

Military Aviation Authority



5 Years On From The Haddon-Cave Report; A Reflection And A Look Ahead

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Scope

- **Haddon-Cave Report (2009):**
 - UK Government Response.
- **Reflection:**
 - Governance.
 - Revised Regulatory Framework.
 - Military Air System Certification Process (MACP).
 - International Activity.
 - Regulatory Reflections.
- **Look Ahead.**
- **Questions.**

Haddon-Cave Report (2009)



THE NIMROD REVIEW

An independent review into the broader issues surrounding the loss of the RAF Nimrod MR2 Aircraft XV230 in Afghanistan in 2006

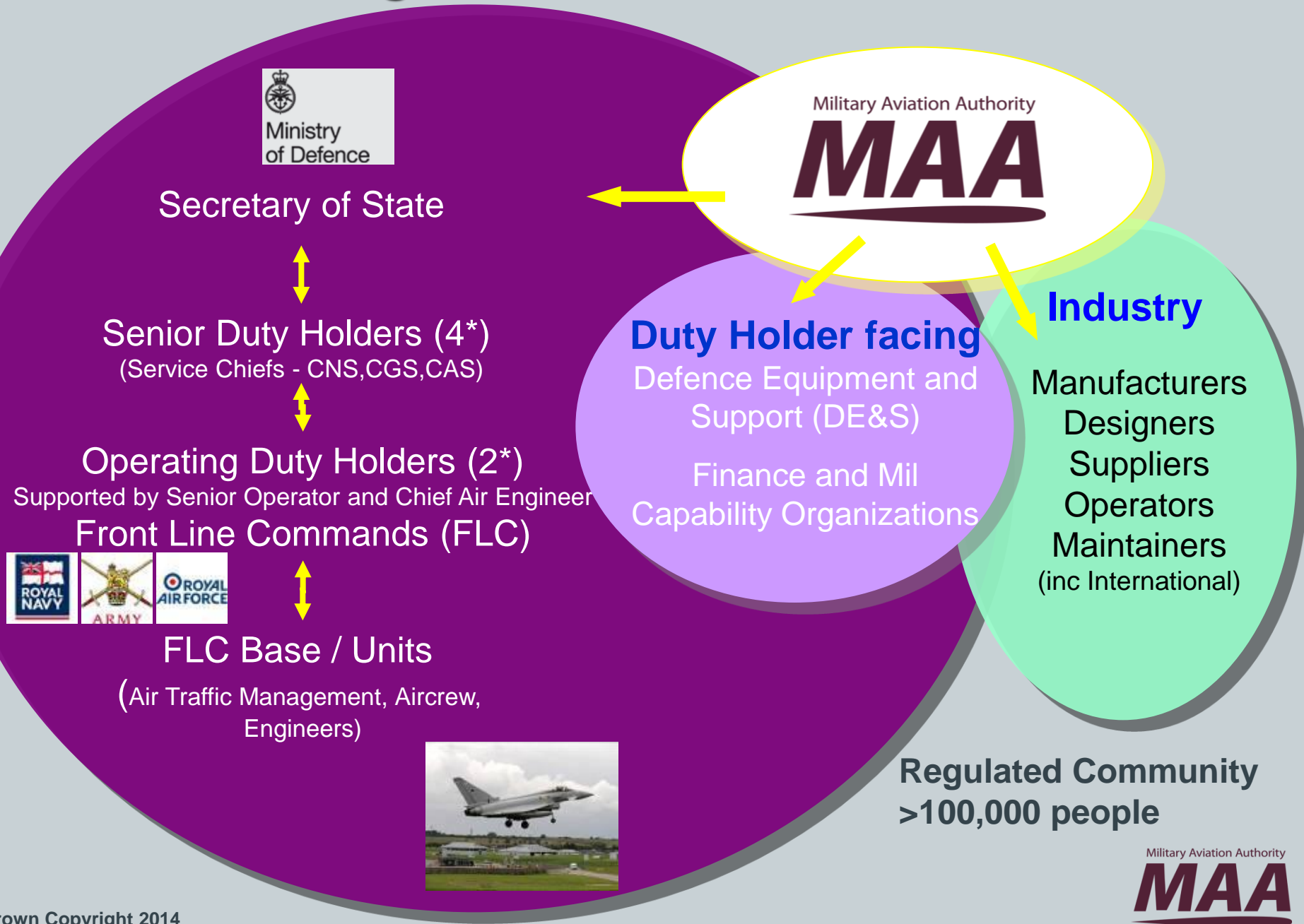
The Nimrod Review - UK Govt Response

- All 84 Nimrod Review recommendations were considered.
- Government Response (16 December 2009).
 - 80 accepted by Secretary of State for Defence.
 - 4 rejected:
 - Release To Service Authority (RTSA) function to undertaken by the MAA.
 - Renaming of 'DG Change' post.
 - Professional body for safety experts.
 - 'Safety Cases' to be renamed as 'Risk Cases'.
 - 18 recommendations accepted in principle.
 - 62 recommendations accepted in full.
- MAA formed on 01 April 2010.

A New Air Safety Vector - Principle Elements

- **A new approach to Air Safety Governance.**
- **Clearly defined Duty Holders (DHs).**
- **A focus on Risk to Life (RtL).**
- **A new regime for Safety Cases (SCs) and Certification.**
- **Comprehensive air domain oversight.**
- **Independent air accident investigation.**
- **Greater use of European and International best practise through involvement in EDA, NATO and ASIC.**

MAA Oversight of UK Defence Air Environment



MAA Regulated Community

■ Regulated Community:

- The MAA Regulatory Publications (MRP) regulates the activities of over 390 organizations, with a regulated community of in excess of 100,000 people (including global Industry).

■ Approvals:

- 91 Design Approved Organization Scheme (DAOS).
- 35 Maintenance Approved Organization Scheme (MAOS).
- 20 Continuing Airworthiness Management Organizations (CAMO).
- 20 Contractor Flying Organization Approvals.

■ 19 Service Inquiries convened (15 completed).

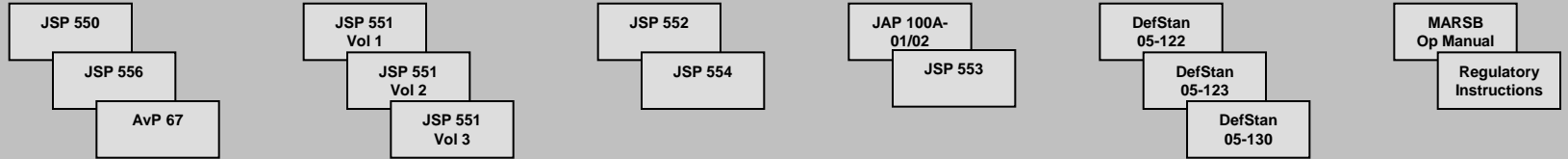
■ Air Safety Information Management System (ASIMS):

- Over 11800 reports (in 2013) from over 11000 users, operating from 900 units at 200 locations.

■ The MAA website attracts, on average, over 10,000 unique visitors per month (including from 94 countries during April 2014).

Revised Regulatory Framework

INPUT MATERIAL



POLICY

MAA01: MAA REGULATORY POLICY

MAA02: MAA MASTER GLOSSARY

MAA03: MAA REGULATORY PROCESSES

REGULATORY ARTICLES

1000 Series: GENERAL REGULATIONS (GEN1000)

**2000 Series:
FLYING
(FLY2000)**

**3000 Series:
AIR TRAFFIC
MANAGEMENT
(ATM3000)**

**4000 Series:
CONTINUING
AIRWORTHINESS
ENGINEERING
(CAE4000)**

**5000 Series:
DESIGN AND
MODIFICATION
ENGINEERING
(DME5000)**

MANUALS

Manual of
Air Safety

Manual of
Post Crash
Management

Manual of
Flying Orders
for Contractors

Manual of
Military Air Traffic
Management

Manual of
Aerodrome
Design and
Safeguarding

Manual of
Maintenance and
Airworthiness
Processes

Manual of Maintenance
and Airworthiness
Processes – MOD Form
700 Series of Forms

Military Air System Certification Process

■ Why?

- Inadequately designed and certified modifications were at the root of the Nimrod XV230 accident.

■ What?

- Certification assures that system is designed and built to a defined and recognised standard by a competent organisation:
 - Assures that lessons from history are applied to new systems.
 - Provides independent assurance to the RTSA that the air system is fit for the intended purpose.

■ How?

- Military Air System Certification Process (MACP) based on civil EASA process.
- Modified to account for military delta - usage and modification standard.

MAA Certification Activity 2012-2015

Air Systems certified to date:

- 3 x Large Fixed Wing.
- 3 x Rotary Wing.
- 2 x RPAS.

Major Changes to existing Air Systems certified to date:

- Chinook Mk4 (RAF - Avionic upgrade).
- Merlin Mk2 (RN - Avionics upgrade).
- Typhoon FGR1 (RAF - Weapons capability upgrade).
- Rotary Wing Safety Enhancements.

Planned MAA Air System Certification Activity:

- 2 x Large Fixed Wing.
- 3 x Fixed Wing.
- 2 x Rotary Wing.
- 1 x RPAS.

International Activity

Europe

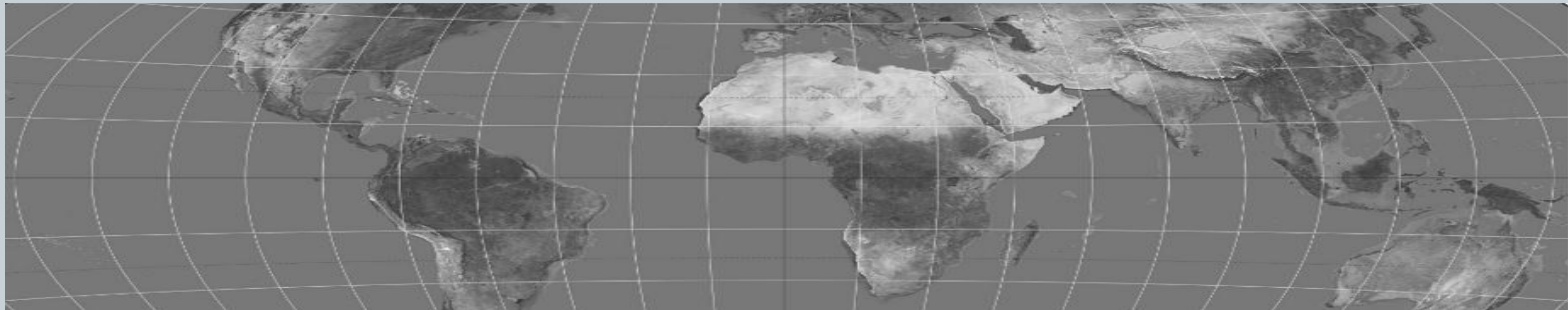
- UK MAA engaged with EDA Military Airworthiness Authority's (MAWA) Forum:
 - Harmonising towards European Military Airworthiness Requirements (EMARs).
 - Recognition Process (EMAD-R)
- MRP includes Part 145 and Part M. Part 21, 66 and 147 to follow.
- Mutual Recognition between UK MAA and French DSAÉ achieved (to support A400M).
- Recognition of Spanish DGAM achieved (to support A400M).
- Recognition of Germany, Italy & Spain (Certification) expected in 2015 (to support Typhoon).

USA

- The '5-Eyes' Air and Space Interoperability Council (ASIC) Airworthiness Group has now adopted some of the processes (e.g. Mutual Recognition) developed by the EDA MAWA.
- Successful UK MAA & US Army Regulator Recognition, with US Navy & USAF Regulators Recognition imminent.

Regulatory Reflections - One

- *“You cannot be world class unless you know what the world is up to.”*
 - European Defence Agency (EDA) Military Airworthiness Authorities (MAWA) Forum.
 - ‘5-Eyes’ Air and Space Interoperability Council.
 - NATO Airworthiness Policy engagement.
 - Surveillance of ICAO, EASA and other agencies.



Regulatory Reflections - Two

- *“Regulatory (safety) decisions must be evidence based and proportionate to the Risk to Life.”*
 - Leave egos at the door.
 - See through emotion.
 - Be pragmatic, but do not let ease of compliance or cost of compliance drive the argument.



Regulatory Reflections - Three

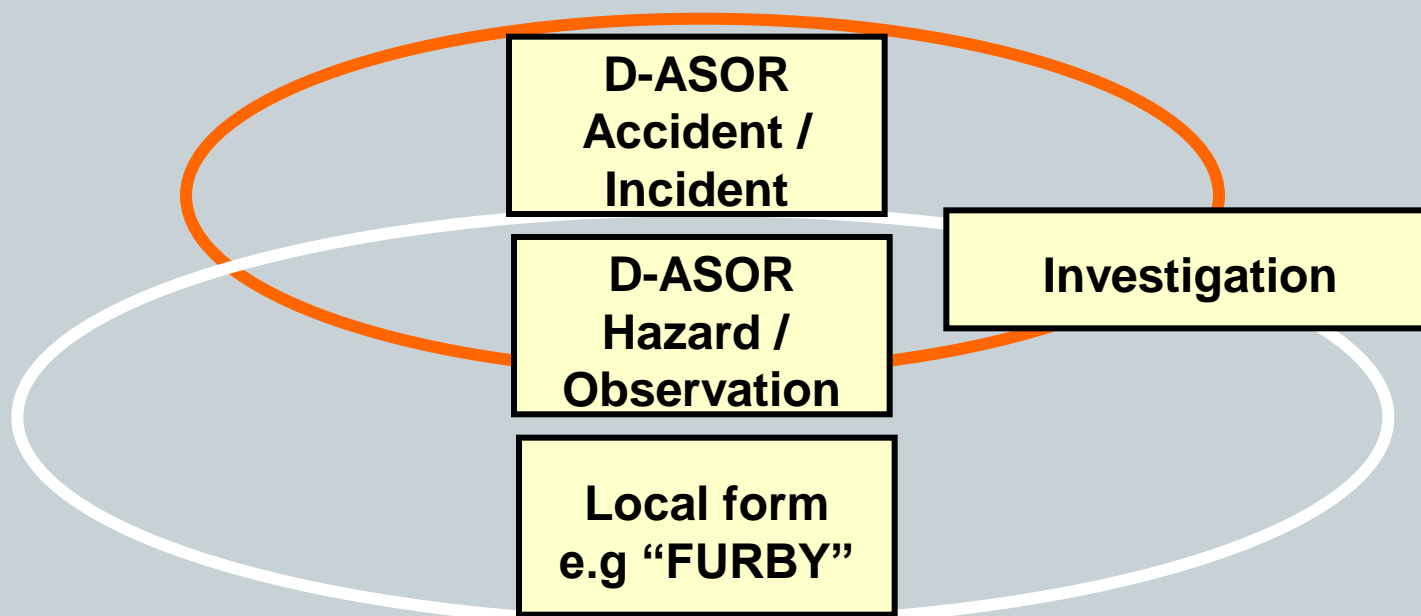
- *“Learn from near misses.”*

Traditional Reporting

DAEMS Project



----- Waterline



Regulatory Reflections - Four

- *“Scarcity is a challenge and cannot be overcome without a plan.”*
 - Scarcity of SQEP.
 - Scarcity of time and capacity, especially in high momentum projects and high momentum operations.
 - To deliver safe projects, you need the capacity to deliver safe projects.



Regulatory Reflections - Five

- *“Do not be seduced by the process of managing risk.”*
 - The system allows for ‘needed’ operational flexibility (but the person arguing that flexibility is needed was often the same person who benefited from such operational flexibility, e.g. ODH).
 - There is an impression that it is sometimes easier to risk manage rather than engineer a solution.
 - Risk identification may expedite the introduction of a new capability.
 - To properly manage risk requires that a risk control plan is actually executed to time.
 - Measuring risk is NOT actually managing risk.
 - Desensitization to risk occurs over time, provided no events occur.

Regulatory Reflections - Six

- *“Regulators (Safety Organizations) do not play to win, they play not to lose.”*
 - Learn from mistakes.
 - Be vigilant with detail.



Regulatory Reflections - Seven

- *“Put those organizations that have Risk to Life exposure at the centre of managing that risk.”*
 - Make individuals accountable and responsible.
 - Ask for expositions, comment on them and approve them.
 - Institutionalise safety improvement.
 - Educate, educate, educate.



Look Ahead

- **Priority 1 - Strategic Air Safety Risks.**
 - **Mid-Air Collision:**
 - Collision Warning System only one part of the solution.
 - **Suitably Qualified and Experienced Persons (SQEP) Shortfall:**
 - Engineering SQEP is well documented (also a known issue for UK industry).
 - Shortfalls in operating SQEP have also been identified.
 - **Afghanistan Re-deployment & Return To Contingency.**

Look Ahead

- **Priority 2 - Defence Safety Authority.**
 - Initial Operating Capability - 01 April 2015.
- **Priority 3 - Certification.**
- **Priority 4 - Engagement Strategy Development.**
- **Plus Regulation:**
 - Incorporation of EMAR Parts 21, 66 and 147 into MRP.
 - Working with DE&S and other NETMA nations on Typhoon support change through use of Part 21 Privileges and Mutual Recognition.
 - Working with other nations on A400M Atlas organisational approvals.



Questions?

THE NIMROD REVIEW



Wider Future

- Continued Development of 'Air Safety Culture'.
- Assurance:
 - 'Beyond Compliance'.
- Increased Engagement:
 - Across Defence Aviation Environment plus other National and International organisations.
- Certification and RTS of new Air Systems:
 - RC-135W Airseeker.
 - A400M Atlas.
 - F-35 Lightning II.
- Formation of UK Defence Safety Authority:
 - Initial Operating Capability is 01 April 2015.
 - Full Operating Capability is April 2016.
- Regulations:
 - Harmonisation towards EMAR.
 - RPAS Regulation Development / Improvement.
- Mutual Recognition.