UK Airprox Board

Business Plan & Concept of Operation

2014/15

Contents

UK AIRPROX BOARD BUSINESS PLAN & CONCEPT OF OPERATION

This business plan & concept of operation forms the framework within which the activities of the UK Airprox Board (UKAB) are conducted. It is coherent with, and supports, CAA Safety Plan 2014-16 (CAP 1100), the State Safety Programme for the United Kingdom (CAP 784), the MOD Aviation Regulatory Document Set (MARDS), and the Defence Aviation Error Management System (DAEMS).

1. INTRODUCTION

1.1   Airprox occurrences are near accidents. The UKAB is the UK's focal point for investigating and reporting the circumstances, causes and risk of collision for all Airprox occurrences in UK airspace. Focused purely on enhancing Air Safety through the avoidance of airborne conflict and mid-air collisions, the UKAB provides a mechanism for the feedback and follow-up of Airprox-related insights and recommendations regarding the efficacy of airspace regulation and the factors that have influenced the performance of pilots and controllers. To emphasise both the scope of its work and its independence, UKAB is sponsored jointly, and funded equally, by the Civil Aviation Authority (CAA) and the Military Aviation Authority (MAA). Notwithstanding this joint stakeholder arrangement, although Director UKAB reports Airprox outcomes and issues directly to Chief Executive Officer CAA and Director General MAA, the UKAB conducts Airprox investigations and reporting as a quasi-independent endeavour beyond their day-to-day oversight.

> ICAO Doc 4444: PANS-ATM defines an Airprox as:
>
> *A situation in which, in the opinion of a pilot or a controller, the distance between aircraft, as well as their relative positions and speed, was such that the safety of the aircraft involved was, or may have been, compromised.*
>
> *Airprox: Air Proximity Hazard*

1.2   The UKAB comprises three elements: fourteen very experienced civilian and military aviator and controller voting members of the Airprox assessment Panel (Chaired by Director UKAB); a collective of airspace and flight operations subject-matter expert (SME) advisors; and the Secretariat (currently comprising three Airprox Inspectors and three Administrative Staff). In investigating the circumstances of Airprox, the UKAB draws on the resources of the CAA Safety and Airspace Regulation Group (SARG) – principally their Flight Operations staff and the Air Traffic Standards Inspectorate; the military Radar Analysis Cell (RAC) at NATS Swanwick; and relevant Military HQs and their associated Air Safety organisations.

1.3   Airprox are normally notified to the Secretariat by one of three methods depending on source: civil/commercial notifications are submitted through the CAA Mandatory Occurrence Reporting (MOR) scheme; military notifications are submitted through the MOD's mandatory Defence Aviation Safety Occurrence Reporting (DASOR) system; and General Aviation notifications are submitted voluntarily using CAA Airprox form CA1094.

1.4   The Secretariat prepares casework on each Airprox for presentation to the Panel on a monthly basis; this is termed the 'Part A', which comprises a factual consolidation of: a summary of the participants' submissions; a précis of the key elements of any external
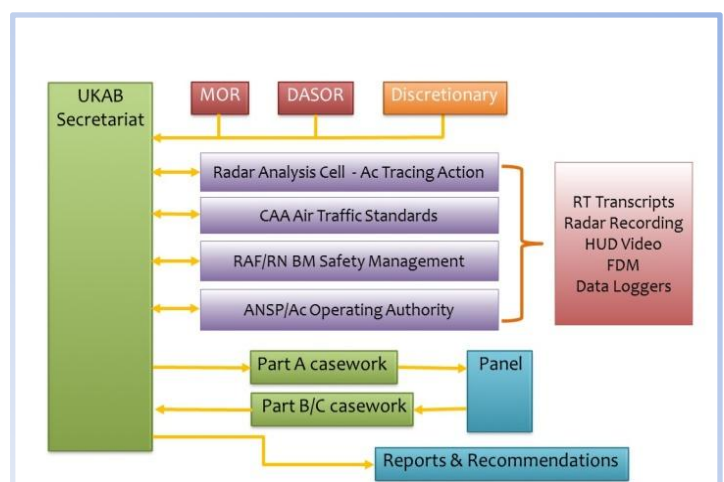
investigation reports; and any comments, if appropriate, from the associated aircraft operating authorities or associations. The Panel then assess the Part A to determine two things: a) what factor(s) caused the Airprox; and b) the risk of collision. Building on the UK CAA's emerging Enhancing Safety Performance (ESP) initiative that aims to take a much wider view of safety risks across the whole spectrum of operations in a proportionate and targeted way, the UKAB is introducing a more systematic approach to Airprox cause and risk assessment through an evolving Event Risk Classification (ERC) model that is designed to analyse each event through a taxonomy of three major risk factor classifications: Human, Technical and Environmental. Within this approach, it is intended that safety barriers for each major factor are addressed, and an overall risk grade determined based on their effectiveness (or not).

Major Risk Factor Human	Major Risk Factor Technical	Major Risk Factor Environmental
Barriers Rules & Procedures Aircrew/ATC Actions Visual Sighting SA from RT	**Barriers** ATC Alerting Systems On-Board Systems Cooperative Systems (TCAS/ACAS/FLARM)	**Barriers** Airspace Design Regulations (Terrain) (Weather)

1.5   With the Panel having agreed a cause and risk during the monthly Board meeting, the Secretariat then prepares a written record of relevant points from the Panel's deliberations (the 'Part B'), and a formal declaration of the cause and risk (the 'Part C'). A full copy of each finalised report (Parts A, B and C) is then sent, within 10 days of the Board meeting, to those involved in the Airprox and also to any of the relevant participating agencies. Once they have had the opportunity to comment on any factual matters if they wish, the report is then published on the UKAB website (at www.airproxboard.org.uk) usually on the Friday following the next Board meeting (approximately four weeks later). In parallel, any recommendations that may have been made by the Board are compiled into targeted letters that are sent to relevant agencies or individuals inviting them to acknowledge and address the Board's recommendations: associated responses are tracked by the UKAB administrative staff to ensure that recommendations are either accepted and resolved or, if declined, the reason for rejection is noted for future reference.

1.6   A fundamental tenet of the UKAB is that it is not the purpose of the Board to apportion blame or liability: the sole objective of each investigation is to assess notified Airprox in the interests of improving Air Safety by identifying lessons that may be applicable to others, or policy and procedures which might be improved. All reports are dis-identified, and names of companies or individuals are not released or published in order to encourage an open and honest reporting environment.

2. MISSION, PURPOSE, ROLE & GUIDING PRINCIPLES

2.1   **The mission of the UKAB is:**

To enhance Air Safety through prevention of airborne conflict and mid-air collision.

2.2   **The purpose of the UKAB is:**

To investigate, assess and report the circumstances, causes and risk of collision for all Airprox occurrences in UK's airspace; communicate its findings, lessons identified and associated recommendations to relevant sections of the UK aviation regulatory and operating organisations and the broader aviation communities; and champion an understanding of Airprox causes, airborne conflict and mid-air collision risks by tracking and following-up Airprox recommendations and associated issues.

2.3 **The roles of the UKAB are:**

2.3.1 Collate, coordinate, track and maintain a database of Airprox notifications, investigatory material, associated evidence, reports and recommendations.

2.3.2 Identify, categorise and report the circumstances, causes and risk of collision for all Airprox occurrences in the UK's airspace.

2.3.3 Alert regulators, operators and ANSPs about emerging Airprox trends, issues and concerns.

2.3.4 Provide feedback, insights and recommendations regarding the efficacy of airspace regulation and the factors that have influenced the performance of pilots and controllers during airborne conflict and near-mid-air collision situations.

2.3.5 Champion, contribute and communicate an understanding of Airprox causes and airborne conflict and mid-air collision risks both within formal Air Safety forums and informal meetings and presentations amongst the wider aviation community.

2.3.6 Maintain effective links with relevant civil and military Air Safety regulatory and operating organisations, associations, communities and groups.

2.3.7 Establish and maintain a database of all Airprox reported to the UKAB and provide a single point of access and analysis to Airprox information for the UK public and UK aviation communities.

2.4 **The guiding principles for an effective and efficient UKAB are:**

2.4.1 Ensure that Airprox assessments are timely, credible, thorough, technically accurate and impartial.

2.4.2 Ensure that all Airprox information handled by UKAB is dis-identified to everyone other than the Director UKAB and the UKAB Secretariat.

2.4.3 Ensure that reports and assessments neither imply nor apportion blame, culpability or liability.

2.4.4 Ensure that incidents involving commercial air transport receive priority in investigation in order to ensure that societal risks, concerns and the safety of the travelling general public are addressed as early as possible.

2.4.5 Ensure that, on a rolling 12-month basis, best efforts are made to complete 50% of Airprox assessments within four months from notification to the Secretariat and delivery of the final assessment report to those involved.

2.4.6 Ensure that timely responses, extraction of data and generation of analyses are made to requests for information from appropriate bodies/individuals.

2.4.7 Be proactive and open when communicating and collaborating with relevant stakeholders, associations and safety agencies in order to foster Air Safety enhancements from UKAB activities and Airprox assessments.

2.4.8 Monitor and track the response(s) to Safety Recommendations until action is complete.

2.4.9 Provide monthly and annual compendium reports of Airprox assessed as follows:

2.4.9.1 Monthly reports of Board meeting outcomes and UKAB activities should be submitted by Director UKAB to CEO CAA and DG MAA within 10 working days of the relevant Board meeting.

2.4.9.2   Individual Airprox reports should be released to the media and published on the UKAB website within six weeks of the Board's assessment (this delay in publication is to allow for participants to respond to the report before publication, and for Board members to confirm their agreement to any subsequent report changes and content).

2.4.9.3   An annual report (the 'Blue Book'), which provides a calendar-year summary and analysis of that year's reports, shall be submitted by Director UKAB to CEO CAA and DG MAA. Recognising the inevitable delay between Airprox event and assessment, it is anticipated that such annual reports will be produced in June/July for the preceding year's Airprox events.

2.4.9.4   Annual reports should be published in electronic form on the UKAB website, and made available on CD/DVD (or contemporary media forms as decided by Director UKAB) for general release to the wider aviation community if required: the 'Blue Book' will not be published in hardcopy form.

2.4.10 Establish and maintain effective working relationships with relevant sections of UK aviation regulatory, operating and broader aviation communities.

3. RESOURCES

3.1   **UKAB Composition**

3.1.1 **Panel**.   The UKAB Panel consists of 14 highly experienced and current civil or military aircrew and air traffic controller voting members (chaired by Director UKAB).   The aircrew are drawn from broad backgrounds that include airline, business jet, fighter, helicopter, test, glider and GA pilots; the controllers have wide-ranging area, terminal and airfield controlling expertise. Although panel members will necessarily have professional or private connections with aviation organisations, they attend in their own right only, give freely of their time in this altruistic activity for no reward or recognition, and are asked simply to bring only their extensive personal experiences to bear as impartial first-hand aviation practitioners without pre-judged influences, agendas or prejudices.

Typical UKAB Panel Composition			
Civil	ATCOs	Airfield	1
		Terminal/Area	2
	Aircrew	Long-haul, Regional, Corporate, Helicopter	4
		GA/Glider	1
Military	ATCOs	Airfield	1
		Area	1
		RN operations	1
	Aircrew	RAF operations/training	2
		JHC Helicopter	1

3.1.2 **Advisors**.   A collective of airspace and flight operations subject-matter experts (SME) attend Board meetings in order to provide detailed, in-depth professional knowledge to assist the Panel in making their assessments; these SME include civil and military representatives from the CAA, MAA, NATS, Flight Operations specialists, Air Traffic Standards Inspectors and Air Safety specialists. The advisor SMEs have no voting rights or mandate when the Board to formally assesses Airprox causes or risks.

3.1.3 **Secretariat**.   The UKAB Secretariat currently comprises Director UKAB, three Airprox Inspectors, and three Administrative Staff (of which one is part-time only). Director UKAB provides overall leadership, management and oversight of the Secretariat and its activities whilst also chairing Board meetings and acting as the

externally-facing champion for UKAB issues and Airprox outcomes with the CAA and MAA stakeholders, and the wider civil and military aviation communities. Drawn from the professional aviator or controller professions, the three Airprox Inspectors provide the intellectual input in collating information for each Airprox and compiling the associated reports. They also act as the first point of contact for specific Airprox issues, queries and coordination. The primary role of the three Administrative Staff is to support Director UKAB and the Inspectors by recording and tracking Airprox data, managing electronic filing processes, acting as first point of contact for general UKAB queries, coordinating Board meetings, proof-reading reports, and maintaining and updating the UKAB website.

3.2 **UKAB Support and Parenting**

3.2.1 The 'Principles for Establishment' that outlined the UKAB's constitution and functions were formally set out in an agreement signed on 14th September 1998 between the then Chief of the Air Staff and Chairman of the CAA. Following the subsequent formation of the MAA and its assumption of responsibility for the regulation of all military aviation, this original agreement was further developed and ratified in a "Memorandum of Understanding for the Continued Establishment of the UKAB (9 Feb 12)" signed on 16th April 2012 by DG MAA and CEO CAA. Within this latter agreement, Section 4 agreed the following resources for Director UKAB:

    a.   The Director, subject to the approval of the DG MAA and CE CAA, shall appoint a Secretariat to assist in undertaking the functions of the UKAB.

    b.   The costs of the UKAB shall be agreed in advance and shared on an equal basis by the MAA and CAA.

    c.   CAA Safety Regulation Group (SRG)[1] and Ministry of Defence Front Line Commands (MOD FLC) will provide to UKAB the investigative support.

    d.   CAA SRG will provide to UKAB the transcription support.

    e.   The MOD will provide radar tracking support.

3.2.2 Although equally funded by the CAA and MAA, Director UKAB and the Secretariat are nominally employed by the CAA, and it is the CAA that provides day-to-day administrative and business support to the UKAB on behalf of both authorities. Director UKAB and Secretariat annual personnel appraisal and development responsibilities are as follows:

Post	Appraiser	Super-Appraiser
Director UKAB	CAA Financial & Corporate Services – Director (in consultation with Director Ops, MAA)	Chief Executive Officer CAA (in consultation with DG MAA)
UKAB Inspectors (3)	Director UKAB	CAA Financial & Corporate Services – Director
UKAB Office Manager	Director UKAB	CAA Financial & Corporate Services – Director
UKAB Administrative Assistants (2)	UKAB Office Manager	Director UKAB

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[1] CAA SRG (Safety Regulation Group) were reorganised as CAA Safety and Airspace Regulation Group (SARG) as of 1 April 2014.

3.2.3 Provision of IT and associated services is through a dual-track approach shared by the CAA and MOD. The CAA provides support for day-to-day office systems and web-based intranet access to the CAA IT network. The MOD provides a single DII(F) terminal with associated service support and connectivity to military email and web-based systems through the overall DII(F) and RAF Northolt C4I support teams.

3.2.4 Director UKAB and the Secretariat are located on the first floor of Building 59 at RAF Northolt, West End Road, Ruislip, Middlesex, HA4 6NG. Within the 'Principles of Establishment' of the UKAB, the agreed provision of parenting services to UKAB by RAF Northolt is specified within an April 2010 Local Customer Service Agreement Matrix (extract reproduced below).

Service	Service Provider	Remarks
Accommodation & Catering – UKAB civilian personnel may apply to become associate members of the respective messes. Application for membership is in writing to the PMC/CMC. Functional accommodation is provided for current UKAB establishment.	Functional Accommodation – OC EMS Catering – MAC Service – CMT	Any additional functional accommodation required will be at a cost to UKAB.
Cash Accounting – Cash Accounting services not provided by JPA – Service Funds	Finance Department	
Supply – Domestic, e.g. office furniture etc	MAC Service – CMT	
Supply – IT Systems Administration and Computer Consumables	C4I	
Supply – Provision of Office Equipment (Photocopiers, Fax Machines, Shredders etc)	MAC Service – CMT	
Fire Services & Health & Safety - All Fire services provided by DFRMO and Health & Safety advice and support through the Stn SHEA. UKAB SHEF advisor will act as the UKAB link into the Stn SHEF organisation.	Fire – Station Fire Safety Officer Health & Safety – Stn SHEA	
Force Development – All Training Development services; Physical Education services include sports and recreation and use of facilities.	Force Development Squadron	Any T&S costs to be borne by UKAB
Publications & Stationery – Access to all publications, forms and stationery required	MAC Service – CMT	
Postal – Stn Central Registry will provide all postal services; should large volumes of post be required to be sent by UKAB, they will be liable to be charged.	OC PMS	Large volumes of mail will be charged to UKAB through Accounts
Communications – All Services not provided by contractor, e.g. telephone service, signals traffic, Commcen Guard responsibility and security of communications aspect (including Crypto).	C4I	
Maintenance – Electrical Equipment Maintenance	MAC Service - CMT	
Technical – Maintenance of Small Computer Systems	C4I	
Property Management – Works Services, administrative support to core works projects and Estates Management provided for all services. Any new works required are funded by CTLB; both In-Year and Minor New Works are administered through EMS.	EMS	Reactive maintenance to be reported through Works Services. New works, advice to be sought from OC EMF.
Chaplaincy – All Chaplaincy	Padre	
Security – All security services provided.	OC Police SWO	

Extract from the UKAB / RAF Northolt Local Customer Service Agreement dated April 2010

3.3 **UKAB Governance**

3.3.1 A UKAB Governance Board has been established in order to provide the CAA and MAA with overall oversight of UKAB policy, processes and day-to-day activities. The Governance Board does not vet or review Airprox assessments, but does monitor overall activity levels and financial situation; agree administrative and personnel matters as required; set overall performance targets; review proposals and plans for UKAB development; and agree the overall budget for UKAB activities.

3.3.2 The UKAB Governance Board currently meets formally on a 4-monthly basis and comprises:

UK CAA – Financial and Corporate Services - Director.

UK MAA – Director Operations.

UKAB – Director UKAB.

Meetings take place on a rotational basis at CAA, MAA and UKAB locations.

3.4 **UKAB Budget**

3.4.1 As stated within the 'Principles for Establishment' document, UKAB running costs are shared equally between the CAA and MAA. The table below shows the current financial plan for the UKAB wherein it can be noted that the forecast and actual costs for 2013/14 were £446,000 and £413,000 respectively (an efficiency saving of £33,000). The fully-costed budget forecast for 2014/15 is calculated at £462,000, largely in reflection of increased salary costs due to the recruitment of a third full-time inspector to fill a gap created by personnel changes in 2013. In the absence of any identified changes to UKAB operating processes or establishment, a nominal 2% inflation rate has been assumed for subsequent years in the 5-year financial plan.

3.4.2 Director UKAB is charged with operating the UKAB to best effect and within budget to the maximum efficiency possible. Of note, 96% of the UKAB budget is consumed by non-discretionary personnel salary costs and accommodation servicing and rental charges. In conducting routine business, Director UKAB is authorised to self-determine activities and costs within the UK as required to achieve best effect and efficiency; any requirement to travel or conduct business overseas, or conduct unusual expenditure outside of normal activities in UK, must be pre-authorised by the CAA's Financial and Corporate Services Director, who may consult with Director Operations, MAA if considered necessary.

2013/14		Financial Statement **UK Airprox Board** (figures rounded to nearest £'000)	5-year plan (2014/15 fully costed, notional 2% inflation assumed from 2015/16 onwards)				
			Plan Yr1	Plan Yr2	Plan Yr3	Plan Yr4	Plan Yr5
Forecast £'000	Actual £'000		2014/15 £'000	2015/16 £'000	2016/17 £'000	2017/18 £'000	2018/19 £'000
		Expenditure					
391	366	Employment Costs	409	417	426	434	443
32	32	Services and materials	31	32	32	33	34
3	2	Repairs and maintenance	1	1	1	1	2
20	13	Other operating and general	21	21	22	22	23
446	**413**	**TOTAL EXPENDITURE**	**462**	**471**	**481**	**490**	**502**
218	**206.5**	**COST TO CAA (50%)**	**231**	**235.5**	**240.5**	**245**	**251**
218	**206.5**	**COST TO MAA (50%)**	**231**	**235.5**	**240.5**	**245**	**251**
6.5	6.5	**Staff Numbers at FTE**	6.5	6.5	6.5	6.5	6.5
68.6	63.5	**Average Cost per Funded Employee (£'000)**	71.1	72.5	74.0	75.4	77.2

4. UKAB PROCESSES AND METHODOLOGIES

4.1   The UKAB policy, processes and methodologies have developed incrementally over many years since its inception in November 1998; key elements of these are outlined at Annexes A to E, which detail:

Annex A – UKAB mandate and principles for establishment.

Annex B – Director UKAB Terms of Reference.

Annex C – Airprox boarding process and timelines.

Annex D – Board Terms of Reference and guidance on Airprox cause and risk classification.

Annex E – UKAB Event Risk Classification methodology (yet to be defined).

4.2   Reaffirmed in 2012 through a Memorandum of Understanding between the UK CAA and MAA (following the formation of the MAA), the investigation and analysis of Airprox is an obligation under ICAO Charter, and provides lessons, evidence and data for regulators, Air Navigation Service Providers (ANSPs) and the wider UK aviation community, that is used to improve aviation safety. The UKAB's mandate is clear: in satisfying the ICAO obligation, DG MAA and CE CAA have determined that the UKAB will continue to act as the focus for establishing the cause and risk assessment of Airprox in the UK.

4.3   The UKAB Airprox process is managed by the Secretariat under the leadership, management and oversight of Director UKAB. The boarding and report production process is currently evolving as electronic ways of working are introduced in order to reduce report turnaround time and improve collaboration through the sharing of relevant dis-identified Airprox data. More widely, as safety management systems evolve in general, key changes to UKAB methodologies will hinge on the adoption of more robust cause and risk definitions; the adoption of emerging event risk classification methodologies in association with CAA and MAA work to develop a universal method that enables comparison across all aviation risk areas; and migration of the UKAB Airprox database to the EU's ECCAIRS[2] accident and incident reporting system. This latter initiative is not only a requirement under EASA legislation, but an opportunity for Airprox and CAA MOR data to be merged such that more extensive analysis can be conducted in order to identify airborne conflict themes, trends and precursor leading indicators.

5. STRENGTHS WEAKNESSES, OPPORTUNITIES & THREATS

5.1   Analysis of current UKAB activities and outputs reveals, in no specific order, the following key strengths, weaknesses, opportunities and threats (SWOT). These SWOT statements are further developed into themes and objectives in subsequent paragraphs.

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[2] ECCAIRS – European Coordination Centre for Accident and Incident Reporting Systems – based on ICAO taxonomies, ECCAIRS is an EU tool for collecting, sharing and analysing all transport safety information (not just aviation) in order to improve public transport safety.

Strengths	Weaknesses
Panel of peers with credibility as experienced aviators and air traffic controllers in their own right.	Limited analysis capabilities and ability to develop predictive feed-forward of precursor themes.
Joint civil and military participation across all aspects of the aviation environment.	Ineffective feedback and communication capabilities; especially to the grass-roots aviators.
Access and influence at the highest levels of the CAA and MAA.	Staff and labour-intensive processes and production.
Contribution from aviation regulatory and policy SMEs.	Lack of Human Factors content within Airprox reports.
Independent Airprox assessment and analysis.	Statistical validity of Airprox trends based on small data samples.
Rigorous, professional and factual assessments.	ICAO categorisations and Airprox definitions are too broad to allow consistency in identification of specific residual risks.
Open and honest non-blame reporting environment.	Poor website and electronic access to UKAB resources.
Impartial altruistic endeavour without pre-judgement, prejudice or agendas.	Timeliness of reports is dependent on external analysis and contributions.
	Lack of role-specific training for UKAB Inspectors.
	Lack of robust Airprox risk classification in respect of emerging and evolving safety management techniques and concepts.
	Somewhat *ad hoc* assessment criteria, analysis and methodology.

Opportunities	Threats
New and emerging investigative, analysis, risk assessment and Human Factors techniques.	Untimely completion of assessments and publication of reports.
Increasing focus on MAC within the military as their No1 risk.	Unconstrained numbers of Airprox may swamp UKAB capabilities.
Increasing focus on Airborne Conflict within the CAA as part of the SARG reorganisation and Air Safety Initiative activity.	Board members experience may not reflect the entire aviation sector.
CAA GA unit formation.	UKAB activity becomes subsumed within other agencies thereby risking the operational impartiality and independence of the process.
CAA Enhancing Safety Performance (ESP) initiative	
Evolution and development of electronic and interactive social media / mass methods of communication.	
CAA development of electronic ways of working (integrator and eForms initiatives), web technology (CAA Portal), and data management (ECCAIRS).	
EASA and Eurocontrol developments in safety management and risk understanding.	
Prospects for electronically linking UKAB reports and website to commercial and social websites and products.	

5.2 **Strengths**. We need to protect and build on the strengths of existing Board processes but should not demure from improving these where viable. The basic operating model was established well before electronic ways of working were developed and it makes sense to incorporate new IT initiatives as much as possible both to shorten the assessment and reporting phases and to employ the latest techniques in visualising Airprox for both the Board members and external audiences. Separately, our mandate to peer-review all Airprox is a key part of our credibility that must be protected; however, whilst recognising this strength, there is a risk that Airprox notification rates may exceed

the capacity of the full-Board process – there is scope for developing a 'mini-Board' process for less contentious or straight-forward incidents should activity levels demand.

5.3   **Weaknesses**.   UKAB weaknesses can be classified into three themes:

5.3.1   **Timeliness of Reporting**.   Timeliness of reports is influenced by: timeliness of external analysis and contributions; UKAB staff resources; insufficient role-specific training for UKAB Inspectors; and labour-intensive processes and production. Electronic ways of working provide a solution to some of these weak areas by promoting collaborative working (internally and externally); improving data access, handling and sharing; and allowing us to focus on only that which is required rather than manually filtering the wheat from the chaff.

5.3.2   **Analysis and Content**.   The UKAB cause and risk assessment process relies on an *ad hoc* discursive process without a definitive or systematic structure designed to reflect modern risk categorisation and classification methodologies. We need to embrace 'Event Risk Classification' in an appropriate form, and develop a methodology for introducing it to Board meetings in a manner that does not prolong, duplicate or overly complicate the Board's activities. Furthermore, the reporting of Airprox lacks meaningful HF content, and this prevents a holistic assessment of incidents. Moreover, because the UKAB Secretariat does not have in-house analytical competences, more could be gleaned from underlying trends and in-depth analysis of reports in order to identify lessons and precursor themes.

5.3.3   **Communication**.   Our weakness in analysis hampers our ability to develop themes for feedback and feedforward to appropriate stakeholders, and this means that our identification and communication of lessons is often somewhat basic in scope. Allied to this, although we have now moved to a web-based reporting ethos, this is at present limited only to replicating the previous paper-based processes as opposed to more novel use of evolving technologies. We need to embrace mobile cloud-based computing technologies in order to provide more comprehensive access and more interactive reporting and information products. Capabilities within 'app-based' and 'web-based' platforms will require a much richer content than is currently available or possible with the current CAA-hosted website technology, publishing and information-sharing regime. With respect to the latter, we should aim for external-to-CAA stakeholders to be able to access our shared working areas through cloud-based technologies that permit controllable access from civilian and military systems.

5.4   **Opportunities**. There is a current focus within the CAA and MAA on Airborne Conflict/Mid-Air Collision risks.   The UKAB can leverage this convergence of thinking across both its stakeholder communities in order to raise the profile and effectiveness of our activities. In particular, we need to remain in tune with emerging EASA/CAA thinking regarding risk classification and analysis, HF understanding, airspace safety initiatives and the evolving approach to the UK's GA community. The CAA, which hosts UKAB electronic IT capabilities, is also developing better electronic ways of working (integrator and eForms initiatives), web technology (CAA Portal), and data management (ECCAIRS); we need to integrate with these new approaches and ensure that opportunities for UKAB internal and external connectivity are exploited. All of this must be done with an eye to the evolving world of external social media and web-based communication methods.

5.5   **Threats**.   The UKAB process has withstood the test of time by dint of its credibility and reputation for impartial, factual assessments that neither identifies those involved nor apportions culpability.   Thoughtlessly over-streamlining, rationalising or subsuming the UKAB structure, processes and resources may threaten our capacity and capabilities and,

by association, our ability to maintain our hard-won impartiality, independence and credibility. Equally, the UKAB's relevance must be maintained; simply maintaining the *status quo* will not address the evolving expectations of the UKAB's stakeholders and external audience: timely, impartial and factually accurate reporting; informed and independent analysis; and effective communication of messages and themes (in both feedback and feedforward modes) must be maintained and enhanced.

6. CRITICALITIES, RISKS & STRATEGIC DIRECTION

6.1   The UKAB has no statutory powers: its authority depends upon the respect in which it is held. The UKAB's Centre of Gravity is therefore its reputation. Critical Capabilities that derive from this Centre of Gravity are its ability to: influence regulatory and policy-making bodies; persuade aviation operators, stakeholders and actors to take actions in respect of its Safety Recommendations and lessons learnt; and convince the General Aviation communities to heed its advice and learn from the lessons and experiences of others. Associated Critical Vulnerabilities, Requirements, Risk and Strategic Direction are:

Critical Vulnerabilities	Critical Requirements
Small Secretariat vulnerable to reduced output due to staff sickness or availability.	Altruistic participation by suitably experienced and diverse Board members.
Failure of participants to report Airprox due to lack of confidence in the value of the process.	Altruistic participation by the General Aviation community.
Perception of a lack of 'just culture' or inclusive approach.	Robust database management and Airprox tracking processes.
Requirement to maintain compatibility with different military and civil IT systems and reporting capabilities (specifically, military ASIMS vs civil MOR and ECCAIRS).	Operational independence from regulators and policy makers.
Stand-alone nature of the UKAB JARS database with limited support.	Access and influence at the highest levels of regulatory and policy-making bodies.
Lack of staff 'headroom' to conduct non-core reporting duties such as developing the Airprox process and effectiveness.	Non-punitive, non-blame, just culture approach to incidents.
Reliance on external agencies (CAA ATSI, RAC and Mil BM staff) for vital investigatory products.	Joint civil and military involvement.
Ability to generate useful analysis and trend information to inform safety outcomes.	Technical accuracy and impartial analysis.
Failure to engage with all sectors and demographics within aviation.	Anonymity and dis-identification of incident material.

Risks	Strategic Direction
Airprox input numbers swamp staff capabilities.	Develop the UKAB reporting processes to include electronic interactive reports.
Staff effort becomes spread too thinly by attempting to meet wider analysis and safety initiatives.	Within resources, aim for 50% of reports taking less than 4 months between Airprox notification to final report.
Focusing on Airprox outcome reporting rather than cause analysis.	Ensure integration with evolving CAA ESP activity

6.2   Analysis of annual Airprox data indicates that the majority of incidents involve the GA community. In 2013, 65% of Airprox had GA involvement, 47% had military involvement, and 31% had commercial/civil air transport involvement. The latter 2 categories of flight attract mandatory reporting requirements, whilst the GA community reports on a voluntary basis; as the largest sector of involvement, the altruistic involvement of the GA community must be protected and encouraged. In addition, all our efforts will be for nothing if the Board's recommendations and lessons identified do not reach the GA audience or, if even they do, are neither respected nor heeded.

Airprox by Involvement - 2013
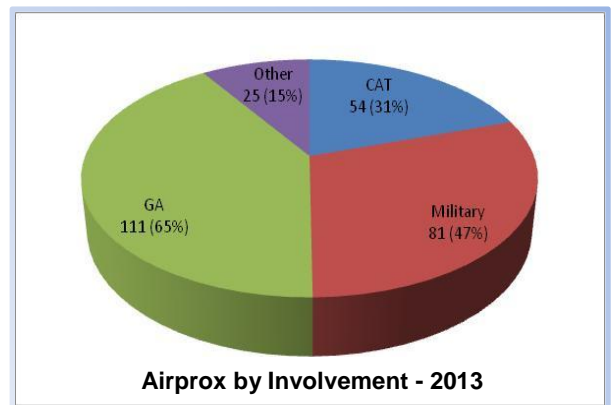
6.3   It is therefore critical that the UKAB retains and builds on its good contacts with the relevant GA associations and stakeholders, ensures that its outputs retain their veracity, technical accuracy and 'just' focus, and seeks to gain influence and engagement with the contemporary aviator through modern communication means.   A vital part of this requirement is the need for robust analysis and communication of lessons, strong feedback and feedforward conduits, and timely turnaround of incident casework.

6.4   Notwithstanding the need to ensure that the GA community is well-served in order to ensure their continued engagement as the majority audience, the need to satisfy the mandatory reporting requirements of the commercial and military aviation communities means that the more formal linkages into their organisational and regulatory structures must be effective in order to meet ICAO and EASA obligations.

6.5   The key risk for the UKAB is that it loses relevance in the evolving aviation safety environment by either failing to provide timely responses and insights, becoming self-serving, or losing credibility and respect due to injudicious or superficial analysis.

7. DIRECTOR UKAB's INTENT

7.1   The UKAB is a highly respected organisation that has built its credibility over the years for impartial and factual reporting of Airprox incidents. However, much of the activity has been process-based and has attracted criticism in the past for a lack of feedback and interaction with some sectors of the UK aviation community. Our mantra is that we are solely focused on improving Air Safety; the only way of doing this is to ensure that our recommendations and suggestions for improvements are credible, valuable, and heeded by the appropriate stakeholders and communities.

7.2   Beyond the maintenance of our reputation (our Centre of Gravity), there are three key operational elements to our success: timely, impartial and factually accurate **reporting**; informed and independent **analysis**; and effective **communication** of messages and themes (in both feedback and feedforward modes).

7.2.1 Reporting has been our traditional strength, and we must maintain that standard as a matter of priority. However, we must seek ways of streamlining the process, harnessing modern electronic ways of working, and concentrating our effort on that which demonstrably contributes to our outputs.

7.2.2 Analysis has been a weak point in our process in the past. We lack resources to conduct any meaningful extensive analysis or trend identification other than that which we can contribute on a self-help basis from Board outcomes, the JARS database, and subsequent spreadsheet manipulation. We also lack a methodology for which to analyse and classify Airprox risks within a modern causal risk classification context other than through the long-standing ICAO risk classifications (ICAO Doc 4444: PANS-ATM) and ESARR 2[3] taxonomies.

7.2.3 Similarly, our capacity to communicate messages and themes is somewhat limited both technically and in human resource. Although the Inspectors conduct some external liaison activities, the bulk of the communication responsibility falls to Dir UKAB in conducting a campaign of briefings, working group participation and liaison meetings in order to spread the UKAB messages as widely as possible.

7.3 In headline terms, my intent for the UKAB is to: **PROTECT** our reputation; **STREAMLINE** our processes; **DEVELOP** interactive internal and external electronic interfaces; **DEVELOP** a causal-factor-based risk classification system; **DEVELOP** better database storage and analysis tools; **INCORPORATE** Human Factors information; **IMPROVE** and **BROADEN** integration with the aviation stakeholders; **INTENSIFY** the feedback and feedforward of lessons and recommendations; and **INNOVATE** for future web-connected UKAB activities and outputs. These goals will be undertaken through three themes: **Core Business**; **Integration & Interfaces**; and **Electronic ways of working**. These themes will be pursued in three phases: Phase 1 – sustain and streamline (s-UKAB); Phase 2 – expand and enhance (e-UKAB); Phase 3 – improve and innovate (iUKAB). Broad development timelines and the phasing of sub-objectives are expanded in Section 8 below; notwithstanding, lines of operation and objectives will be pursued in parallel rather than sequentially.
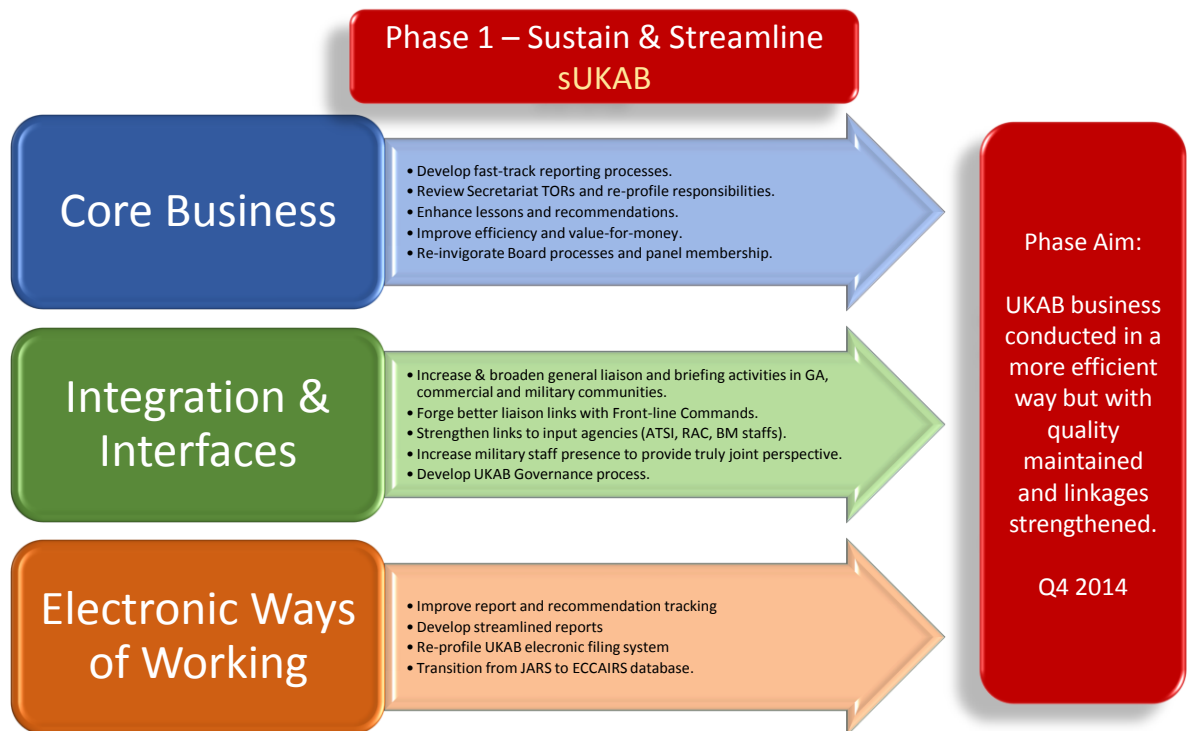
8. FUTURE-UKAB DEVELOPMENT AND OBJECTIVES

8.1 As identified in the previous analysis, overall the UKAB must focus on ensuring that it remains relevant, valued and that it develops new ways of interacting with the aviation community in order to enhance Air Safety. This will require it to develop its reporting, analysis and communication processes to ensure their relevance and utility for all sections of UK commercial, GA and MOD communities. In so doing, UKAB also needs to consider new airspace users such as Unmanned and Remotely Piloted Air Systems (UAS/PAS) and the rapid expansion of microlight and canopy-suspended sports aviation sectors.

8.2 The current phased project for development of a Future-UKAB is shown graphically below. Three themes will be pursued: maintaining **core business** by assuring and developing the primary Airprox review activity; broadening and strengthening **integration and interfaces** with aviation stakeholders; and embracing **electronic ways of working** in order to promote better collaboration, access to dis-identified Airprox data and products, dissemination of reports, recommendations and lessons identified, and to ensure that quality and throughput are maintained and enhanced. Although activities are shown sequentially within phases overleaf, they will be completed as and when dependencies allow. The overall aim is to have completed **Phase 1 – Sustain & Streamline (sUKAB)** by Q4 2014; **Phase 2 – Expand & Enhance (eUKAB)** by Q2 2015; and **Phase 3 – Improve & Innovate (iUKAB)** by Q4 2015.

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[3] ESARR 2 – **E**urocontrol **Sa**fety **R**egulatory **R**equirement 2.

8.2.1 **Phase 1** – Sustain and Streamline (sUKAB).

Phase 1 – Sustain & Streamline
sUKAB

Core Business
- Develop fast-track reporting processes.
- Review Secretariat TORs and re-profile responsibilities.
- Enhance lessons and recommendations.
- Improve efficiency and value-for-money.
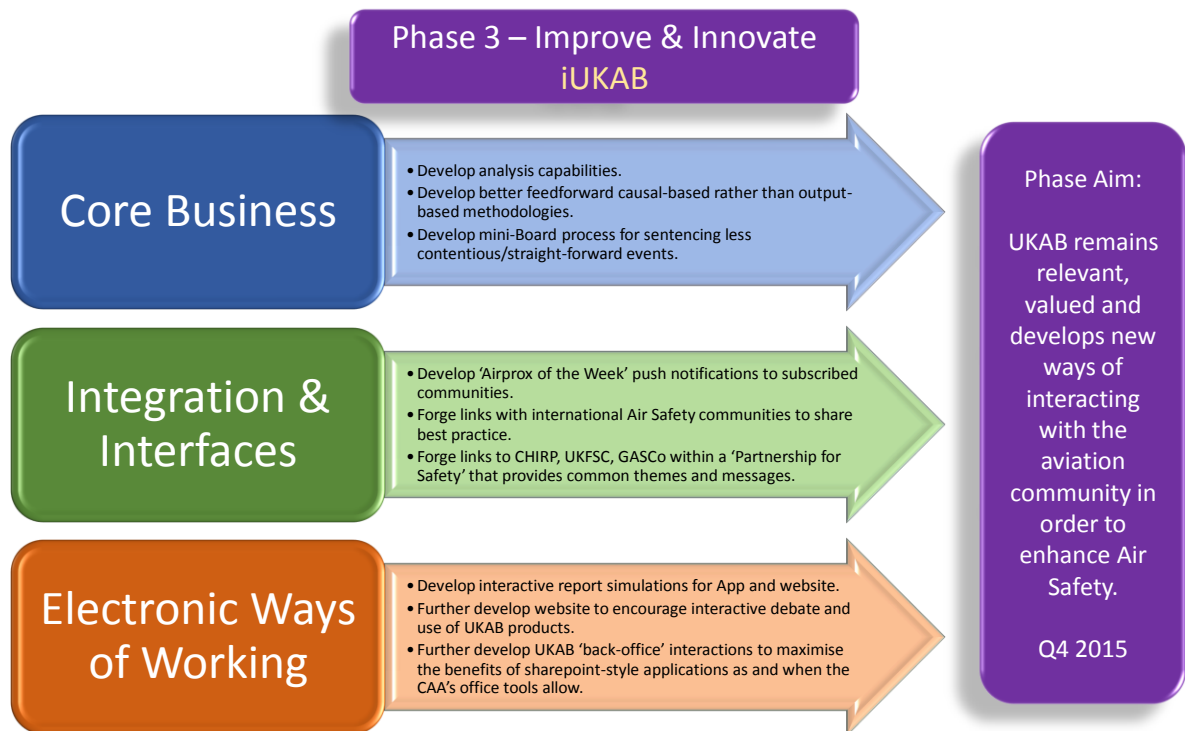- Re-invigorate Board processes and panel membership.

Integration & Interfaces
- Increase & broaden general liaison and briefing activities in GA, commercial and military communities.
- Forge better liaison links with Front-line Commands.
- Strengthen links to input agencies (ATSI, RAC, BM staffs).
- Increase military staff presence to provide truly joint perspective.
- Develop UKAB Governance process.

Electronic Ways of Working
- Improve report and recommendation tracking
- Develop streamlined reports
- Re-profile UKAB elecronic filing system
- Transition from JARS to ECCAIRS database.

Phase Aim:

UKAB business conducted in a more efficient way but with quality maintained and linkages strengthened.

Q4 2014

8.2.2 **Phase 2** – Expand and Enhance (eUKAB).

Phase 2 – Expand & Enhance
eUKAB

Core Business
- Develop risk classification method.
- Adopt bow-tie and barrier approaches to Board activities.
- Embrace CAA ESP.
- Incorporate Human Factors methodologies.
- Refine Secretariat processes as web-based capabilities develop.

Integration & Interfaces
- Improve ATSI/BM/RAC interfaces to reduce duplication of processes.
- Develop CAA ACAG, ASICG etc presence in order to champion and achieve UKAB lessons &recommendations.
- Develop UKAB presence on other forums such as 'Flyer', 'Pilot', 'UKFSC', 'pPrune' etc websites.
- Enhance & expand UKAB Airprox Magazine content.

Electronic Ways of Working
- Develop user-friendly, interactive UKAB website.
- Develop electronic Airprox notification forms.
- Ensure all Airprox reports are easily accessible on website.
- Develop report simulation software to 2D then 3D capability.
- Develop electronic UKAB App.

Phase Aim:

UKAB business conducted in a more contemporary fashion which encourages better and broader interaction.

Q2 2015

8.2.3 **Phase 3** – Improve and Innovate (iUKAB).

8.3   **Dependencies**.   Aside from allocating sufficient UKAB resource to conduct the detailed work involved in the transformation process, the key current dependencies for completion of the Future-UKAB project are:

- Introduction of upgraded CAA backbone IT infrastructure (especially portal/website).
- CAA progress in ECCAIRS transition.
- CAA progress in developing electronic forms (e-forms).
- Military appetite for increased staff within the UKAB Secretariat.
- Identification of funding for the development of electronic processes and Apps.
- Identification of resources for improved analysis activities.
- CAA/MAA conceptual development of enhanced risk classification methodologies.
- Willingness for external agencies to allow UKAB presence on websites etc.

8.4   **Objectives**.   Formal UKAB high-level development objectives and planned milestone dates are as detailed in the table below:

Objective Number	Objective Title	Planned Completion
sUKAB-1	Enhance Airprox lesson/recommendation development and tracking.	Dec 2014
sUKAB-2	Increase military staff presence within UKAB and improve linkages with military front-line command staffs.	Dec 2014
sUKAB-3	Develop fast-track reporting processes.	Dec 2014
sUKAB-4	Develop UKAB Governance Board processes.	Dec 2014
sUKAB-5	Transition the UKAB Airprox database from JARS to ECCAIRS.	Dec 2014
sUKAB-6	Develop more streamlined Airprox Reports in anticipation of electronic Airprox reporting requirements.	Dec 2014
eUKAB-1	Incorporate Human Factors methodologies in Airprox reporting.	Mar 2015
eUKAB-2	Develop user-friendly, accessible UKAB website with linkages to other aviation/safety websites.	Mar 2015
eUKAB-3	Develop electronic Airprox notification forms.	Mar 2015
eUKAB-4	Develop 2D then 3D report visualisation tools.	Mar 2015
eUKAB-5	Develop and embody Airprox Event Risk Classification methodology.	Jun 2015
eUKAB-6	Develop UKAB 'App' for Apple/Android/etc tablets/smart phones	Jun 2015
iUKAB-1	Develop collaborative, shared environment for Airprox casework/data	Sep 2015
iUKAB-2	Develop UKAB analysis capabilities	Sep 2015
iUKAB-3	Embody mini-Board processes for less contentious events.	Sep 2015
iUKAB-4	Develop linkages to international Air Safety communities to share best practice.	Sep 2015
iUKAB-5	Develop interactive Airprox website, feedback and reporting.	Sep 2015
iUKAB-6	Forge linkages with CHIRP, UKFSC, GASCo etc to form an Aviation Safety Partnership that enables lobbying and messaging of common safety themes.	Sep 2015

UKAB High-level Development Objectives

Annex A – UKAB Mandate and Principles for Establishment

1998 Principles for the Establishment of the United Kingdom Airprox Board

PRINCIPLES FOR ESTABLISHMENT OF THE UNITED KINGDOM AIRPROX BOARD

WHEREAS

(1)   Determination of cause and risk assessment of aircraft proximity events (AIRPROX) in the United Kingdom is currently undertaken

- in the case of reports made by pilots (AIRPROX (P)) by the Joint AIRPROX Working Group (JAWG) whose Chairman is the Officer Commanding Joint Airmiss Section (JAS) and whose work is supported by the JAS

- in the case of reports made by air traffic controllers (AIRPROX (C)) by the Joint AIRPROX Assessment Panel (JAAP) whose Chairman is appointed by the Civil Aviation Authority (CAA) and whose work is supported by the SDU 3 section of the CAA's Safety Regulation Group Safety Data Department.

(2)   The Chairman of the JAWG reports to the Chief of the Air Staff (CAS) and the Chairman of the CAA. The Chairman of the JAAP reports to the Chairman of the CAA.

(3)   CAS and the Chairman of the CAA have determined that for the furtherance of aviation safety there should be established a new joint body entitled the United Kingdom Airprox Board (UKAB) to take over the determination of cause and risk assessment of AIRPROX currently undertaken by the JAWG and the JAAP and their supporting sections in accordance with the following principles:

Constitution of the UKAB

- The sole objective of the UKAB shall be to assess reported AIRPROX in the interests of enhancing flight safety. It shall not be the purpose of UKAB to apportion blame or liability.

- The UKAB shall comprise a Director, a Secretariat and a Panel, and it shall exercise its functions in an independent manner.

Appointment of Director

- The CAS and Chairman of the CAA shall appoint a full time Director of the UKAB who shall have no other concurrent military or civil aviation policy or regulatory function.

- The Director shall have comprehensive aviation experience.

- The appointment will be for a term not exceeding four years at an appropriate salary.

- The Director will be accountable to and shall work to terms of reference given by the CAS and Chairman of the CAA.

Resources of Director

- The Director, subject to the approval of the CAS and Chairman of the CAA, shall appoint a Secretariat to assist him in undertaking the functions of the UKAB.

- The costs of the UKAB shall be agreed in advance and shared on an equal basis by the CAA and Ministry of Defence (MoD).

- Accommodation for the UKAB will be provided by MoD at Hillingdon House, RAF Uxbridge.

- CAA's Safety Regulation Group (SRG), and MoD's Military Air Traffic Operations will continue to provide to UKAB the investigative support currently provided for JAWG and JAAP.

- SRG will provide to UKAB the transcription support currently provided to the JAWG and JAAP.

UKAB Panel

- The Director shall propose to the CAS and the Chairman of the CAA members to form the UKAB Panel. The Panel shall be drawn from appropriate classes of airspace users and air traffic specialists. Panel members shall act in their own right and shall not act as the representative of any organisation. Persons carrying out aviation policy or regulatory functions shall not be eligible for appointment to the Panel.

- The Panel shall work to terms of reference given to the Director by CAS and the Chairman of the CAA.

Functions of the UKAB

- To receive reports filed by any pilot or controller, civil or military in respect of AIRPROXs in all United Kingdom airspace and all airspace for which the Government of the United Kingdom has undertaken, in pursuit of international arrangements, the provision of air navigation services.

- To make findings about the primary causes of reported AIRPROX and any contributory factors, and to classify AIRPROXs into four classes of risk as follows

  (a) risk of collision

  (b) safety not assured

(c) no risk of collision

(d) risk not determined.

- To make a final report and when appropriate, safety recommendations in a timely manner on each AIRPROX report.

- To keep, when practicable, the identity of interested parties confidential.

- To publish through the CAA compilations of its reports three times a year.

- To establish and maintain a database of all AIRPROX reported to it and to make information available as required to appropriate individuals and bodies on a disidentified basis.

- To maintain good external communications.

Signed ....
Chief of the Air Staff

Signed ....
Chairman of the Civil Aviation Authority

Dated .... 14ᵗʰ September 1998

TO: PS/SofS

FROM: T M Anderson
AM
DG MAA
9621 82724

4 April 12

File Ref: DG/Safety/Mil

TRANSFER OF MILITARY OWNERSHIP OF UK AIRPROX BOARD

ISSUE

1.   Transfer of military responsibility for the UK Airprox Board (UKAB) from Chief of Air Staff (CAS) to Director General Military Aviation Authority (DG MAA) on 5 April 2012.

RECOMMENDATION

2.   SofS is invited to note that:

a.   military responsibility for the UKAB will transfer/ transferred from CAS to DG MAA on 5 April 2012.

b.   a Memorandum of Understanding for the continued establishment of the UK Airprox Board (will be/has been) signed between DG MAA and Chief Executive Civil Aviation Authority (CE CAA).

c.   the UKAB's sole objective will continue to be the assessment of reported Airprox in the interests of enhancing flight safety.

d.   CE CAA is expected to brief separately through the Department for Transport (DfT).

TIMING

3.   Routine

BACKGROUND

4.   The UKAB was established in 1998[2] by agreement between CAS and the then Chairman of the Civil Aviation Authority to provide a single joint civilian and military organisation to investigate Airprox events in UK airspace. As such, the UKAB is 50 per cent 'owned' by the MOD (under CAS) and 50 per cent by DfT (through the CAA).

5.   Following the establishment of the MAA in Apr 10, the decision was made to transfer the ownership of the military element of the UKAB from CAS to the MAA, in order that

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[1] An Airprox is defined as a situation in which, in the opinion of a pilot or controller, the distance between aircraft as well as their relative positions and speed was such that the safety of the aircraft involved was or may have been compromised. Many are near accidents.

[2] Previously the Joint Airmiss Working Group.

1

responsibility is shared by the military and civilian aviation Regulators. This will allow the UKAB to work in a truly independent manner under the two UK aviation Regulators.

6.   Investigation and analysis of Airprox is an obligation under the International Civil Aviation Organisation (ICAO) Charter, and provides lessons, evidence and data for Regulators, Air Navigation Service Providers (ANSPs) and the wider UK aviation community, that is used to improve aviation safety. Where appropriate, the UKAB makes safety recommendations on each Airprox report, which are tracked to an appropriate conclusion. It alerts Regulators, operators and ANSPs about emerging trends, issues and concerns; and communicates lessons learned to relevant elements of the aviation community. Since its establishment the UKAB has made a significant contribution to the understanding of Airprox events.

FINANCIAL ASPECTS

7.   Since the establishment of the UKAB, the associated costs have been shared on an equal basis between CAS and CAA. The MAA will now take over financial responsibility from CAS. Budgetary responsibility will transfer from Air Command TLB to Centre TLB at the start of the new financial year in April 2012. There are no additional costs to the MOD associated with this change.

PRESENTATIONAL ISSUES

8.   There are no associated presentational issues, given that this change is a MOD-internal change of ownership and accountability.

DII Signed

T M Anderson
AM
DG MAA
9621 82724

COPIED TO

PS/Min(AF)	NA/CNS	UKAB Dir
PS/Min(DEST)	MA/CGS	Air Comd Sec
PS/Min(DPWV)	PS/CAS	DE&S Sec
PS/Min(ISS)	MA/CofM(Air)	FLEET Sec
PS/USofS	PSO/ACAS	HQLF Sec
PS/PUS	PS/CLF	DMC-News SO2 RAF
PSO/CDS	PS/ANC	
PS/2nd PUS-VCDS	DMC-D	

Military Aviation Authority
MAA

Civil Aviation Authority

**MEMORANDUM OF UNDERSTANDING FOR THE CONTINUED
ESTABLISHMENT OF THE
UNITED KINGDOM AIRPROX BOARD (9 Feb 12)**

1. **Introduction**

   a.   Determination of cause and risk assessment of aircraft proximity events (Airprox) in the United Kingdom (UK) is undertaken by the UK AIRPROX Board (UKAB). An AIRPROX is defined as a situation in which, in the opinion of a pilot or controller, the distance between aircraft as well as their relative positions and speed was such that the safety of the aircraft involved was or may have been compromised. Many are near accidents.

   b.   Investigation and analysis of AIRPROX, is an obligation under the ICAO Charter, and provides lessons, evidence and data for Regulators, Air Navigation Service Providers (ANSPs) and the wider UK aviation community, that is used to improve aviation safety. The UKAB was established in 1998 to provide a single joint civilian and military organisation to investigate AIRPROX events in UK airspace. The UKAB has made a significant contribution to the understanding of AIRPROX events.

   c.   The Director General (DG) of the Military Aviation Authority (MAA) and the Chief Executive (CE) of the Civil Aviation Authority (CAA) have determined that for the furtherance of aviation safety the UKAB will continue to establish the cause and risk assessment of AIRPROX

   d.   The constitution and functions of the UKAB are set out in Annex A to this Memorandum.

   e.   This Memorandum is not enforceable by law.

2. **Termination**

   a.   Either party may terminate this memorandum on giving at least 6 months notice to the other.

3. **Appointment of Director**

   a.   DG MAA and CE CAA shall appoint a full time Director of the UKAB who shall have no other concurrent military or civil aviation policy or regulatory function.

   b.   The Director shall have comprehensive aviation experience.

A6

c.   The appointment will be for a term not exceeding four years at an appropriate salary.

d.   The Director will be accountable to and shall work to terms of reference (TOR) given by DG MAA and CE CAA.

e.   The Director shall be an employee of the CAA for the duration of his/her appointment.

4.   **Resources of Director**

a.   The Director, subject to the approval of the DG MAA and CE CAA, shall appoint a Secretariat to assist in undertaking the functions of the UKAB.

b.   The costs of the UKAB shall be agreed in advance and shared on an equal basis by the MAA and CAA.

c.   CAA Safety Regulation Group (SRG) and Ministry of Defence Front Line Commands (MOD FLC) will provide to UKAB the investigative support.

d.   CAA SRG will provide to UKAB the transcription support.

e.   The MOD will provide radar tracking support.

1.   **Constitution of the UKAB**

    a.   The UKAB shall comprise a Director, a Secretariat and a Panel, and it shall exercise its functions in an independent manner.

2.   **UKAB Panel**

    a.   The Director shall propose to the DG MAA and CE CAA members to form the UKAB Panel. The Panel shall be drawn from appropriate classes of airspace users and air traffic management specialists. Panel members shall act in their own right and shall not act as the representative of any organisation. Persons carrying out aviation policy or regulatory functions shall not be eligible for appointment to the Panel.

    b.   The Panel shall work to terms of reference (**TBC**) given to the Director by DG MAA and CE CAA.

3.   **Functions of the UKAB**

Summary:

    a.   Airprox occurrences are near accidents. The role of the UKAB is to investigate Airprox occurrences and communicate its findings in order to improve safety in UK airspace.

    b.   The sole objective of the UKAB shall be to assess reported AIRPROX in the interests of enhancing flight safety. It shall not be the purpose of the UKAB to apportion blame or liability.

    c.   To receive reports filed by any civil or military pilot or controller in respect of AIRPROX in all UK airspace and all airspace for which the Government of the UK has undertaken, in pursuit of international arrangements, the provision of air navigation services.

    d.   To make findings about the primary causes of reported AIRPROX and any contributory factors, and to classify AIRPROX into five classes of risk as follows:

        A.   risk of collision

        B.   safety not assured

        C.   no risk of collision

A8

D. risk not determined

E. a non-event: normal procedures, safety standards and parameters pertained

e. To make a final report and, when appropriate, safety recommendations in a timely manner on each AIRPROX report. An average of 4 months from the date of the Airprox to the completion of the report is appropriate.

f. To track safety recommendations to an appropriate conclusion.

g. To keep, when practicable, the identity of interested parties confidential.

h. To publish through the CAA compilations of its reports twice a year (hard copy, CDs & website).

i. To establish and maintain a database of all AIRPROX reported to it and to make information available as required to appropriate individuals and bodies on a disidentified basis.

j. To alert regulators, operators and ANSPs about emerging trends, issues and concerns.

k. To communicate lessons identified to relevant elements of the aviation community. All means of communication will be employed appropriate to each segment of the industry/audience.

Signed ....
Director General Military Aviation Authority

Signed ....
Chief Executive Civil Aviation Authority

Date ....

Terms of Reference for Director, UK Airprox Board (9 Feb 12)

Military Aviation Authority

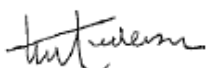**MAA**

Civil Aviation Authority

TERMS OF REFERENCE FOR DIRECTOR, UK AIRPROX BOARD (9 Feb 12)

1.   Airprox occurrences are near accidents. The role of the UK Airprox Board (UKAB) is to investigate Airprox occurrences and communicate its findings in order to improve safety in UK airspace.

2.   The UKAB has no statutory powers and therefore its authority depends on the respect in which is it is held. To ensure the widest possible support and effectiveness, all sectors of the aviation community must be convinced of the thoroughness and impartiality with which the UKAB exercises it responsibilities for, in the absence of other formal investigations, investigating the circumstances surrounding Airprox, for reviewing and assessing Airprox and, above all, ensuring that lessons are learned and improvements in safety result.

3.   The Director's specific responsibilities include:

    a.   Ensuring that the work of the UKAB Assessment panel and Secretariat is consistent with the policy and guidelines set out by the Chief Executive (CE) of the CAA and the Director General (DG) of the MAA.

    b.   Maintaining working relationships with the AAIB, SRG, NATS, military authorities and other national and international organisations as appropriate. When the Director forms the conclusion that a case, for any reason, has serious safety implications, the case will be offered to the AAIB and/or DG MAA (as independent MOD Convening Authority for Aviation Service Inquiries), as appropriate.

    c.   Selecting the UKAB Assessment Panel members as required for approval by the CE and DG.

    d.   Chairing the regular Panel meetings and ensuring that members have the necessary material to enable them to form a view about Airprox causation and risk, and to formulate safety recommendations as required. The Director will ensure that completed panel reports cover these matters in sufficient depth, according to the circumstances of the case and without attributing blame or liability.

    e.   Minimising the Airprox timeline, i.e. the duration between the incident occurring and the date the reports are despatched to the participants. The timeline should not exceed an average of 4 months and the Director should seek to "fast-track" the assessment of incidents with potentially serious implications.

1

f.   Publishing Airprox assessment reports on the UKAB web-site within 6-weeks of the Panel assessment and publishing compendia of reports twice a year.

g.   In both the material presented to UKAB Panel members and in published reports:

      i.   to ensure that no language of blame or responsibility appears;

      and

      ii.   so far as is practicable, to ensure the individuals and operators concerned are not identified.

h.   Taking timely action to notify relevant authorities of Safety Recommendations, monitoring follow-up actions and reporting regularly thereon to CE, DG and Panel Members.

i.   Maintaining the UKAB (Joint Airprox Reporting System) database and ensuring that it is a useful tool for the aviation industry. Enabling data to be disseminated widely and used proactively by research organisations, system developers and others as appropriate. Responding to requests for data and analysis from appropriate bodies and individuals.

j.   Analysing Airprox data to identify trends or specific areas of interest and bringing these to the notice of relevant authorities.

k.   Advising and liaising with CAA and MoD Corporate Communications staffs as appropriate on media relations and releases pertaining to Airprox matters.

l.   Proposing an annual budget for the UKAB, exercising budgetary control and reporting thereon to CE and DG.

m.   Seeking to make the UKAB as efficient as possible including meeting such targets for efficiency and effectiveness as may be agreed with CE and DG.

n.   Preparing an Annual Report to the CE and DG detailing the activities of the UKAB during the year, including statistics about the number of Airprox investigated, the time taken to deal with them and about Safety Recommendations and the responses received.

o.   Managing the Secretariat and directing their day to day work.

p.   Maintaining the UKAB web site in order to facilitate interest in and access to Airprox reports and statistics.

q.   Using all possible means and media to present and publish material about Airprox lessons and trends to appropriate elements of the aviation community.

Signed ....
Director General Military Aviation Authority

Signed ....
Chief Executive Civil Aviation Authority

Signed ....
Director United Kingdom Airprox Board

Date ....

1. **Constitution of the UKAB**

    a. The UKAB shall comprise a Director, a Secretariat and a Panel, and it shall exercise its functions in an independent manner.

2. **UKAB Panel**

    a. The Director shall propose to the DG MAA and CE CAA members to form the UKAB Panel. The Panel shall be drawn from appropriate classes of airspace users and air traffic management specialists. Panel members shall act in their own right and shall not act as the representative of any organisation. Persons carrying out aviation policy or regulatory functions shall not be eligible for appointment to the Panel.

    b. The Panel shall work to terms of reference (**TBC**) given to the Director by DG MAA and CE CAA.

3. **Functions of the UKAB**

    Summary:

    a. Airprox occurrences are near accidents. The role of the UKAB is to investigate Airprox occurrences and communicate its findings in order to improve safety in UK airspace.
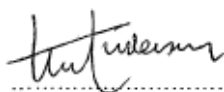
    b. The sole objective of the UKAB shall be to assess reported AIRPROX in the interests of enhancing flight safety. It shall not be the purpose of the UKAB to apportion blame or liability.

    c. To receive reports filed by any civil or military pilot or controller in respect of AIRPROX in all UK airspace and all airspace for which the Government of the UK has undertaken, in pursuit of international arrangements, the provision of air navigation services.

    d. To make findings about the primary causes of reported AIRPROX and any contributory factors, and to classify AIRPROX into five classes of risk as follows:

    A. risk of collision

    B. safety not assured

    C. no risk of collision

D. risk not determined

E. a non-event: normal procedures, safety standards and parameters pertained

e. To make a final report and, when appropriate, safety recommendations in a timely manner on each AIRPROX report. An average of 4 months from the date of the Airprox to the completion of the report is appropriate.

f. To track safety recommendations to an appropriate conclusion.

g. To keep, when practicable, the identity of interested parties confidential.

h. To publish through the CAA compilations of its reports twice a year (hard copy, CDs & website).

i. To establish and maintain a database of all AIRPROX reported to it and to make information available as required to appropriate individuals and bodies on a disidentified basis.

j. To alert regulators, operators and ANSPs about emerging trends, issues and concerns.

k. To communicate lessons identified to relevant elements of the aviation community. All means of communication will be employed appropriate to each segment of the industry/audience.

Signed ....
Director General Military Aviation Authority

Signed ....
Chief Executive Civil Aviation Authority

Date 16th April 2012

Annex C – Airprox boarding process and timelines.

The Board sits on 'B' day

B-day	Description	Deadline	Activity
B-12	Friday of second week prior to the Board	1100	Inspectors' final submission of draft Part As (best-effort by deadline) to Dir for review. Exceptions to be negotiated on an individual basis.
B-9	Monday of week prior to the Board	a/r	Inspectors incorporate Dir's changes to Part As.
B-8	Tuesday of week prior to the Board	1400	Deadline to complete Part As (bar exceptions). Senior Inspector releases Part As and running order to Admin Staff. Admin Staff commence compilation of supporting paperwork etc.
		1700	Director approves Agenda and paperwork. Admin staff distributes Agenda, running order and supporting paperwork.
B-7	Wednesday of week prior to the Board	a/r	Commence 1200: Pre-Board[4] session 1.
B-6	Thursday of week prior to the Board	a/r	Commence 0900: Pre-Board session 2.
B-5	Friday of week prior to the Board	1200	Deadline for Part A exceptions to be submitted to Dir.
		1500	Admin staff re-distributes agenda as a complete package, including exceptions.
B-2	Monday before the Board	a/r	Reserve day for Pre-Board.
		1600	Admin Staff confirms numbers for lunch, timing of coffee breaks (default 1030 & 1500) and lunch (default 1230-1330).
B-1	Tuesday before the Board	1500	Admin Staff submits seating plan, attendance notes and preamble to Dir for approval and printing.
		a/r	Inspectors conduct Conference Room preparation (by agreement - normally pm).
B-day	Board Wednesday	0900-1600	Board Meeting (assemble from 0830).
		1700-1800	Dir and Inspectors conduct Board Wash-up[5] if possible
B+1	Thursday after the Board	a/r	Inspectors conduct Conference Room de-preparation (by agreement - normally am).
		1000-1200	Dir and Inspectors conduct Board Wash-up if not completed after Board meeting
		1300	Senior Inspector releases Summary Sheet to Admin Staff; Admin Staff sends Summary Sheet to Members and Advisors.
B+8	Thursday of week after the Board	1200	Deadline for submission of draft Part B/Cs and recommendation letters to Dir.
		1600	Dir releases signed recommendation letters to Admin Staff for scanning and saving to team site.
B+9	Friday of week after the Board	1400	Deadline for Inspectors to finalise draft reports.
		1500	Senior Inspector releases draft reports to Admin Staff.
		1500	Dir releases Board Monthly Report to Admin Staff.
		1600	Admin Staff distributes completed draft reports, letters and recommendation letters to appropriate recipients, and Dir's Monthly Report to UKAB stakeholders and Board members. Compiled pdf of stats sheet and draft reports sent to CAA Corporate Comms.

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[4] Read through all casework verbatim: discuss issues, causes, risks and ERC scores; identify key issues for discussion by Board.
[5] Confirm agreed Causes, Risks and ERC scores; complete Summary Sheet.

B-day	Description	Deadline	Activity
B+23	Friday 3 weeks after the Board (coincides with next Board's B-5)	1200	Deadline for comments on reports by recipients and Board members.
B+26	Monday 4 weeks after the Board (coincides with next Board's B-2)	1200	Admin staff finalises reports and any amendments following comment process – 'Draft' watermark removed.
B+30	Friday after the next Board	0001	Subject to authorisation from Dir, Admin Staff publish completed reports and summary sheet on website.

Annex D – Board Terms of Reference and guidance on Airprox cause and risk classification.

UK AIRPROX BOARD : TERMS OF REFERENCE

and

GUIDANCE FOR MEMBERS, ADVISORS and OBSERVERS

General

1. An Airprox is a situation in which, in the opinion of a pilot or a controller, 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.

2. The sole objective of the UK Airprox Board (UKAB) is to enhance flight safety in the UK, in particular in respect of lessons to be learned and applied from Airprox occurrences reported within UK airspace.

3. The Board never apportions blame or liability. Further to encourage open reporting, all reports are disidentified prior to Board review.

4. UKAB has no statutory powers: its authority depends upon the professional respect in which it is held. Thoroughness and impartiality are critical success factors in the overall Airprox assessment process. Also of critical importance is communication with all parties involved in an Airprox event and, in disidentified form, with the wider aviation community.

5. To emphasise both the scope of its work and its independence, UKAB is jointly sponsored – and equally funded – by the Civil Aviation Authority (CAA) and the Ministry of Defence (MoD). Further to underscore the independence and scope aspects, the Director UKAB reports directly both to Chairman CAA and to Chief of the Air Staff, Royal Air Force.

Constitution

6. UKAB is comprised of two sections; a Board having civilian and military Members the work of which is supported by the second section, a Secretariat. The Board is chaired and the Secretariat is led by the Director UKAB who forms the senior management link between the two UKAB sections.

7. Board Members are drawn from a mixed complement of 14 civil and military disciplines (see Appendix A). Members are invited to join the Board by Director UKAB. There is no formal 'period of appointment' but civilian Members are expected to be able to serve ideally for at least three years to ensure continuity. It is accepted that military Members may not be able to achieve this objective.

8. Board Members are selected for acknowledged expertise in their particular field of aviation experience. Members are in general nominated by civil/military organisations, sitting as experts in their own right and not representing any group or organisation.

9.   Advisors are called on by the Chairman to provide expert advice on their particular specialisation. Advisors from areas such as Air Traffic Services Investigations; Mil ATC Operations and the Military Aviation Authority attend the Board routinely whilst others (eg from HQ 3rd AF (USAFE)) will come as and when their specialist knowledge is required.

10.   Advisors are encouraged to contribute to the discussion of an incident and to correct matters of fact. However, Advisors do not vote on the Cause or Risk assessments.

11.   Up to 3 Observers may attend Board meetings, subject to the prior agreement of the Chairman.

12.   New Members, Advisors and Observers will be personally briefed by the Chairman prior to their first attendance at the Board.

The Airprox Board : Process and Preparations

13.   The *modus operandi* of the UKAB is to examine the circumstances surrounding each reported Airprox; review and assess what took place and then ensure that lessons are identified and disseminated to facilitate improvements in flight safety.

14.   The process begins when an Airprox report is raised by either a pilot or a controller, civil or military, within UK airspace broadly extending to the London/Scottish FIR/UIR boundaries; for an Airprox in the Shanwick Oceanic Control Area/FIR and Channel Islands Controlled Airspace. A formal investigation is then undertaken. When complete, a summary of the reports and information is prepared by the Secretariat for the Board to assess.

15.   Experience has shown that in a number of cases each year, the facts established during the investigation phase are straightforward, clear-cut and undisputed. In such cases, the Secretariat will propose to the Board that the report be 'Fast Tracked'. The Secretariat will add to the investigation report such key points as it is felt that Members will wish to see made in the final report. In addition, the Secretariat will draft a Cause and propose a Risk rating. If the Board agrees with the proposal to 'Fast Track' the subject Airprox, the Chairman will ensure that the report is handled properly and in a timely way. 'Fast Tracking' an Airprox is intended to minimise the discussion at the Board meeting, thereby leaving more time for the more complex occurrences.

16.   The majority of Airprox occurrences require discussion by the Board Members to explore all of the circumstances and factors involved. Indeed, it is the discussion phase between so many experts that ensures that all aspects are properly considered and their importance weighted appropriately. Arguably, this is one of the greatest strengths of the Airprox Board. Therefore the majority of reports are discussed in full after a brief introduction by the relevant Inspector to refresh Memebrs and Advisors on the circumstances. These brief introductions cannot cover the detail of the casework and it is essential that Members and Advisors familiarise themselves with the reports prior rto the meeting.

17. At least one week prior to a Board meeting, Members and Advisors are sent an Agenda by e-mail together with appropriate case summaries for those Airprox to be assessed. This package is intended for self-briefing.

18. Members are expected to:-

   a. Regularly attend Board meetings at the Force Development Centre, RAF Northolt. To ensure proper consideration of all Airprox, Members are expected to attend the full meeting, from 09.00 to 17.00hrs;

   b. Bring to bear experience and knowledge as dictated by each incident to stimulate constructive debate on what happened and why events took a particular sequence that led to the Airprox;

   c. Make findings on the primary Cause of each incident together with any Contributory Factor(s);

   d. Determine the degree of Risk involved under one of five classifications:

A. Risk of collision	An actual risk of collision existed
B. Safety not assured	The safety of the aircraft was compromised
C. No risk of collision	No risk of collision existed
D. Risk not determined	Insufficient information was available to determine the risk involved, or Inconclusive or conflicting evidence precluded such determination
E. Non-event	Met the criteria for reporting but, by analysis, it was determined that the occurrence was so benign that it would be misleading to consider it an Airprox event. Normal procedures, safety standards and parameters pertained.

   e. Identify lessons which need to be highlighted for dissemination; and

   f. Propose Safety Recommendations where the Board considers that changes in procedures, techniques or equipment would bring improvements in flight safety.

19. Should opinion be divided on Cause or Risk classification, opposing views together with supporting arguments will be recorded in the text of the final report.

20.   From time to time the Chairman may decide to resolve an issue by taking a vote of those present at the Board. Each of the 14 disciplines has one vote, notwithstanding that any given discipline may have more than one Member. The Chairman has a casting vote in the event of a tie.

Confidentiality

21.   Whilst Board meetings are in general held under 'Chatham House' rules, Members may on occasion be presented with additional information, given in confidence on an incident. Such information is to be treated with strictest confidentiality, under no circumstance being used by Members outside the confines of the meeting.

Post Meeting Procedures

22.   Following each meeting, the Secretariat adds to each case file a summary of the Board's deliberations and findings on Cause and Risk together with details of any Safety Recommendation(s). The Chairman then forwards a complete copy of the UKAB report to the individuals concerned so that they see at first hand the outcome of their encounter.

23.   Approximately one month after the completed report has been sent to those involved, it will be placed on the UKAB Internet site.

24.   On occasions a person involved in an incident will disagree with the Board's findings. These situations are dealt with by the Chairman and the UKAB Inspector: errors of fact in a report will be corrected without hesitation. If warranted by exceptional new information, the case may be drawn again to the Board's attention for review. The Chairman will decide the correct course of action in consultation with the UKAB Inspector.

Publications

25.   The Director makes regular Reports to Chairman CAA and Chief of the Air Staff. In addition to some statistical analysis, details are given of the reports into Airprox that occurred and were opened for investigation during the first (or last) six months of the particular year. These bi-annual Reports are widely distributed, in hard copy and by CD: they are also placed on the UKAB Internet website.

26.   In addition to the bi-annual Reports and with the assistance of a Board GA Member, the Secretariat publishes a book aimed specifically at General Aviation pilots: this is also on a six-monthly cycle.

Appendix A

The Disciplines from which UKAB Members are drawn

			Discipline:	Nominated by:
1	Civil	ATCO:	Airfield	AOA; GATCO; NATS; Prospect as appropriate
2		ATCO:	Area	
3		ATCO:	Terminal	
4		Pilot	CAT – Fixed Wing	BALPA; BATA; BBGA; GAPAN as appropriate
5		Pilot	CAT – Fixed Wing	
6		Pilot	CAT – Fixed Wing	
7		Pilot	CAT – Rotary Wing	BHAB
8		Pilot	General Aviation	AOPA; BGA; GASCO as appropriate
9	Military	ATCO:	RAF Area	HQ AIR
10		ATCO:	RAF Airfield	HQ AIR
11		ATCO:	RN Operations	CinC Fleet
12		Pilot	RAF Operations	HQ AIR
13		Pilot	RAF Training	HQ 22 Gp
14		Pilot	Rotary Wing	HQ JHC

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UKAB AIRPROX FINDINGS ON CAUSE AND RISK - GUIDELINES

1. The purpose of these simple UKAB guidelines is to promote consistency when arguments are being martialled to determine 'cause'.

2. Many cumstances can and do surround Airprox incidents, but there are three broad situations which cover most if not all cases which occur *outside controlled airspace:*

    a. *Two aircraft A and B on conflicting flightpaths*

        − A sees B as early as prevailing circumstances permit and avoids

        − B sees A (perhaps later) and files

    Cause: Confliction of flightpaths resolved by A

    b. *Two aircraft A and B on conflicting flightpaths*

        − One or both pilots fail to see the other (when an earlier sighting could have been expected) until

            * very late or passing

            * after passing or not at all

    Cause: Late or non sighting by pilot A, or pilot B, or by both

    c. *Two aircraft A and B not on conflicting flightpaths*

        − A sees B and thinks no avoiding action is needed

        − B sees A and thinks otherwise - and files

    Cause: **− Sighting report**

                    − or mistaken impression by B on vertical/horizontal separation

                    − or A flew close enough to B to cause concern to B

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3. Note that "Confliction of flightpaths" and "Late or non sighting" should be seen as mutually exclusive; in other words they are either/or choices on cause where in the first case the pilot 'saw and avoided' - while in the second he 'did not see' (so did not take any action to avoid).

4. For those cases where all the evidence suggests that there was not really an Airprox, but more of a "see-and-avoid" situation, or perhaps a "see-and-no-need-to-avoid" encounter, use "*Confliction of flightpaths*" or "*Sighting Report*", coupled with a Cat C or E finding on 'risk'.

5. Although the nature of the assessment process requires you to bring to bear your own judgement, the determination of *cause* must be as objective as possible. To this end analysis must adhere to the facts of the case i.e. what actually took place. Contributory factors should be identified where appropriate, but in isolating the core reason for an Airprox the final *cause* statement must be unambiguous and stand alone as the final direct link to the result.

6. Similar treatment should be applied to the determination of *risk*. There is no room for speculation on what might have happened if such-and-such had also happened. Stick rigidly to what did happen and do not speculate on the potential for something worse or better to transpire from a situation - although you will often be encouraged to do so by those involved in an incident. As a guide:

Cat E:	Met the criteria for reporting but, by analysis, it was determined that the occurrence was so benign that it would be misleading to consider it an Airprox event. Normal procedures, safety standards and parameters pertained.
Cat D:	Reserved for those cases where a dearth of information renders impossible any meaningful finding.
Cat C:	By far the most common outcome where effective and timely actions were taken to prevent aircraft colliding.
Cat B:	Those cases, often involving late sightings, where avoiding action may have been taken to prevent a collision, but still resulted in safety margins much reduced below the normal.
Cat A:	Situations that stop short of an actual collision, where separation is reduced to the minimum and / or where chance played a major part in events and nothing more could have been done to improve matters. Late sightings frequently attach to these cases.

Risk Categories and Definitions

Risk Category	ICAO 4444 PANS-ATM AIRPROX risk classification	Eurocontrol severity classification scheme (ESARR 2)[6]	UKAB Board Guidelines word picture	Proposed UKAB collision risk descriptor and word picture
A	Risk of Collision: ...aircraft proximity in which serious risk of collision has existed.	Serious incident.	Situations that stop short of an actual collision, where separation is reduced to the minimum and / or where chance played a major part in events and nothing more could have been done to improve matters. Late sightings frequently attach to these cases.	**Providence**. Situations where separation was reduced to the bare minimum and which only stopped short of an actual collision because chance played a major part in events: the pilots were either unaware of the other aircraft or did not make any inputs that materially improved matters.
B	Safety not assured: ...aircraft proximity in which the safety of the aircraft may have been compromised.	Major incident.	Those cases, often involving late sightings, where avoiding action may have been taken to prevent a collision, but still resulted in safety margins much reduced below the normal.	**Safety much reduced**. Situations where aircraft proximity resulted in safety margins being much reduced below the normal either due to serendipity, inaction, or emergency avoiding action taken at the last minute to avert a collision.
C	No risk of collision: ...aircraft proximity in which no risk of collision has existed.	Significant incident	By far the most common outcome where effective and timely actions were taken to prevent aircraft colliding.	**Safety degraded**. Situations where safety was reduced from normal but either fortuitous circumstances or early enough sighting/action allowed one or both of the pilots to either monitor the situation or take controlled avoiding action to avert the aircraft from coming into close proximity.
D	Risk not determined: aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.	Not determined.	Reserved for those cases where a dearth of information renders impossible any meaningful finding.	**Non-assessable**. Situations where insufficient information was available to determine the risk involved, or inconclusive/conflicting evidence precluded such determination.
E	No ICAO risk classification	No safety effect: occurrences which have no safety significance.	Met the criteria for reporting but, by analysis, it was determined that the occurrence was so benign that it would be misleading to consider it an Airprox event. Normal procedures, safety standards and parameters pertained.	**Non-proximate**. Met the criteria for reporting but normal safety standards and/or standard separation parameters pertained.

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[6] ESARR - **E**UROCONTROL **Sa**fety **R**egulatory **R**equirement.

Annex E - UKAB Event Risk Classification methodology.

UKAB Event Risk Classification methodology is currently under development in association with the UK CAA and MAA. Details will be promulgated in due course (anticipated June 2015).

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