS to the MARSB Chair.

1. Published in the ASMS Manual and Audit Guide produced and maintained by the Directorate of Aviation Regulation and Safety.

4 The Overseas Territories – UK OT

4.1 General

4.1.1 The British Overseas Territories are fourteen territories[1] which are constitutionally separate from the UK. All have separate constitutions made by a UK Order in Council[2].

Figure 4

4.1.2 The name 'British Overseas Territory' was introduced by the British Overseas Territories Act 2002, and replaced the name British Dependent Territory which was introduced by the British Nationality Act 1981. The British Overseas Territories are also referred to as overseas territories of the United Kingdom, UK overseas territories, or when the context is clear, simply the Overseas Territories.

4.1.3 Parts of the 1949 and elements of the 1982 Civil Aviation Acts have been extended to the OTs by Orders in Council (see Privy Council). The 1949 Act provides for the making of Air Navigation Orders (ANO) to implement the Annexes to the Chicago Convention and to regulate air navigation generally. The Air Navigation (Overseas Territories) Order (AN(OT)O) gives the Governor of each territory similar powers and responsibilities in respect of aviation safety oversight as given to the CAA under the UK ANO. The AN(OT)O 2007 applies equally to each OT except for British Antarctic Territory and Gibraltar which, because of its position within the EU, is developing a unique set of regulations, based on the UK ANO, to cater for that situation (see Section 5).

1. The OTs are Anguilla; Bermuda; British Indian Ocean Territory; British Antarctic Territory; British Virgin Islands; Cayman Islands; Falkland Islands; Gibraltar; Montserrat; Pitcairn Islands; St Helena and its Dependencies (Tristan da Cunha and Ascension Island); South Georgia and South Sandwich Islands; Sovereign Base Areas of Akrotiri and Dhekelia; and Turks and Caicos Islands.
2. British Antarctic Territory (BAT) has a written Constitution consisting of an Order in Council and the various Ordinances made under it. The BAT has a Government with some officials based in London. There are also Orders in Council which act as the formal Constitutions for the British Indian Ocean Territory (BIOT) and the Pitcairn Islands. The Sovereign Base Areas of Akrotiri and Dhekalia were established under the 1960 Treaty for the Establishment of the Republic of Cyprus and are military bases administered by the base Commanders under the MoD.

4.1.4 The AN(OT)O 2007, however, has a few fundamental differences to the UK ANO, one of which provides for the Governor to be able to designate the majority of his powers to either a local Director of Civil Aviation (DCA), who is usually an employee of the territory government, or to Air Safety Support International (ASSI), a wholly owned subsidiary of the UK CAA.

4.1.5 For further details of the aviation safety regulatory situation in the Overseas Territories, see the State Safety Programme for the OTs. This has been developed as part of the UK State Safety Programme. Part 1 of the State Safety Programme for the OTs provides an overview of the legislative and regulatory arrangements that are unique to the OTs, and which are not the same as the UK / European system.

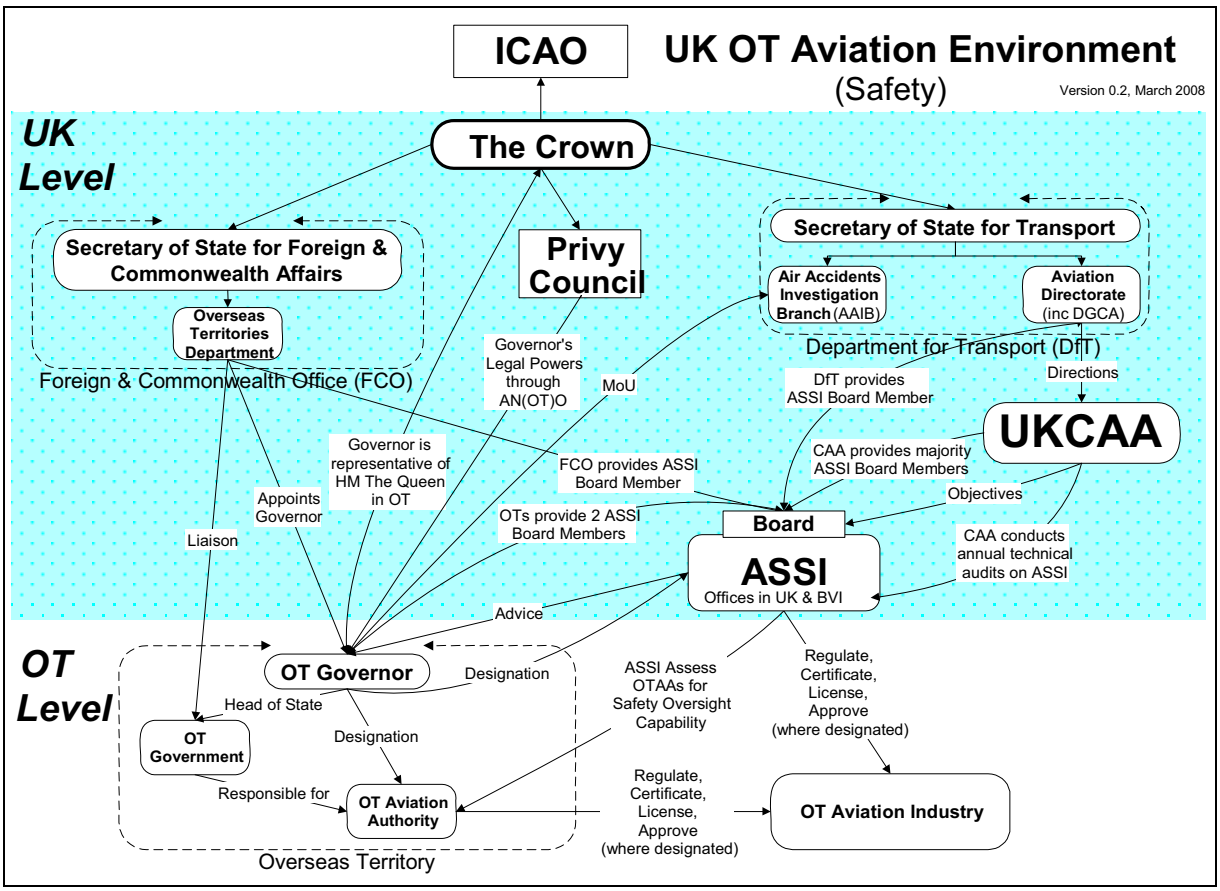

Figure 5

4.2 Air Safety Support International (ASSI)

4.2.1 Under the Civil Aviation Authority (Overseas Territories) Directions 2003[1], the CAA established ASSI as a subsidiary company to oversee aviation safety regulation in the OTs (except British Antarctic Territory (BAT)) and to ensure compliance with the requirements of the Chicago Convention. ASSI has been charged with developing and maintaining Overseas Territories Aviation Requirements (OTARs) to support the requirement of the AN(OT)O.

4.2.2 The AN(OT)O also requires the Governor to publish the detailed requirements which applicants for certificates and licences will have to meet. Such requirements are primarily the OTARs developed by ASSI in conjunction with the OT DCAs.

1. Directions given to the CAA by the Secretary of State pursuant to section 6 of the Civil Aviation Act 1982.

4.2.3 ASSI is responsible for supporting the Territories' existing aviation authorities in the safety regulation of all aspects of civil aviation, including the licensing of personnel and the certification of aircraft, airlines, airports and air traffic services. In Territories where the civil aviation regulators do not have the resources or the expertise to undertake the task themselves, ASSI can be designated by the Governor to perform the civil aviation regulatory tasks on behalf of the Governor. ASSI may therefore perform the role of policy-maker, regulator or adviser/mentor, depending on the situation in the Territory.

4.3 Accident Investigation

4.3.1 In each Overseas Territory the Governor has made accident investigation regulations under Section 75 of the Civil Aviation Act 1982, as extended to the OTs by Order in Council. These regulations, based on the UK regulations, empower the Governors to appoint inspectors to investigate accidents and serious incidents. In view of the limited scope of civil aviation in the OTs none of them has a permanent accident investigation body. Inspectors will be appointed as and when necessary by the Governor in consultation with the UK AAIB. Responsibility for undertaking an investigation can be discharged, under the terms of the MoU, by the UK AAIB in the event of accidents or major incidents.

4.4 Search and Rescue (SAR)

4.4.1 The AN(OT)O 2007 makes provision for the Governor in each territory to ensure the provision of adequate SAR facilities in compliance with ICAO. None of the OTs, however, has responsibility for a SAR Region (SRR). Also, as the OTs are primarily made up of groups of small islands surrounded by sea, any services provided tend to be based on maritime SAR.

5 The Crown Dependencies and Gibraltar – UK CD

5.1 General

5.1.1 The CDs comprise the two Bailiwicks of Guernsey and Jersey, commonly referred to as the Channel Islands, and the Isle of Man. The Channel Islands are located in the Bay of St. Malo, off the French coast, and the Isle of Man is located in the Irish Sea, between Britain and Ireland. All of the Islands have seaports and airports which handle international passenger and freight traffic.

5.1.2 The CDs are self-governing dependencies of the Crown, and constitutionally separate from the UK. This means they have their own directly elected legislative assemblies, administrative, fiscal and legal systems and their own courts of law. They are not represented in the UK Parliament and UK legislation does not extend to them.

5.1.3 The UK Government, however, is responsible for their international representation and defence and the Crown is ultimately responsible for their good government. The CDs have a very different constitutional relationship with the UK, compared to that of the OTs.

5.1.4 Although an Overseas Territory, Gibraltar has been included in this group because it is developing its civil aviation regulatory system along similar lines to the CDs. Gibraltar is situated to the south of Spain; it has a seaport and a UK military airfield, which is offered for civilian use. Gibraltar has its own constitution, which sees the UK Government responsible only for its international representation and defence. Gibraltar has its own directly elected legislative assembly, administrative, fiscal and legal systems and their own courts of law. It is not represented in the UK Parliament and UK legislation does not extend to it.

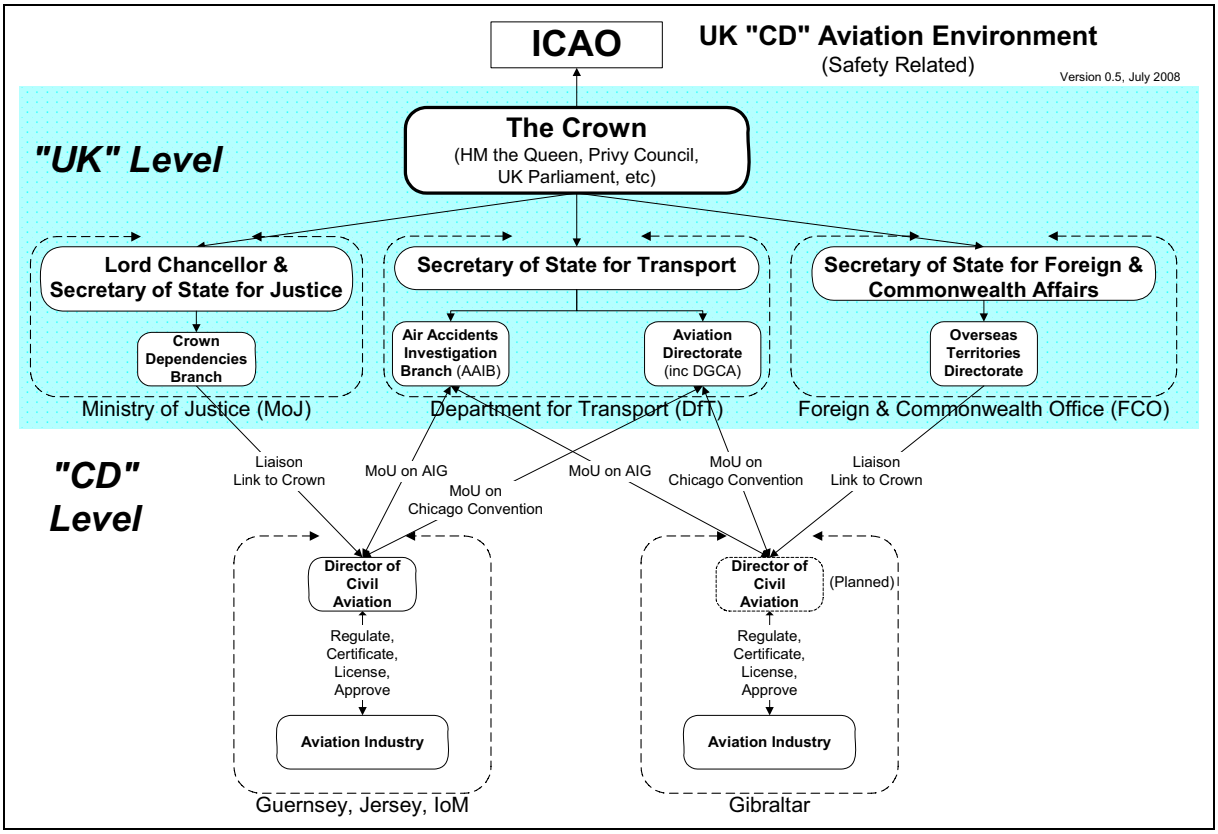

Figure 6

5.1.5 The Civil Aviation Act 1982 has been extended to Guernsey and Jersey. Both Guernsey and Jersey currently have Air Navigation Orders, which apply outdated versions of the UK ANO to their territories. Under these Orders regulatory responsibilities are given either to the CAA or an authority in the Dependency government.

5.1.6 Both Bailiwicks (Guernsey and Jersey) have updated primary, and secondary legislation, awaiting final approval by the Privy Council. The legislation establishes Directors of Civil Aviation (appointments have been made ahead of the legislation coming into force), independent of the airports and air traffic services, empowered and required by the legislation to regulate these services in order to ensure compliance with ICAO.

5.1.7 In the Isle of Man, the relevant provisions of the Civil Aviation Act have been extended to the Isle of Man by Order in Council and are implemented by an Act of the Tynwald, the Isle of Man parliament. The Air Navigation (Isle of Man) Order 2007 repeats appropriate provisions of the UK ANO in relation to the aircraft register (airworthiness, licensing and aircraft operations). The Civil Aviation (Subordinate Legislation) (Application) Order 2006 covers all other aviation activity. The Director of Civil Aviation, an officer of the Isle of Man Department of Trade & Industry, regulates the Isle of Man airports and air traffic services, operated by the Isle of Man Department of Transport. This is in addition to regulating other functions as a result of the Isle of Man aircraft register.

5.1.8 The 1949 and elements of the 1982 Civil Aviation Acts have been extended to Gibraltar by Orders in Council. The 1949 Act provides for the making of Air Navigation Orders (ANO) to implement the Annexes to the Chicago Convention and to regulate air navigation generally. The Air Navigation (Overseas Territories) Order 1989 gives the Governor similar powers and responsibilities in respect of aviation safety

oversight as given to the CAA under the UK ANO. Following the introduction of a new constitution, the Government of Gibraltar has drafted primary and secondary legislation to replace the 1989 Order. The legislation establishes a Director of Civil Aviation independent of the airport and air traffic services, empowered and required by the legislation to regulate these services in order to ensure compliance with ICAO. The application of most EC aviation legislation to Gibraltar Airport has been suspended but this should be lifted in the near future.

5.2 The DfT and the UK CAA relationship with the Crown Dependencies and Gibraltar

5.2.1 Memoranda of Understanding (MoU) concerning the CDs assisting the UK Government in meeting its obligations under the Chicago Convention are in place between the DfT and each CD. The MoU covers the obligations of both parties including the obligation of each CD to arrange for regular external audits of its safety oversight arrangements.

5.2.2 The MoU also includes the requirement for each CD to 'contract in, as may be required, any expert services which cannot be provided in house' to assist the regulator in performing his duties. At the moment, each CD contracts with the UK CAA, through CAA International, for the provision of auditing services covering aerodromes and air traffic services. In addition, the Isle of Man contracts with a private company for airworthiness services.

5.3 Accident Investigation

5.3.1 In the Bailiwick of Jersey, accident investigation is governed by the Civil Aviation (Investigations of Air Accidents and Incidents (Jersey) Order 2000[1]. The Chief Inspector of the AAIB of the UK DfT has been appointed as the Chief Inspector of Air Accidents for Jersey.

5.3.2 In the Baliwick of Guernsey, accident investigation is governed by the Civil Aviation (Investigation of Air Accidents and Incidents) (Guernsey) Order 1998 which give the UK AAIB responsibility for investigating all civil aircraft accidents. Statutory powers are provided through the 1998 Order which give the Bailiff and the AAIB powers of investigation relating to the management of the accident scene.

5.3.3 The Isle of Man has adopted The UK Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 1996 and implements these regulations in accordance with a Memorandum of Agreement. The Isle of Man has an MOU with AAIB dated 12 April 2007 for the AAIB to investigate accidents or serious incidents.

5.3.4 Gibraltar has a draft MOU with the AAIB, which will be signed once the primary legislation is published, for the AAIB to investigate accidents or serious incidents.

5.4 Search and Rescue (SAR)

5.4.1 The Bailiwicks of Jersey and Guernsey lie in the SRR Cinq Mars La Pile which is administered by the office of the French Direction Générale de l'Aviation Civile. Whilst this does not present any problem from an operational perspective, there is currently no formal agreement that provides confirmation of this arrangement. Discussions are currently in progress to conclude an appropriate agreement covering the responsibilities and commitments of the French and Bailiwick authorities.

5.4.2 The Isle of Man lies within the UK SRR. Gibraltar lies in the Madrid SRR which is administered by the Office of the Spanish Civil Aviation Authority. There is no formal agreement between Gibraltar and Spain covering SAR.

1. See http://www.jerseylaw.je/Law/display.aspx?url=lawsinforce%2fconsolidated%2f03%2f03.525_Appendix_Civil Aviation(InvestigationofAirAccidents)Order2000.htm.

Chapter 3 UK Aviation Safety Policy and Objectives

1 UK aviation safety legislation and policy

1.1 The objectives for ICAO, as defined in Article 44 of the Chicago Convention, include the requirement to 'insure the safe and orderly growth of international civil aviation throughout the world; to meet the needs of the peoples of the world for safe, regular, efficient and economical air transport; and to promote safety of flight in international air navigation'. The need to promote safety is, therefore, one of the fundamental objectives of ICAO and is reflected in most of the ICAO Annexes.

1.2 ICAO provisions now call for States to establish a safety programme in order to achieve an acceptable level of safety. They require that the acceptable level of safety to be achieved shall be established by the State(s) concerned.

1.3 In the UK, the Future of Air Transport White Paper[1] states that "Safety will continue to be of prime importance across the aviation sector. The UK air transport industry has a good record, with accident rates kept low despite the rapid rise in traffic levels over the past two decades. But the Government, the CAA and the industry are determined to ensure that we maintain the present high safety standards, identify potential threats and seek appropriate improvements." This reflects the UK policy to maintain safety even though traffic levels may rise in the future.

1.4 The DfT's priorities for 2008-09, as defined in its Business Plan, include the strategic objective 'to strengthen the safety and security of transport'. The primary UK legislation is the Civil Aviation Act 1982. (For a detailed description of the UK, Defence, OT and CD aviation safety legislative frameworks, see Attachment 1). Section 60 gives the power to give effect to the Chicago Convention. Under Section 4, it establishes the general objectives of the CAA 'to secure that British airlines provide air transport services which satisfy all substantial categories of public demand.... at the lowest charges consistent with a high standard of safety in operating the services....'. However, under Section 4, there is no express statutory obligation for CAA to achieve a high standard of safety. The objective that British airlines operate to a high standard of safety simply assumes that British airlines will do so taking account of the other factors.

1.5 The majority of safety oversight responsibilities rest with the CAA's Safety Regulation Group (SRG). Although the Civil Aviation Act 1982 requires the achievement of a 'high standard of safety', SRG has further defined its role as 'to develop our UK world-class aviation safety environment, in partnership with industry, by driving continuous improvements in aviation safety in the UK and, in partnership with EASA, across Europe'[2]. The drive for continuous improvement is a challenging objective, especially in times of expansion or contraction.

1.6 These duties are laid down in the Transport Act 2000 Section 66(1) and further expanded by the CAA (Air Navigation) Directions. The CAA's Directorate of Airspace Policy (DAP) is resourced by the CAA, although some staff are seconded from MoD and NATS.

1. Page 44, paragraph 4.6, The Future of Air Transport, DfT, December 2003, Cm 6046.
2. CAA SRG's Business Plan and Corporate statement (www.caa.co.uk)

1.7 DAP is responsible for the planning and regulation of all UK airspace including the navigation and communications infrastructure to support safe and efficient operations. DAP's role is to secure the most efficient use of airspace consistent with the safe operation of aircraft and the expeditious flow of air traffic whilst taking into consideration the requirements of operations and owners of all classes of aircraft. Environmental implications and national security issues must also be considered. These duties are laid down in the Transport Act 2000 Section 66(1). DAP is resourced by the CAA, although some staff are seconded from MoD. DAP's staff of civilian and military experts have experience of commercial, business, recreational and military aviation.

1.8 At the European Level, the Basic Regulation[1] calls for Community action to establish common safety rules, to ensure uniform application of common rules and to establish an appropriate and comprehensive framework for the safety of third-country aircraft. Article 2(1) of the Regulation states that 'The principal objective of this Regulation is to establish and maintain a high uniform level of civil aviation safety in Europe'.

1.9 Under European Single European Sky (SES) legislation, there are defined objectives to improve and reinforce safety, to restructure European airspace as a function of air traffic flow, rather than according to national borders, to create additional capacity and to increase the overall efficiency of the air traffic management (ATM) system.

1.10 In order to achieve a high level of safety, CAA has developed the following strategic objectives for aviation safety[2]:

- The CAA regulates the safety of UK aviation, in partnership with EASA, by approving and overseeing the organisations and individuals involved in UK aviation that fall within its remit;
- The CAA will continue to use and develop a risk-based approach to ensure that UK aviation complies with European and UK legislation and requirements;
- The CAA will work collaboratively with industry to continuously improve aviation safety and address safety issues;
- Where required, the CAA will take any necessary actions to ensure safety is not compromised and will ensure that the high safety standards within UK airspace, and its supporting infrastructure, are maintained, with potential risks identified and appropriate mitigating actions taken;
- The CAA will draw upon worldwide and UK data to identify safety trends applicable to UK aviation, prioritizing this information to focus on the most significant safety issues;
- The resulting safety improvement initiatives will be captured in the CAA Safety Plan, which will be used as a means of monitoring progress and effectiveness.

1.11 In order to achieve these objectives, CAA has established comprehensive safety monitoring and planning processes to identify safety initiatives. It is also committed to complying with all ICAO provisions for safety management systems.

1.12 The UK has a safety policy of complying with ICAO Standards, Recommended Practices and Procedures (SARPs) wherever possible[3]. However, where the UK considers that it is impracticable or inappropriate to transpose ICAO provisions into UK legislation, it advises the Secretary of State prior to notifying any differences to ICAO or publishing in the UK Aeronautical Information Publication (AIP)[4] in accordance with Article 38 of the Chicago Convention.

1. European Union Regulation (EC) No 216/2008 of 20 February 2008.
2. Ref. CAA Corporate Plan 2008/09 – 2012/13, page 13.
3. The Civil Aviation Authority (Chicago Convention) Directions 2007, paragraph 6.
4. Ref. The UK Aeronautical Information Publication (AIP), Section GEN 1.7, from NATS Aeronautical Information Service.

2 UK SSP responsibilities and accountabilities

2.1 Primary responsibility for the UK SSP rests with the DfT Director General of Civil Aviation (DGCA). However, as the CAA is the specialist aviation safety regulator and performs many safety-related functions under Directions from the DfT, the DfT has agreed that the CAA should co-ordinate the production of the UK SSP document.

2.2 The UK SSP is a new concept. This UK SSP document describes how the UK addresses items raised by ICAO under an SSP. However, any organizational changes required to assure the continuing management and future accountability for the SSP have yet to be defined. Until then, the CAA will oversee the updating and production of the UK SSP in conjunction with other bodies and will continue to develop and continuously improve the SSP.

2.3 The role and responsibilities of the EC and EASA for safety oversight are to be described in more detail under a Community Safety Programme[1]. Although many safety oversight functions will remain with national authorities, the role and responsibilities of EASA are expanding and the UK SSP will, therefore, be amended as and when required.

3 Enforcement policy

3.1 Administrative measures

3.1.1 Almost every aspect of aviation activity is subject to a permissioning regime. Pilots, aircraft maintenance engineers and air traffic controllers must have a licence. Commercial aircraft operators and air navigation service providers must have a certificate. Public aerodromes must be licensed. Organisations which design, produce or maintain aircraft must be approved. Individual aircraft must have a certificate of airworthiness or permit to fly.

3.1.2 With the exception of design organisation approvals, all these permissions are issued, so far as individuals and organisations in the UK are concerned, by the CAA. They are all issued in accordance with legal requirements setting out the criteria which must be met in order to be granted such a permission.

3.1.3 The CAA has powers to vary, suspend or revoke a permission where it is no longer satisfied that the relevant criteria are met. For example, it will suspend a flight crew licence where it is no longer satisfied that the holder is fit or competent to exercise its privileges. Where it takes licence action, the CAA is obliged to offer a right of appeal. The appeal procedure is contained in Regulation 6 of the Civil Aviation Authority Regulations 1991[2].

3.2 Prosecution

3.2.1 A failure to comply with any of the requirements of the UK Air Navigation Order (ANO) and its related Regulations or specified European aviation safety regulations is a criminal offence in the UK. The DfT has requested the CAA to investigate alleged breaches and to prosecute in appropriate cases. This task is undertaken by the CAA's Secretary and Legal Adviser's Office of which the Aviation Regulation Enforcement Department (ARE) forms part.

1. A Community Safety Programme is under development by EASA. It aims to cover all areas of Community competence and will, therefore, be an integral part of the UK's State Safety Programme. It is anticipated that the CSP will be issued by EASA in 2009.
2. Guidance for prospective appellants is available on the CAA's website at http://www.caa.co.uk/docs/3/Reg6Guidance2006v2.pdf

3.2.2 The CAA's prosecution policy is based on compliance with the UK Code for Crown Prosecutors. The task of deciding which cases to investigate is undertaken by the Head of ARE.

3.2.3 The CAA has limited resources and cannot investigate every report which it receives. Of the many reports and complaints received by ARE, about 200 are investigated each year of which about 35 result in prosecutions.

3.2.4 Where the Head of ARE considers that from a policy point of view a prosecution is appropriate the case will be referred to a CAA lawyer to consider whether the evidential and public interest tests of the code for crown prosecutors are met.

3.3 Mandatory Occurrence Reporting Scheme

3.3.1 There is a requirement in the ANO for the reporting of specified occurrences to the CAA. This implements the EU Occurrence Reporting Directive[1]. As required by the Directive, the ANO provides that (with the exception of cases with gross negligence) no criminal proceedings shall be instituted in respect of un-premeditated or inadvertent infringements of the law which come to the attention of the relevant authorities only because they have been reported under the Mandatory Occurrence Reporting Scheme.

3.4 Prosecution and Licence Action

3.4.1 Licensing action cannot be taken in order to punish the licence holder. If the law has been broken, the offender can only be punished by the Courts after a prosecution. Refusal, revocation, suspension or variation of a licence, certificate or approval may only be taken if the conduct of the person concerned is such that he does not meet the criteria for holding such a licence, certificate or approval.

1. EU Directive 2003/42/EC of 13 June 2003 on occurrence reporting in civil aviation.

Chapter 4 UK Aviation Safety Risk Management

1 CAA Safety Plan and Safety Risk Management Process

1.1 One of CAA's objectives is to sustain UK aviation safety performance through continuous improvements and, in partnership with EASA, across Europe. SRG has a long-term agenda for safety, which is captured and tracked through its Safety Plan and Safety Plan Updates[1]. Safety improvements can be pursued through these documents and, in addition, SRG is committed to engaging with European partners to ensure that complementary safety goals are set.

1.2 The CAA first produced a formal Safety Plan in 2004. In 2006, the Safety Planning process was substantially changed when it employed both a 'bottom up' model, using the considerable expertise in the organisation to identify potential risks, and a new 'top down' process, starting with the major risks as evidenced in the data, using Mandatory Occurrence Reports and other data sources.

1.3 CAA used this process, the Safety Risk Management Process (see Attachment 3), to determine what action CAA could take to help mitigate those risks. The combination of the two processes resulted in the set of actions contained in the 2006/07 – 2010/11 Safety Plan. It also served to demonstrate CAA's commitment to continually develop its processes to help improve safety.

1.4 To inform the CAA Safety Risk Management Process, the CAA produces various safety analysis documents. A significant document, recently published, is the Global Fatal Accident Review 1997-2006[2]. This describes a detailed study of worldwide fatal accidents analysed by the CAA Accident Analysis Group (AAG) to jet and turboprop aeroplanes above 5,700kg engaged in passenger, cargo and ferry/positioning flights for the ten year period.

1.5 The Safety Plan reports on the UK aviation industry's safety performance and highlights the safety improvements on which CAA would focus. These were arranged in the plan by industry sector, helping to identify the risks and actions relevant to each part of the industry.

1.6 As the regulatory framework in which CAA operates is changing dramatically (for example, the creation of EASA and the Single European Sky) CAA will remain focused on safety improvement and the Safety Plan is the culmination of this effort.

1.7 Safety improvements cannot be delivered without CAA's continuing engagement with all sectors of the UK aviation industry. The design and publication of the Safety Plan as a public document, is part of CAA's determination to build on that relationship to enable greater involvement from industry in the development of the Safety Plan and to share the results of that partnership.

2 CAA Safety Risk Team

2.1 To oversee aviation safety risks, the CAA has established the Safety Risk Team (SRT). The SRT provides high-level oversight of and co-ordinates the safety risk management process. It is key to the success of the SRT and the management of risk in CAA as a whole that the team is direct, proactive, delivers high quality information, advice and proposes direction, to senior management.

1. Since the 2006 Safety Plan was issued, SRG has published two Safety Plan Updates. All these documents are available on CAA website, www.caa.co.uk, under Publications and Aviation Safety.
2. CAP 776, dated 21 July 2008, available on CAA website at www.caa.co.uk/CAP776.

2.2 The SRT is tasked to seek and review safety information and identify risk issues that are of strategic importance, ensure appropriate action plans are identified to mitigate these risks, and propose documented safety plans to senior management for their approval. The SRT aims to assess the tolerability of aviation risks using both objective and subjective methods.

2.3 In particular the SRT is tasked to:

- identify risks through utilisation of bottom-up and top-down processes;
- assess identified risks and supporting data;
- identify new and potential safety data sources and data handling methods;
- review and comment on the CAA SRG Safety Performance Indicators paper, sponsoring further work where required;
- assess mitigating actions;
- share and co-ordinate safety information amongst the CAA Groups and SRG Divisions;
- be briefed by internal standing groups with the aim of exploring possible new approaches or actions that may be adopted;
- constitute cross-Group and cross-Divisional groups to assess specific issues and recommend potential action plans to the SRT;
- agree and implement the methods to be used in preparing full Safety Plans and Safety Plan Updates;
- propose the CAA Research Programme and associated budget to the SRG Executive Committee;
- propose guidance and direction to the SRG Executive Committee on matters of safety risk;
- contribute to and where possible improve the UK State Safety Programme; and
- contribute to and where possible improve European wide Safety Risk Management.

3 Safety requirements for service providers SMS

3.1 The status of SMS in the UK regulatory regime has been subject to substantial change. In response to existing ICAO Standards that call for SMS for Air Navigation Service Providers (ANSPs) and Airport Operators, CAA now requires SMS for ANSPs and Airport Operators.

3.2 For ANSPs, Eurocontrol established SMS requirements for ANSPs under Eurocontrol Safety Regulatory Requirements (ESARRs) 1, 3, 4 and 5. The majority of the content of these ESARRs has been transposed under the Single European Sky (SES) legislation initiative, either as part of the Common Requirements (CRs) Regulation or as separate EC regulations. All UK ANSPs are now required to employ SMS.

3.3 For airport operators, although the establishment of SMS has existed in the CAA's aerodrome licensing criteria (ref. CAP 168) for more than ten years, the CAA has made proposals to amend Articles 128 and 155 of the ANO. The ANO amendment is planned for December 2008.

3.4 For airline operators and approved maintenance organisations, the ICAO Standard requires SMS from 1 January 2009. In response to this, CAA is promoting the implementation of SMS by airline operators and maintenance organisations and is contributing towards the development of new EASA Implementing Rules, which will provide the legal basis for mandating SMS across Europe.

3.5 The full impact of SMS on regulatory oversight has yet to be fully considered. It is, therefore, important that CAA staff with oversight responsibilities for service providers SMS have a common and clear understanding of the fundamental principles of SMS. In response, CAA SRG has arranged for internal SMS training for staff. Much of this training has been done using the ICAO Safety Management Manual[1].

3.6 To assist service providers on implementation of SMS and on methods to identify operational hazards, the CAA has published various guidance documents[2]. As this is a developing concept and the UK does not wish to develop its own concept of SMS, especially to avoid problems when subject to EASA standardisation audits, much reliance is being placed on the ICAO SMS and EASA Management System documentation.

3.7 In view of the developing nature of SMS, CAA is regularly reviewing the relevance of all guidance material. This work is overseen by CAA's multi-Divisional SMS Steering Group.

4 Approval of service provider's acceptable levels of safety

4.1 The CAA has an established method for assessing the safety risk and determining an acceptable level of safety for the UK[3]. For identifying and assessing the safety risk, the CAA employs an internal safety risk management process, as detailed in Attachment 3. To determine an acceptable level of safety for the UK, the CAA has developed a number of safety indicators and these are used to assess both safety performance and establish safety targets for specific safety measures. The safety indicators are described in Attachment 2 and reflect the acceptable level of safety as detailed in the UK SSP.

4.2 The UK has not, at this time, established an acceptable level of safety that is applicable to service providers in the operation of their SMS. As the UK is adopting a phased approach to SMS implementation, the criteria to be used to assess safety risk and to assess risk tolerability will be established in conjunction with service providers over the next 3 years as they implement SMS.

4.3 To do this in a systematic manner will require safety policies, safety metrics and monitoring methods to be agreed for the different aviation sectors. This debate has already begun with the UK GA sector. The debate has widened to include EASA/ EC[4] so that they can be satisfied that a 'high and uniform level of safety' is being achieved. It will not be an easy task because the acceptable levels of safety will need to be commensurate with the complexity of individual service providers specific operations and the resources available.

1. ICAO Doc.9859 - Safety Management Manual.
2. CAP 642 Airside Safety Management, 5 September 2006; CAP 712, SMS for Commercial Air Transport Operations, 2 April 2002; CAP 730, SMS for Air Traffic Services, 12 September 2002; CAP 726, Guidance for developing and auditing a formal SMS, 28 March 2003.
3. CAA SRG produces an internal High Level Safety Performance Indicators (SPIs) document as well as publishing various SPIs in the CAA Annual Report.
4. Through the EASA Safety Programme Working Group.

5 UK implementation of SSP

5.1 ICAO has outlined the four steps that a State should take to implement an SSP. These are considered in turn.

- **Step 1 –** Conduct a gap analysis of the SSP and develop a national legislation governing the functioning of the SSP.

  The CAA carried out a gap analysis based on the draft ICAO Appendix to Doc 9859 when developing this SSP document. This analysis did not identify any areas where it is necessary for the UK to draft new national legislation to govern the functioning of the SSP.

- **Step 2 –** Develop a training programme for civil aviation oversight authority personnel**.**

  The CAA has organised an initial SMS training programme for its staff. A new programme is being developed that aims to provide general, specialised and continuing SMS training for SRG staff.

- **Step 3 –** Develop SMS regulations for service providers and prepare guidance material for the implementation of SMS.

  The CAA has developed both regulations and guidance material for service provider SMS – see paragraph 3 of this Chapter. Much of this material is based on the ICAO Safety Management Manual and material from ICAO courses.

- **Step 4 –** Revise the civil aviation oversight authority's enforcement policy.

  CAA's enforcement policy is defined in paragraph 3, Chapter 3. This policy has been established over time and has been designed to ensure the continuing flow and exchange of safety information with service providers. Establishing and maintaining trust with the reporting community is an essential part of this process.

6 UK implementation of SMS

6.1 ICAO has outlined a phased implementation of a service providers SMS. This phased approach provides service providers with a manageable series of steps to follow when implementing SMS and helps to manage the workload associated with SMS implementation. The phased approach recommended by ICAO has the following four phases:

- Phase 1 – Planning SMS Implementation
- Phase 2 – Reactive safety management processes
- Phase 3 – Proactive and predictive safety
- Phase 4 – Operational safety assurance.

6.2 A phased approach to the implementation of SMS is being promoted by CAA. Such an approach will recognize the timescale required to develop, implement and verify the effectiveness of an SMS taking account of the size and complexity of an organisation. The timescale for European legislation mandating SMS for air operators and maintenance organisations has yet to be established.

7 Change Management

7.1 Aviation is in a continuous state of change, with advances in technology and a changing business and regulatory context. Regulatory staff raise issues arising in their areas of specialisation through management. This may result in measures such as:

- Review of SRG structure or skills to accommodate changing demands;
- Adjustment of regulatory oversight according to risk as assessed by SRG;
- Research to provide objective evidence of the nature and extent of issues arising;
- Specific promotion of occurrence reporting in areas of change or concern;
- Monitoring of key safety data parameters.

7.2 Issues that the CAA believe require regulatory change are introduced to EASA either directly or through the Advisory Group of National Authorities (AGNA).

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Chapter 5 UK Aviation Safety Assurance

1 Safety oversight

1.1 The CAA is focusing substantial resources on ensuring service providers implement SMS requirements. This is in the form of CAA Guidance Material, workshops, inspections and audits. A multi-disciplinary auditing method is being established. Many of these activities are co-ordinated by CAA's SMS Steering Group.

2 Safety data collection, analysis and exchange

2.1 The main aviation safety occurrence reporting process in the UK is the Mandatory Occurrence Reporting Scheme (MORS). In addition to MORS, there are individual reporting arrangements for Aircraft Accident and Serious Incidents, Birdstrikes, Wake Turbulence encounters, Airprox events and the Confidential Human Factors Incident Reporting Programme (CHIRP)[1]. However, most air safety reports are included in MORS.

2.2 Mandatory Occurrence Reporting Scheme (MORS)

2.2.1 CAA's MORS was established in 1976. Its objective is to contribute to the improvement of air safety by ensuring that relevant information on safety is reported, collected, stored, protected and disseminated. The sole objective of occurrence reporting is the prevention of accidents and incidents and not to attribute blame or liability[2]. It is a legal requirement for specified operators to provide mandatory occurrence reports (MORs)[3]. The CAA receives over 13,000 new MORs per annum.

2.2.2 The operation of MORS is described in CAP 382. This contains a statement from the CAA Chairman in which the CAA gives an assurance that its primary concern is to secure free and uninhibited reporting and that it will not be its policy to institute proceedings in respect of unpremeditated or inadvertent breaches of the law which come to its attention only because they have been reported under the Scheme, except in cases involving dereliction of duty amounting to gross negligence. Indeed, the CAA will not institute proceedings in these circumstances because the UK ANO Article 142(7) (reflecting the EU Directive) prohibits CAA from doing so.

2.2.3 The UK MORS complies with the ICAO Annex 13, paragraph 8.1 and is fully compliant with the requirements of EU Directive 2003/42/EC on occurrence reporting in civil aviation. This Directive, now transposed into the UK ANO as Article 142, calls for national systems to be established to store, protect and disseminate air safety reports.

2.2.4 In accordance with ICAO Annex 13, paragraph 8.3 and the EU Directive, the UK CAA also encourages voluntary reporting of incidents under the MORS for the whole spectrum of UK civil aviation operators. The CAA's organisation and procedures for processing, recording and disclosing reports do not differentiate between voluntary and mandatory reports.

1. These additional reporting schemes and their relationship with MORS are described in UK Aeronautical Information Circulars.
2. CAP 382, paragraph 1.1.
3. ANO 2005, Art 142(6).

2.2.5 In accordance with ICAO Annex 13, paragraph 8.6, the UK CAA has developed a method for the analysis of data contained in MORS and to determine any preventative actions required. It has developed a process that assesses the actual and potential risk posed by each MOR. This risk-assessment process of MORS data provides essential information for the CAA's Safety Risk Management Process (see Attachment 3). The process makes use of MORS data, as well as other data (for example, aircraft utilisation and airspace activity data).

2.2.6 Analysis of this data is carried-out by a specialist safety analysis team. Their role is to identify any significant trends and to advise CAA and the public of the safety performance by means of regular reports[1].

2.2.7 Every month, data is disseminated to the UK aviation community to provide feedback on occurrences submitted by UK operators and industry and to inform them of other UK occurrences. The MORS will become increasingly important to organisations when they implement SMS requirements.

2.2.8 The CAA receives numerous requests for safety data retrievals from many sources. This data is only provided when it is established that it will be used to promote and enhance aviation safety.

2.2.9 Furthermore, plans are in place for CAA to provide safety occurrence information to the European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS). This EC sponsored initiative requires Member States to transfer 'all relevant safety-related information' to a central European repository and for the information to be disseminated to interested parties[2]. It is anticipated that safety information will be automatically transferred from MORS to ECCAIRS from early in 2009. It is also probable that the ECCAIRS system will be employed by the UK AAIB for the submission of accident and serious incident reports to ICAO under the ADREP Reporting requirements of ICAO Annex 13, Chapter 7.

2.2.10 Finally, the UK MORS is the UK national aviation safety database. Hence, it contains records on accidents, serious incidents as well as incidents. As this is the UK national database, close links are maintained between the UK CAA and the UK AAIB on matters concerning data collection and storage.

2.3 Mandatory Birdstrike Reports

2.3.1 In accordance with ICAO Annex 14, paragraph 9.4.2, and UK ANO Article 143 (that calls for the mandatory reporting of birdstrikes) the CAA has established a process to collect and assess birdstrike reports. These reports are forwarded to ICAO for inclusion in the ICAO Bird Strike Information System (IBIS) database.

2.3.2 Under this UK Birdstrike Reporting System, any aircraft commander flying in UK airspace who believes his aircraft has collided with one or more birds must inform the CAA, unless it has already been reported as an accident or damage occurrence through the CAA's MORS. This reporting system is overseen by the CAA Aerodrome Standards Department. The UK Birdstrike Committee (UKBSC) has been established to provide a forum for stakeholders to discuss bird/wildlife strike hazards and methods for reducing the associated risks (including the reporting of wildlife strikes)[3].

1. A typical report is the annual Aviation Safety Review, CAP 763.
2. Ref. Commission Regulations 1321/2007 and 1330/2007.
3. See http://www.caa.co.uk/default.aspx?catid=375&pagetype=90&pageid=3404

2.4 UK Airprox Board (UKAB)

2.4.1 The UKAB is a joint CAA/MoD organisation and was established in 1998 with the sole objective of assessing Airprox events in the interests of enhancing flight safety. It is not the purpose of UKAB to apportion blame or liability[1].

2.4.2 An Airprox report should be made whenever a pilot or controller considers that the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved was or may have been compromised. These reports are assessed by the UKAB and classified as either a Risk of Collision, Safety not assured, No risk of collision or Risk not determined[2].

2.4.3 The UKAB only assesses Airproxes that have occurred in all UK airspace and all airspace for which the UK Government has undertaken, in pursuit of international arrangements, the provision of air navigation services. The UKAB publishes compilations of its reports twice a year.

2.5 UK Confidential Human Factors Incident Reporting Programme (CHIRP)

2.5.1 CHIRP has been in operation since 1982. In 1996 the Programme was restructured in the form of a charitable company limited by guarantee to enable it to make a more effective contribution to the resolution of important safety-related issues. The aviation programme is fully funded by a grant from CAA. The CHIRP corporate structure was selected in order to provide a totally independent organisation, with management and fiscal responsibilities held by an independent Board of Trustees[3].

2.5.2 The aim of CHIRP is to contribute to the enhancement of aviation safety in the UK, by providing a totally independent confidential (not anonymous) reporting system for all individuals employed in or associated with these industries. The Programme accepts reports from pilots, cabin crew, air traffic controllers, maintenance engineers and those involved in General Aviation.

2.5.3 CHIRP supplements other reporting systems, including MORS. The submission of a CHIRP report does not fulfil the statutory obligations under the ANO for mandatory reporting. However, CHIRP is a voluntary reporting scheme as required by Annex 13, paragraph 8.3.

2.6 UK National Wake Vortex Reporting System

2.6.1 The UK has had a wake turbulence encounter reporting scheme in operation for over 30 years. With the separation of of the regulator and the en-route service provider, the CAA now has an MoU with NERL (a subsidiary of NATS Limited) whereby NERL collate, process and analyse wake vortex reports as part of the National Wake Turbulence Encounter Reporting Scheme[4].

2.6.2 Under this scheme, both MORs and voluntary reports are collected in a central database. An MOR is only required where a wake turbulence encounter results in significant handling difficulties. The data collected is used to guide development of national wake turbulence spacing requirements.

1. The UKAB was established by the CAA and MoD under the Principles for Establishment of the United Kingdom Airprox Board, dated 14 September 1998.
2. This UKAB process is in accordance with ICAO Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM), Doc 4444.
3. For more information on CHIRP, see www.chirp.co.uk and UK AIC 47/2001, dated 31 May 2001.
4. See UK AIC 4/2008, 3 January 2008 for more details.

3 Safety data driven targeting of oversight on areas of greater concern or need

3.1 Safety of Foreign Aircraft

3.1.1 In 1996, the European Civil Aviation Conference (ECAC) launched its Safety Assessment of Foreign Aircraft programme (SAFA) to complement ICAO audits by concentrating on actual aircraft checks at airports ('ramp inspections') aimed at ensuring that relevant ICAO standards were being complied with. The UK has participated from the start. The UK DfT works with the CAA to take any necessary action. With effect from April 2008 it has contracted the CAA to carry-out some 600 ramp inspections, rising to 1000 a year in 2009. The CAA has powers under Article 144 of ANO 2005 to inspect any aircraft that is suspected of non-compliance and to detain where necessary.

3.1.2 In 2004, an EC Directive[1] on the safety of third-country aircraft using Community airports required Member States to inspect aircraft registered outside the Community if they were suspected of non-compliance with ICAO international standards. This is implemented in the UK by the Civil Aviation (Safety of Third-Country Aircraft) Regulations 2006 (SI 2006/1384). Although not required by the Regulations, aircraft from other Member States may be subject to ramp inspections if suspected of non-compliance with international standards. This Directive is to be repealed by the new Basic Regulation[2]. The safety oversight process takes account of the results of the ICAO Universal Safety Oversight Audit Programme (USOAP) reports, information from other SAFA ramp inspections and other recognised information.

3.1.3 The process also has conditions for banning aircraft that do not meet international safety standards. Another Regulation[3] imposes a duty on EASA to send information to the EC that may be relevant for updating the Community list of air carriers that are subject to an operating ban in the Community[4].

3.2 The CAA's oversight of UK entities

3.2.1 The CAA's specialist Groups and Divisions have established their own oversight procedures and these are described in detail in the CAA's internal Safety Regulatory Management System (SRMS)[5].

3.2.2 As an example, CAA's Flight Operations Division has a system for addressing identified safety-related shortcomings in AOC holders' operations. This system has two measures. For the first measure, during an audit, findings are recorded in order of priority. A Level 1 finding is made where there is a significant non-compliance with a specific requirement that lowers safety to the point where there is a serious hazard to flight safety. Such a finding will normally result in some form of regulatory action, such as the suspension of an approval or the prevention of an aircraft from flying.

3.2.3 In the second measure, the CAA has introduced a procedure (the 'On Notice' procedure) that is applied to an operator whose performance in terms of safety management, though currently above minimum acceptable levels, shows a trend which, unless corrected, would soon result in unacceptable safety levels. The operator is advised that they are 'On Notice', and that unless action is taken in accordance with a plan acceptable to the CAA within an agreed timescale, further regulatory action will be taken. Such action could be the suspension of approvals related to identified non-conformities, or, in some cases the suspension of the AOC.

1. Directive 2004/36/EC, implemented in the UK by The Civil Aviation (Safety of Third-Country Aircraft) Regulations 2006.
2. Regulation 216/2008.
3. Regulation 2111/2005.
4. The current list is at http://www.ec.europa.eu/transport/air-ban/list_en.htm
5. The CAA SRMS is an internal document, not available for public access.

3.2.4 The CAA believes that these measures, together with the existing oversight system, provides the graduated system needed to ensure that operators maintain the required standards.

3.2.5 A recent development in CAA, is a regulatory compliance monitoring audit, based largely on existing practice but with a greater focus on an integrated cross-SRG involvement. The process is intended to be part of a new standardised SRG methodology for large organisations and a plan of programmed audits can be defined to meet EASA, CAA and industry needs. When supported by routine product sampling, data acquired from the organisation's internal audit programmes and from external data sources, such as incidents and MORs, the programme will enable the CAA to establish that the operator is consistently achieving a good level of safety management and regulatory compliance.

3.2.6 Work is underway within the CAA to identify 'key performance indicators' to improve the effectiveness of the oversight of organisations. This risk-based approach also considers credits for good demonstrable performance, minimising the need for regulatory intervention. This concept of credits could be extended to account for feedback from the organisation's own internal audits or external audits by third parties, if the data is available.

3.2.7 Joint audits already take place for smaller companies holding more limited approvals. However, it is likely that there will be a lower limit as to the size and complexity of an organisation that would benefit from this approach, necessitating continued consideration of individual audits.

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Chapter 6 UK Aviation Safety Promotion

1 Internal training, communication and dissemination of safety information

1.1 Internal training

1.1.1 The CAA has established appropriate development and training courses for its staff. An individual's development and training needs are assessed on arrival at the CAA and thereafter during the Annual Performance Management Review. The CAA also addresses the needs of employees every three years when it is independently assessed under the Investors in People initiative.

1.1.2 For SMS, the CAA is developing various SMS courses for its regulatory staff. This is being organised in conjunction with CAA International (CI). CI is the commercial arm of the CAA which provides resources to develop and deliver training on a commercial basis to the aviation market worldwide.

1.2 Internal communication and dissemination of safety information

1.2.1 Concerning the internal communication of safety-relevant information, a key element of this is the process used to handle MORs received by CAA. These are communicated to CAA Departments for investigation or information and, in many cases, are required to provide feed-back on action taken so that the MOR can be officially 'closed'. This process is an important part of the CAA SRMS.

1.2.2 In addition, senior managers are advised weekly of UK safety-significant events and quarterly on a set of 'high-level safety performance indicators'. Each year, SRG produces an annual review of aviation safety.

2 External training, communication and dissemination of safety information

2.1 External training

2.1.1 The UK CAA provides external training and consultancy on a commercial basis through CI. CI was established on 1st April 2007 as a wholly-owned subsidiary of the UK CAA, to continue and expand the activities previously undertaken by the International Services Department. CI's primary objective is to provide independent expert advice to assist clients worldwide to enhance aviation safety. In addition to running open training courses, CI offers bespoke training and consultancy, assisting organisations with the development of training plans, through to the development and delivery of appropriate training[1].

2.2 External communication and dissemination of safety Information

2.2.1 The CAA communicates with stakeholders in many different ways. At a high-level, safety is addressed in the CAA's Annual Report. The CAA's Safety Plan[2] describes in more detail the UK high-level safety objectives and outlines the CAA's programme of work to achieve continuous safety improvement over the years to come. CAA also publishes much guidance material to support regulatory action.

1. For more information, see www.caainternational.com
2. CAA's Safety Plan is available on CAA's website at www.caa.co.uk/safetyplan.

2.2.2 Under its Annex 15 to the Chicago Convention international obligations and as required by the UK ANO, the UK publishes the UK Aeronautical Information Publication (AIP). The AIP is part of an Integrated Aeronautical Information Package which consists of the AIP, AIP Supplements, Aeronautical Information Circulars, Notice to Airmen (NOTAMs), pre-flight Information Bulletins and Check Lists.

2.2.3 For meteorological information, the CAA is the Meteorological Authority for the UK. Meteorological forecasting and climatological services for civil aviation are provided by the UK Meteorological Office as the agent for the CAA.

2.2.4 In addition, the CAA frequently publishes on its website documents such as Flight Operations Division Communications, Air Traffic Services Information Notices, NOTAMs, Letters to Owners and Operators, National Air Traffic Management Advisory Committee (NATMAC) Letters, Notices to Aerodrome Licence Holders and Training Communications.

2.2.5 The CAA publishes each month a listing of MORs received by CAA. This 'monthly listing' is sent to the UK aviation reporting community and provides valuable feedback to service providers on recent MORs to inform them and their SMS. CAA communicates with the GA community through the quarterly GASIL publication (which includes GA MOR data) and through a new publication, 'Clear Air', sent to all PPL holders.

2.3 Engagement with Stakeholders

2.3.1 CAA frequently organises safety conferences, GA safety evenings and workshops to interact with stakeholders on specific topics. For example, in September 2007, it organised a safety conference on SMS. The CAA participates in numerous consultative committees that involve representatives of specific sectors of the aviation industry. Two examples of these are the UK Flight Safety Committee and the General Aviation Safety Council.

2.3.2 **UK Flight Safety Committee (UKFSC)**[1]**.** The UKFSC is an unincorporated association of professionals dedicated to the improvement of commercial aviation safety. Members meet regularly to exchange safety information and to examine ways to improve safety and to avoid incidents and accidents. Membership of the UKFSC is available to all bodies involved/concerned with aviation safety. FOCUS on Commercial Aviation is the official publication of the UKFSC and it is circulated quarterly to commercial pilots, flight engineers and air traffic control officers, holding current licences. The CAA partly funds and is a member of the UKFSC.

2.3.3 **General Aviation Safety Council (GASCo)**[2]**.** GASCo was established in 1964 to provide a forum in which all of the general aviation organisations could meet to share safety information. Almost every organisation involved in general aviation is represented. GASCo is a charity funded by the member organisations, pilots and CAA. GASCo sends its magazine GASCo Flight Safety free to all UK aircraft owners and flying instructors (and to others for a small subscription) and organises seminars and flight safety events.

1. For more information, see www.ukfsc.co.uk
2. For more information, see www.gasco.org.uk

Attachment 1 Aviation Safety Legislative Frameworks

1 UK aviation safety regulatory legal framework

1.1 Introduction

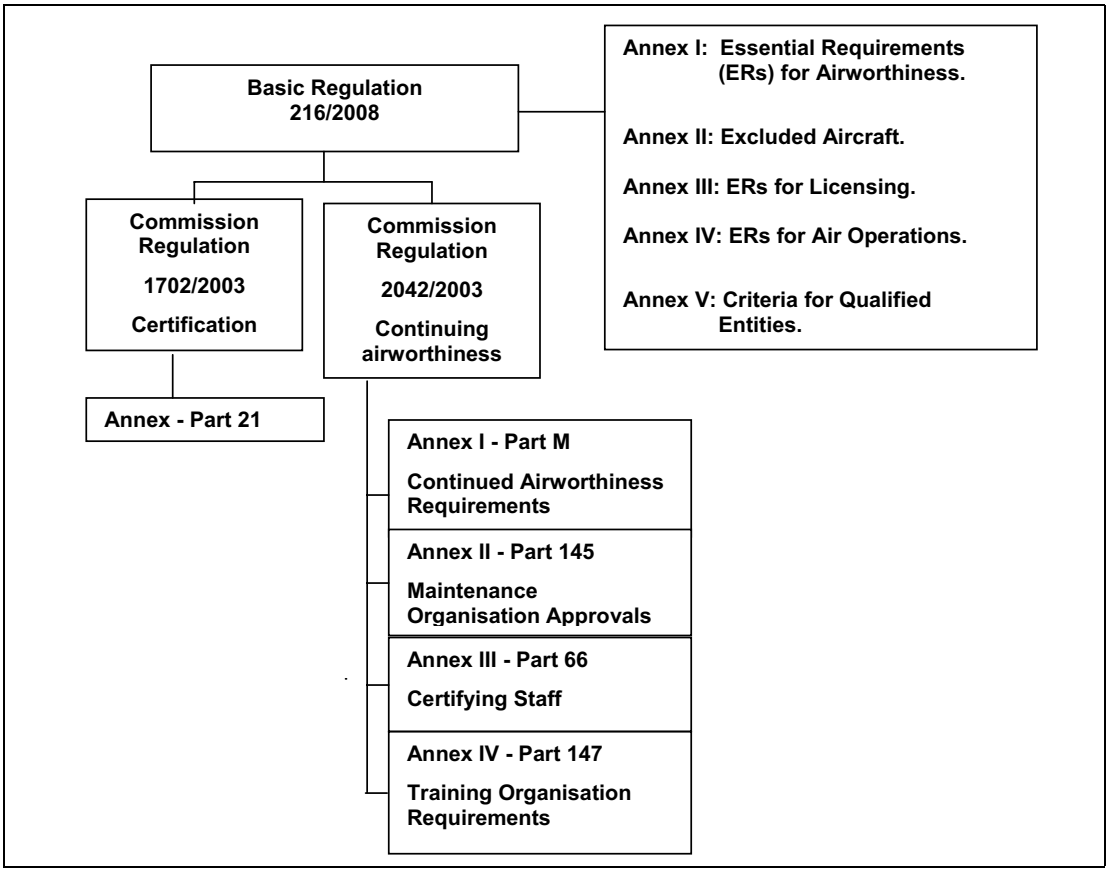
1.1.1 The UK safety regulatory legal framework comprises a combination of European and domestic legislation. In general this framework consists of a hierarchy of primary and secondary legislation supported by AMC (Acceptable Means of Compliance) material which is not itself law. The following sections describe the current situation.

1.2 European Regulations – European Aviation Safety Agency (EASA)

1.2.1 EC Regulation 1592/2002 (the 'EASA Regulation') established, in 2002, EASA and made provision for the establishment and adoption by the Commission of implementing rules dealing with airworthiness certification and continuing airworthiness. In 2008, the Council, the European Parliament and the EC adopted Regulation 216/2008, which rescinded 1592/2002 and extended the scope of EASA's obligations.

1.2.2 EASA now has responsibility for the airworthiness certification and continuing airworthiness of aircraft, rulemaking and standardisation for air operations, flight crew licensing, and the oversight of third-country aircraft. National Authorities are responsible for the oversight of aircraft on their register, and for certification and continuing airworthiness of 'Excluded Aircraft' in Annex II. Detailed implementing rules covering other than airworthiness, however, are yet to be established. See 1.3.1 below for interim measures covering commercial air transport operations using aeroplanes.

1.2.3 Detailed requirements for airworthiness certification and continuing airworthiness are set out in two sets of implementing rules. The structure of these European Regulations in relation to airworthiness matters is shown below:



1.2.4 The first set of implementing rules is laid down in EC Regulation 1702/2003 (the 'Certification Regulation') which deals with airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as the certification of design and production organisations.

1.2.5 The second set of implementing rules is contained in EC Regulation 2042/2003 (the 'Continuing Airworthiness Regulation') which deals with continuing airworthiness of aircraft and aeronautical products, parts and appliances, and the approval of organisations and personnel involved in these tasks (including maintenance).

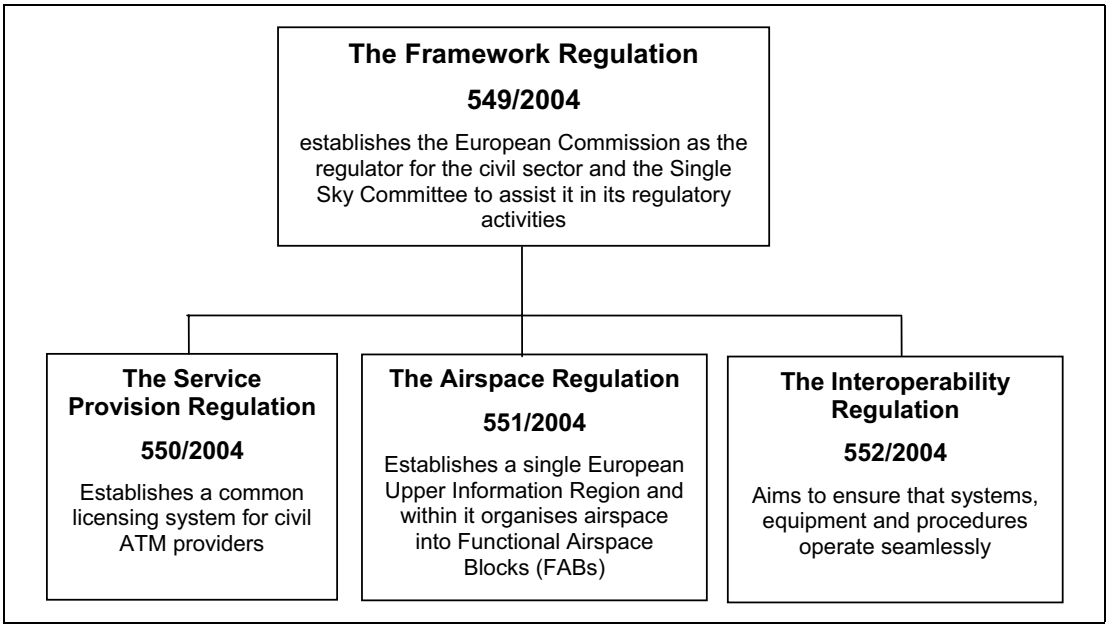
1.2.6 The bulk of the requirements are set out in Annexes to the Regulations. The Annexes are themselves part of the respective Regulations and are thus legally binding. Annexed to the Certification Regulation is Part 21. Annexed to the Continuing Airworthiness Regulation are Part M, Part 145, Part 66 and Part 147. The EASA Certification Specifications are acceptable means of compliance with the implementing rules and are not binding in law. The latter have been developed from the airworthiness Joint Aviation Requirements and replace them entirely from the date of issue of each Part or Certification Specification.

1.3 European Regulations – Commercial air transport by aeroplanes

1.3.1 The European Community has adopted Annex III to Regulation 3922/1991 which contains detailed requirements for commercial air transport by aeroplanes. This Annex (inserted by Regulation 1899/2006[1] came into force on 16 July 2008 and supersedes national legislation.

1.4 European Regulations – Airspace and Air Traffic Services

1.4.1 The Single European Sky (SES) initiative originated with the European Commission in 1999 when there was general dissatisfaction with the levels of delay experienced by airlines and passengers. Following examination of the underlying issues, the Member States of the EU agreed four high level legislative measures which came into force in April 2004. These were a Framework Regulation, an Airspace Regulation, a Service Provision Regulation and an Interoperability Regulation. The objective of this package was to enhance current safety standards and overall efficiency for General Air Traffic (GAT) in Europe, to optimise capacity meeting the requirements of all airspace users and to minimise delays.



Structure of European SES Regulations

1. A revised version of Annex III is now inserted by Commission Regulation 8/2008.

1.4.2 The measures do not cover military operations and training, and are expressly without prejudice to the Member States obligations under the Chicago Convention. In relation to the military, the Member States adopted a General Statement on Military Issues related to the SES. The intent was to enhance civil-military co-operation and where deemed necessary, to facilitate co-operation between the armed forces of Member States in all matters of air traffic management.

1.4.3 The high-level SES package provides for the development of Implementing Rules across the numerous fields of action addressed by the package. In general these are to be developed by Eurocontrol under a mandate from the EC, and ultimately approved by the Single Sky Committee (SSC). The SSC operates in accordance with the comitology process that applies to implementing rules developed by the EC, as against legislation approved by the European Council and Parliament.

1.4.4 In terms of such Implementing Rules, two are of particular significance. The first was a Commission Regulation laying down common requirements for the provision of air navigation services. This concerns the certification of air navigation service providers and was implemented under the Service Provision Regulation. It was published in the Official Journal of the EU (OJEU) in December 2005 and came into force one year later. In December 2006, a Commission Regulation laying down a common charging scheme for air navigation services was published in the OJEU. This addressed common charging mechanisms for air navigation service providers both for en route and terminal (airport) charges. This too was implemented under the Service Provision Regulation.

1.4.5 Turning from service provision to safety oversight, in November 2007 a Commission Regulation on safety oversight in ATM was published in the OJEU. This essentially transposed Eurocontrol's ESARR 1 requirements into EU law, based on powers contained in the Service Provision Regulation. ESARRs 3, 4 and parts of 5 were transposed in the Common Requirements Regulation (see above), while a transposition of ESARR 6 on software assurance was agreed by the SSC in January 2008 and was published in the OJEU in May 2008. ESARR 2 was already transposed into EU law through a 1994 Council Directive on safety occurrences.

1.4.6 With regard to airspace, a Commission Regulation laying down common rules for the Flexible Use of Airspace was published in the OJEU in December 2005. Its objective was to ensure that airspace was not designated as either purely civil or military, but should rather be viewed as one continuum in which all users' requirements have to be accommodated to the maximum extent possible. A Regulation on airspace classification and access of VFR (Visual Flight Rules) flights above Flight Level 195 was published in OJEU in May 2006. Its main effect was to require Member States to classify all airspace above FL 195 as Class C airspace.

1.4.7 As for interoperability, there have been four Commission Regulations made under the Interoperability Regulation. These concern Initial Flight Plans (published in OJEU in July 2006); Flight Data Exchange (also July 2006); Flight Message Transfer Protocol (June 2007); and requirements on air-ground voice channel spacing based on 8.33 kHz channel spacing (October 2007). These Regulations are technically Implementing Rules supporting the high-level Essential Requirements in the Interoperability Regulation. Below them are a series of voluntary Community Specifications under development, compliance with which will result in a presumption of compliance with the Essential Requirements and Implementing Rules.

1.4.8 Commission Regulations on a number of other topics can be expected to be adopted within the next year. These include Regulations on air navigation performance, a risk classification scheme, a single European AIP, air traffic flow management (ATFM), airspace design, aeronautical data quality and datalink services. The programme of

planned actions however is likely to be expanded considerably with proposals from the EC on a second SES package of legislation. This is focused on a more performance-driven approach to SES, and includes environmental issues.

1.4.9 The EC's SES ATM Research (SESAR) project, aimed at producing a Europe-wide operational platform for SES by 2020, is also likely to generate new legislation, particularly in the interoperability field. Following likely acceptance of a SESAR Master Plan during 2008, the development phase will begin, and legislation will be required to track the project's evolving operational and technical requirements.

1.5 United Kingdom National Regulations – Safety Related

1.5.1 With the exception of those areas covered by 1.2 – 1.4 above, all other regulatory activities are currently a matter for national regulation for all categories of aircraft.

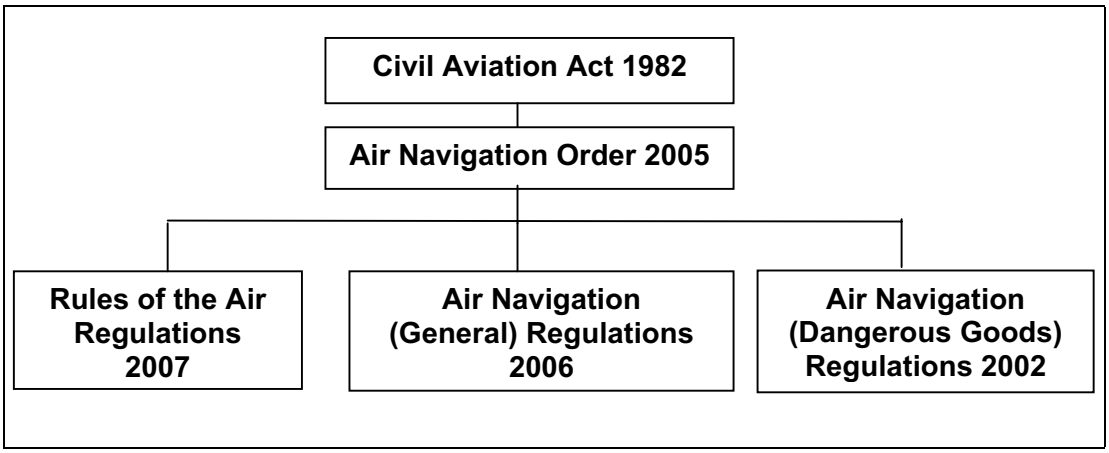
1.6 Civil and Military Regulations

1.6.1 In the UK there are two regulatory regimes, civil and military. Civil Regulations are described in 1.7 below. Military regulations are a matter for the MoD and are described in 1.8 below. A military aircraft for this purpose includes any aircraft for which the Secretary of State for Defence certifies should be treated as a military aircraft.

1.6.2 Any state aircraft which is not a military aircraft must under UK aviation safety legislation comply with civil requirements. There is no special provision for aircraft used in police, customs or other similar services.

1.7 Civil Regulations

1.7.1 **The Air Navigation Order 2005 and Subsidiary Regulations.** The main civil requirements are set out in the ANO 2005 (S.I. 2005/1970 as amended), the Rules of the Air Regulations 2007 (S.I. 2007/734), the Air Navigation (Dangerous Goods) Regulations 2002 and the Air Navigation (General) Regulations 2006. The structure of the UK civil aviation safety legislation is thus:



Structure of UK Civil Aviation safety legislation

1.7.2 This diagram is intended to be indicative only. There are other Regulations (e.g. The Civil Aviation Authority Regulations 1991) which are not subservient to the ANO but are made under the provisions of the Act.

1.7.3 The provisions in the ANO and Rules of the Air concerning equipment requirements, operational rules, personnel licensing, aerodrome regulation and regulation of air traffic services apply to all non-military aircraft, organisations, individuals and facilities.

1.7.4 However, as explained above, insofar as these national requirements concern airworthiness certification or continuing airworthiness they will only apply to categories of aircraft which are exempt from the need to comply with the EASA Regulation and implementing rules and thus remain subject to national regulation.

1.7.5 A non-military aircraft registered in the UK and which is exempt from the EASA Regulation and implementing rules must have a certificate of airworthiness or a permit to fly issued by CAA under the ANO.

1.7.6 **Supporting Regulatory Material.** It is important to note that the CAA is given a wide variety of discretionary powers under the ANO to grant certificates, licences and approvals of various kinds provided it is satisfied as to the competence of the applicant to hold such a certificate, licence or approval. The means by which the CAA will be 'satisfied' in each case is laid out in Civil Aviation Publications (CAPs) or Joint Aviation Requirements (JARs) adopted by the CAA for that purpose. It should be stressed that the requirements contained in the CAPs or JARs are not, in themselves, law and do not constitute 'regulations' in legal terms. They do, however, conform with the wider ICAO definition of regulations used in ICAO Doc 9734 Safety Oversight Manual .

1.8 Military Aviation Regulations

1.8.1 UK Military Aviation[1] is exempt from most provisions of the ANO by Article 152(5) of the ANO, but must comply with the other aviation law where applicable, including that emerging from pan-European programmes such as the SES initiative. Where the MoD has been granted specific exemptions, disapplications or derogations from legislation, international treaties and protocols, Secretary of State for Defence requires that MoD introduce standards and management arrangements that are, so far as reasonably practicable, at least equivalent to those required by legislation[2]. It is therefore incumbent on the MoD to ensure that its standards and management arrangements are at least equivalent to the ANO, so far as reasonably practicable.

1.8.2 The MARSB meets the Secretary of State's requirement specifically through regulation within the MARDS, and more widely through the DASMS. With the exception of Queen's Regulations, MARDS has primacy over all other military aviation related documents. Furthermore, emerging legislation relevant to aviation safety is a standing agenda item for the MARSB; policy leads are required to monitor emerging legislation and bring any issues to the attention of the MARSB for inclusion on the Directorate General Legal Services database.

1.8.3 The Regulations contained in the MARDS apply to all those concerned in the operation of UK Military Aircraft and non-Service aircraft contracted to support military tasks, including Civil Owned Civil Registered. Should both the MARDS and the ANO apply, then generally the more restrictive regulations take precedence.

2 Overseas Territories aviation safety regulatory legal framework

2.1 Introduction

The regulatory framework meets the following objectives or criteria:

a) To ensure that the safety regulatory regime of the UK OTs meets the ICAO 8 Critical Elements of a safety oversight system. Effective implementation of the Critical Elements demonstrates that ASSI and each OTAA (Overseas Territories Aviation Authority) are 'fit for purpose' safety regulatory bodies.

1. Aircraft, Aerodromes and Air Traffic Services.
2. JSP 815 (Defence Environment and Safety Management) - Annex A 'Safety Health and Environmental Protection' – Policy Statement by Secretary of State for Defence.

b) The UK OT legislative system comprises three tiers:

- the primary legislation: in this case the Civil Aviation Act 1949 (Overseas Territories) Order 1969;
- the secondary legislation: the Air Navigation (Overseas Territories) Order (the AN(OT)O);
- and beneath these, the supporting requirements and guidance: the Overseas Territories Aviation Requirements (OTARs) and Overseas Territories Aviation Circulars (OTACs).

c) The regulatory framework enables the fulfilment in the OTs of the UK's obligations under the Chicago Convention and compliance with the Annexes[1].

d) The AN(OT)O provides a sound legal framework for enabling the adoption of the OTARs as a modern, cohesive package of Requirements.

e) One set of common requirements (OTARs) is provided for use by all OTs that are subject to the AN(OT)O 2007.

f) The OTARs, wherever possible, comprise a stand-alone system of regulation that largely eliminates the need for constant cross-reference to the AN(OT)O or the ICAO Annexes.

g) The OTARs/OTACs provide a simplified interpretation of the AN(OT)O wherever practicable.

h) The regulatory framework suits the level of aviation activity in the OTs.

i) The regulatory provisions use ICAO terminology wherever possible.

2.2 Civil Aviation Act 1949 (Overseas Territories) Order 1969

2.2.1 The Civil Aviation Act 1949 (Overseas Territories) Order 1969 is the primary legislation that provides the authority to apply the provisions of the Convention and Annexes by Order in Council and implement other statutory instruments in the area of civil aviation in the Overseas Territories.

2.3 Air Navigation (Overseas Territories) Order

2.3.1 The AN(OT)O is secondary (i.e. subordinate) legislation. The AN(OT)O enables, or gives power to, the requirements and guidance contained in the OTARs and OTACs.

2.3.2 ASSI has produced a series of amendments to the AN(OT)O to address all of the objectives and criteria above. The latest revision is a complete re-write simplifying and modernising the AN(OT)O to form a coherent unit with the OTARs, the OTARs being the principal regulatory instruments and the AN(OT)O providing mainly the necessary legal basis. This rebalanced and consolidated version, the AN(OT)O 2007, became effective in January 2008.

2.3.3 It is important to note that the Governors of the OTs are given a wide variety of discretionary powers under the AN(OT)O to grant certificates, licences and approvals of various kinds. In practice, these powers are exercised on behalf of the Governors by officials working for the OT Aviation Authorities (OTAA) or, where so designated, ASSI. An individual or organisation affected by a decision made on behalf of a Governor by an official of the OTAA or ASSI is entitled to seek a review of such decision in accordance with Article 154 of the AN(OT)O.

1. For detailed information about the legal framework, see http://www.airsafety.aero/legislation_and_otar_s/.

2.4 Overseas Territories Aviation Requirements (OTARs)

2.4.1 The basic philosophy underlying the OTARs is to have a package of requirements that forms a means of compliance with the ICAO SARPs and that is consistent with the legislation in force.

2.4.2 ASSI is required, under the Directions from the Secretary of State, to produce the means of compliance to enable the Governors to be satisfied that applicants for, or holders of, licences, certificates and approvals meet their legal obligations. Governors have the authority to publish requirements under Article 152 of the AN(OT)O. It should be stressed that these requirements (the OTARs) do not constitute 'regulations' in legal terms and the form of the OTARs does not need to comply with the Statutory Instruments Act 1946. They do, however, conform with the wider ICAO definition of regulations used in ICAO Doc 9734 Safety Oversight Manual .

2.4.3 The OTARs set out, for the benefit of those regulated:

- the requirements for obtaining and holding a licence, certificate, authority or approval;
- the way in which the rights and privileges of licences, certificates, authorities or approvals are exercised;
- the way obligations which come with the privileges are to be discharged; and
- general instructions regarding the operation and piloting of aircraft.

2.4.4 The criteria to be applied in relation to OTARs are that:

- penalties or sanctions for failure to comply with any obligation imposed upon a person or organisation must be contained in legislation (AN(OT)O) if it is to be enforceable;
- the OTARs do not themselves constitute legislation or regulations: they are the means by which compliance with the legislation may be demonstrated. They are also the means by which the Governor can be satisfied as to the basis for the issue or maintenance of a licence, certificate or approval;
- the OTARs employ common terms or expressions used by ICAO in making the SARPs and adopted by most of the countries around the world.

2.5 Overseas Territories Aviation Circulars (OTACs)

2.5.1 Whereas the OTARs are intended to provide a comprehensive suite of requirements, there is also a need to promulgate additional information which is not appropriate for inclusion in the OTARs themselves. Such information and guidance is included in OTACs. OTACs cover the following topics:

- Practical, detailed guidance for industry on meeting the requirements in the OTARs;
- Information of a temporary nature;
- Administrative material;
- Information published in advance of a formal amendment to OTARs;
- The means of ensuring that aspects of the State civil aviation system comply with ICAO SARPs where this is a State responsibility, e.g. MET, AIS, Charts and SAR .

3 Isle of Man aviation safety regulatory legal framework

Text not yet finalised. To be included in next edition.

4 Jersey aviation safety regulatory legal framework

Text not yet finalised. To be included in next edition.

5 Guernsey aviation safety regulatory legal framework

Text not yet finalised. To be included in next edition.

6 Gibraltar aviation safety regulatory legal framework

Text not yet finalised. To be included in next edition.

Attachment 2 An Acceptable Level of Safety

1 Background

1.1 ICAO Standards set out the requirement for States to establish a State Safety Programme (SSP) in order to achieve an acceptable level of safety (ALoS) in the operation and maintenance of aircraft, the provision of air traffic services and the operation of aerodromes. The Standards explicitly call for States to establish an ALoS to be achieved by the State concerned and also call for the adoption by service providers of SMS. However, ICAO emphasises that the ALoS should not refer to a national or State-level objective, but must relate to an SSP or SMS as the means to verify the operational performance of an SSP or SMS.

1.2 The move to both SSP and SMS reflects a fundamental regulatory change to complement the compliance-based approach with a performance-based approach. It is no longer possible to assume that regulatory compliance alone will produce safety improvements. A more pro-active, performance-based approach is necessary to achieve continuous safety improvement. To do this requires both the regulator and service provider to establish and monitor objective safety performance indicators, to establish safety performance targets and to take action, where necessary, to improve safety. ICAO uses these three elements to define an acceptable level of safety for use both in an SSP and in a service provider's SMS.

1.3 It is necessary to detail the three key elements that define an acceptable level of safety.

- **Safety performance indicators** – these are short-term, tactical measurable safety performance outcomes of the safety performance of an aviation organisation or a sector of the industry. They are expressed in numerical terms.
- **Safety performance targets** – these are long-term, strategic measurable safety performance outcomes of the safety performance of an aviation organisation or a sector of the industry. They are expressed in numerical terms.
- **Safety requirements** – these are the tools and means to achieve the safety performance indicators and targets of an SSP. They include operational procedures, technology, systems and programmes.

1.4 ICAO Standards typically require that 'The acceptable level of safety to be achieved shall be established by the State(s) concerned'. However, the establishment of an ALoS should involved close liaison between the State and service providers so that both the SSP and service providers SMS have similar ALoS.

1.5 ICAO guidance states that in determining an ALoS, it is necessary to consider various factors such as the level of safety risk that applies, the cost/benefits of improvements to the system, and public expectations on the safety of the aviation industry. The ALoS will also be commensurate with the complexity of individual service provider's specific operational contexts and their availability of resources to address safety risks.

1.6 ICAO states that 'Within each State there will be different ALoS for different service providers' SMS that will be agreed upon by the civil aviation oversight authority and individual service providers. The agreed ALoS will be expressed by multiple safety performance indicators and safety performance targets, never by a single one, as well as by safety requirements in the form of remedial actions. ICAO suggests that the ALoS are reviewed periodically to ensure they remain relevant and appropriate to the service providers.

2 Defining an Acceptable Level of Safety

2.1 Although ICAO provides much guidance on the concept of an ALoS, there are still some doubts as to what constitutes an ALoS and how States should establish one.

2.2 It is clear from discussions within Europe that views on what constitutes an ALoS vary widely. One view is that aircraft design and operational rules alone determine the ALoS to be achieved. The rule-making process to establish the rules is a public process that is finally endorsed by the European Parliament. Adherence to the rules developed by this process should mean that an ALoS will be achieved. If it is not, then the rules need to be amended.

2.3 The second view is that this first approach to the ALoS is simply a continuation of the traditional compliance-based regulatory approach. It does not recognise the aim of establishing an SSP and SMS to develop a performance-based regulatory approach. This second view recognises ICAO's aim to develop the ability to verify satisfactory performance of a system, whether it be SSP or SMS. An ALoS should therefore relate to the overall safety performance of the air transport system or certain elements of this system. The safety performance of the system is the final outcome of a complex mixture of factors.

2.4 The CAA supports the second view. In addition to examples of traditional safety performance indicators (for example, the number of runway incursions per 100,000 movements) it will be necessary to develop safety performance indicators in relation to proactive and predictive safety management processes.

3 The UK experience of establishing an Acceptable Level of Safety

3.1 The UK CAA's view of the UK air transport system is that the current levels of safety achieved by all sectors of UK aviation, as measured by the various safety performance indicators, do not reveal any major areas of safety concern. However, there is a public expectation that safety should progressively improve, within reasonable economic constraints and within a reasonable timescale. This is reflected in the CAA's commitment to the continuous improvement of safety.

3.2 In view of the importance of this principle for service providers and for common interpretation within Europe, it is recommended that there should be a dialogue between the regulators and service providers to provide greater clarity. Without this, the promotion of SMS with service providers could be significantly hampered.

3.3 ICAO stresses that establishing an ALoS for the SSP and SMS does not relieve service providers from their obligations under relevant national regulations and those arising from the Convention on International Civil Aviation (the Chicago Convention). It is evident from this that the SSP and SMS are a means to make improvements in safety over and above those resulting from a compliance-based regulatory approach.

4 UK Safety Indicators

4.1 The UK CAA has established a range of performance indicators for monitoring safety performance in support of its key objective for safety improvement, namely to ensure that the frequency of fatal (and, in some cases, reportable) accidents does not increase in line with forecast growth in traffic.

4.2 This method uses measured safety performance to set safety targets. It also takes account of the problem of monitoring 'low number statistics'. This is a problem where there are only one or two accidents over several years. To cater for this, upper limits have been defined, either using statistical confidence limits or judgement and these provide an indication of the statistical variation that might be expected.

4.3 In total, there are seven safety performance indicators that are published by the CAA. Five of these are based on fatal accident rates in industry sectors that have been selected by CAA to best represent the UK aviation industry. These are large[1] passenger aircraft, large freighter aircraft, small public transport aircraft, large public transport helicopters and general aviation. There is also a safety performance indicator based on the reportable accident rate of large public transport aircraft. The final safety performance indicator, in view of public interest in the safety of civil aviation in the UK, is based on the fatal accident rate of all large public transport aircraft in UK airspace.

4.4 The method, therefore, proposes two principal measures of safety for each sector. They are the forecast (shown as a red solid line) based on a projection of past data, and an upper limit (shown as a black dotted line). By setting two measures, it enables the UK safety performance to be monitored more objectively in the future. These measures were set in 2004, for the time period 2004 – 2009, and are kept constant. In this way the performance of each industry sector is being considered against a fixed measure[2].

4.5 An example of the presentation of a safety performance indicator is shown below.

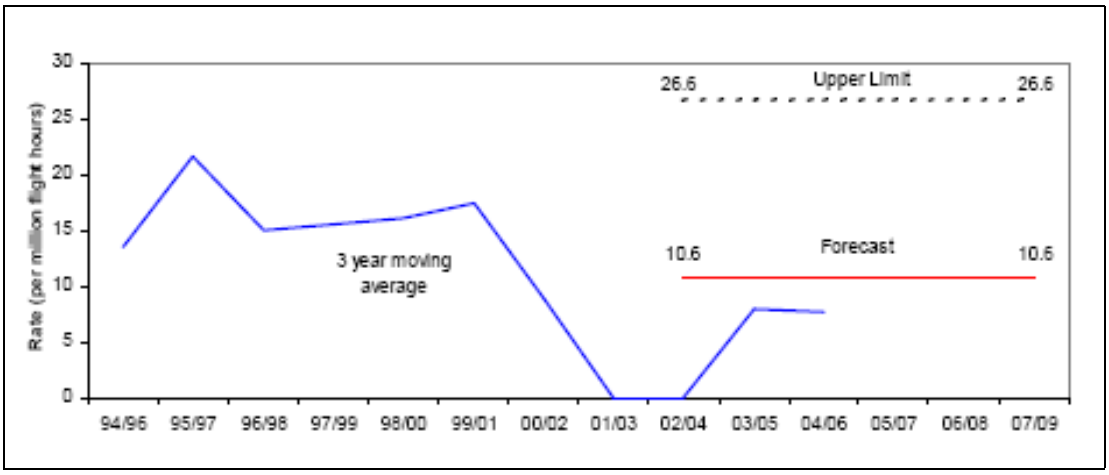


Figure 1 UK Registered/AOC Fixed Wing Public Transport Aircraft Exceeding 5,700 kg MTWA Fatal Accident Rate

4.6 In addition to these safety performance indicators, CAA produces quarterly 'Safety Performance Indicators'. These are operationally specific indicators and are based on incident data. These indicators are of value to the regulator to monitor safety performance and to establish safety improvement strategies. For example, the UK continuously monitors the number of risk bearing runway incursions. The monitoring is supported by safety analysis by specialist teams of the data to identify areas for improvement. Other indicators employed are risk-bearing Level Busts, Airspace Infringements and high-risk operational events.

1. A 'large' aircraft is defined to be one that has a maximum take-off weight exceeding 5,700 kg (except for helicopters where this is 3,175 kg). A 'small' aircraft is therefore one that has a maximum take-off weight not exceeding 5,700 kg.
2. For more information on CAA Safety Indicators, see CAA Indicators document under Corporate Information in the CAA website, www.caa.co.uk.

4.7 These objective and quantitative safety performance indicators are combined with other more subjective and qualitative measures in the UK's Safety Risk Management Process, detailed in Attachment 3.

4.8 In order that service providers employ similar safety performance indicators and safety targets for their SMS, the CAA is engaging in detailed discussions with service providers.

Attachment 3 Safety Risk Management Process

1 UK safety risk management process

1.1 The CAA Safety Risk Management Process is illustrated in Figure 1 in the form of a strategic analysis pyramid. At the highest level, the main risks to large public transport aeroplanes are first identified through analysis of fatal accidents worldwide. This shows that loss of control, fire, Controlled Flight Into Terrain (CFIT) and runway excursions are the most common consequences in fatal accidents, and that various aspects of pilot performance continue to be the leading causal factors. A ten-year update to the analysis of fatal accidents to large aeroplanes worldwide has been published this year (CAP 776).

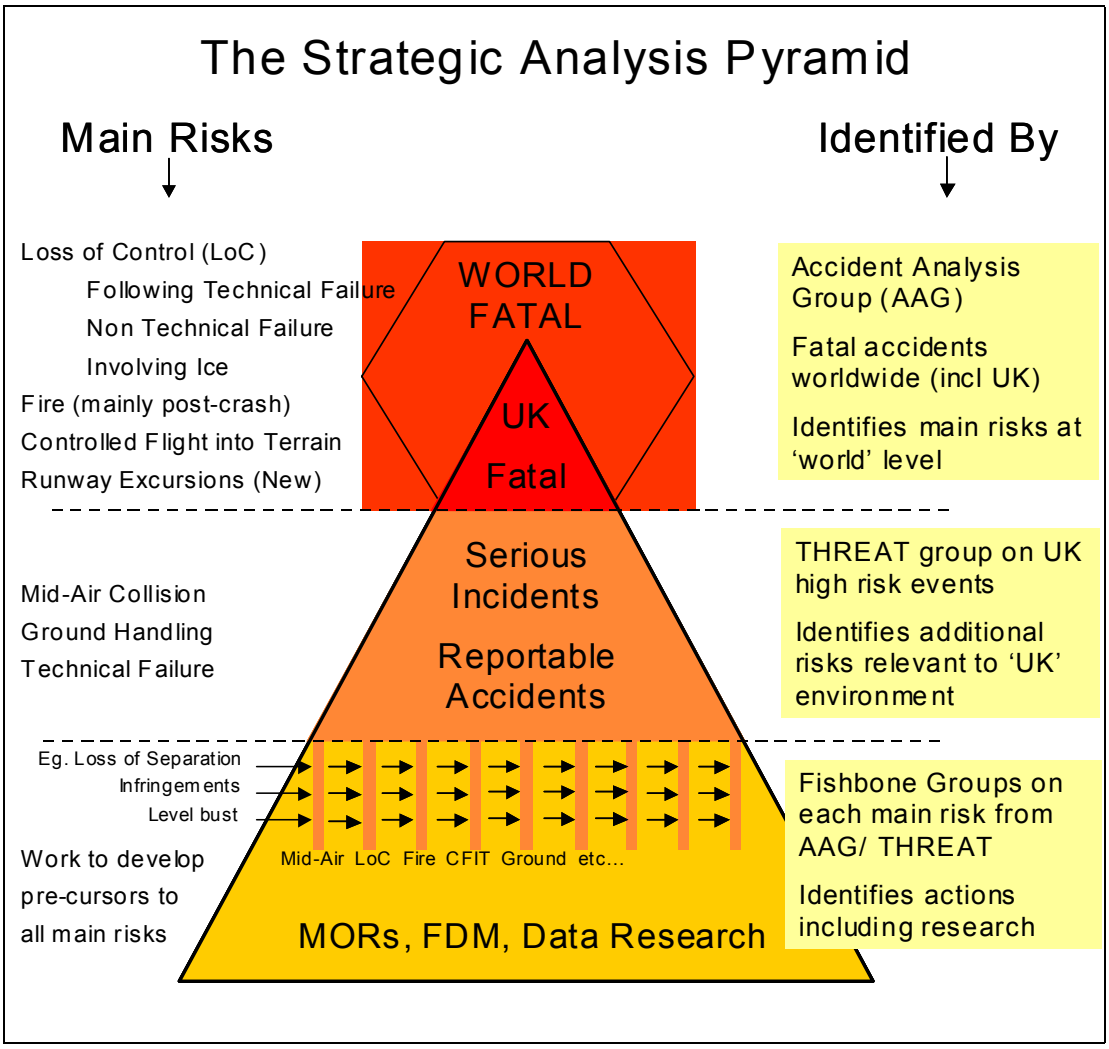


Figure 1 Diagram illustrating the CAA's safety risk management process

1.2 At the next level, high-risk events specific to the UK are analysed in more detail through a group, The High Risk Events Analysis Team (THREAT). This includes other reportable accidents and other 'high risk' incidents that may not have resulted in an accident but represent an undesirable level of risk. This helps explore the UK situation in terms of the global risk areas from the first level, and identify any additional risks that are relevant to the UK. For example, on a worldwide basis, mid-air collision is only

2% of fatal accidents, but in the complex, crowded airspace of the UK, a significant proportion of serious occurrences involve the risk of mid-air collision (and runway incursion). This level of analysis also adds ground handling and technical failure to the list of important risk areas. These main risk areas, derived from fatal accidents worldwide and high-risk events in the UK, receive further attention in two ways, and this is shown in the base level of the pyramid.

1.3 First, they are the subjects selected for top down analysis by expert groups. They conduct a structured analysis to search for any safety weaknesses that could contribute to the specified risk. They identify where improvement is needed and propose many of the actions that form the content of the Safety Plan. Second, although these main risks rarely result in fatal accidents in the UK, it is useful to assess how close the UK fleet comes to such events. For this purpose, there is a project to identify lower level events or 'pre-cursors' in the data that show an aircraft has been one step closer to the risk than safety standards demand. For example, whilst mid-air collisions in the UK are very rare events there have been significant loss of separation events, level busts, and infringements of controlled airspace, which are pre-cursors to mid-air collision. By developing better pre-cursor measures, we hope to improve awareness of where risks exist and where effort to improve is necessary. Figure 1 shows this as protrusions into the base level of data, the database of MORs, and other lower level data. Future pre-cursor measures may involve MORs, Flight Data Monitoring or research to sample short periods of time in high levels of detail.

2 Future Risks

2.1 There are limitations to an entirely data driven approach to risk management. Where new technology or operating practices are anticipated, there will be no data to highlight them, but it is clear that the potential for risks should be assessed: greater use of composite structures, Global Navigation Satellite System (GNSS), Unmanned Aircraft Systems (UASs) and Very Light Jets are among the changes that have given rise to safety activities. Trends in the market are also of interest and have led to continued interest in areas of strong growth such as business jets.

2.2 Another source of prognosis on future hazards is the Future Aviation Safety Team (FAST) that originated under the JAA and continues to contribute to ESSI. This team used a systematic method amongst aviation experts to identify future safety risks. The top four areas of change that FAST raised as safety issues are:

- Increasing crew reliance on flight deck automation;
- Emergence of new concepts for airspace management;
- Introduction of new technologies with unforeseen human factors aspects;
- Proliferation of heterogeneous aircraft with widely varying equipment and capabilities.

2.3 These priorities will be considered during CAA safety planning work, and the highest priority of flight crew reliance on flight deck automation is addressed by CAA research on the training for automation and manual flying skills.