

UK MOD IM IMPLEMENTATION STRATEGY (IMIS)

A Progress Report

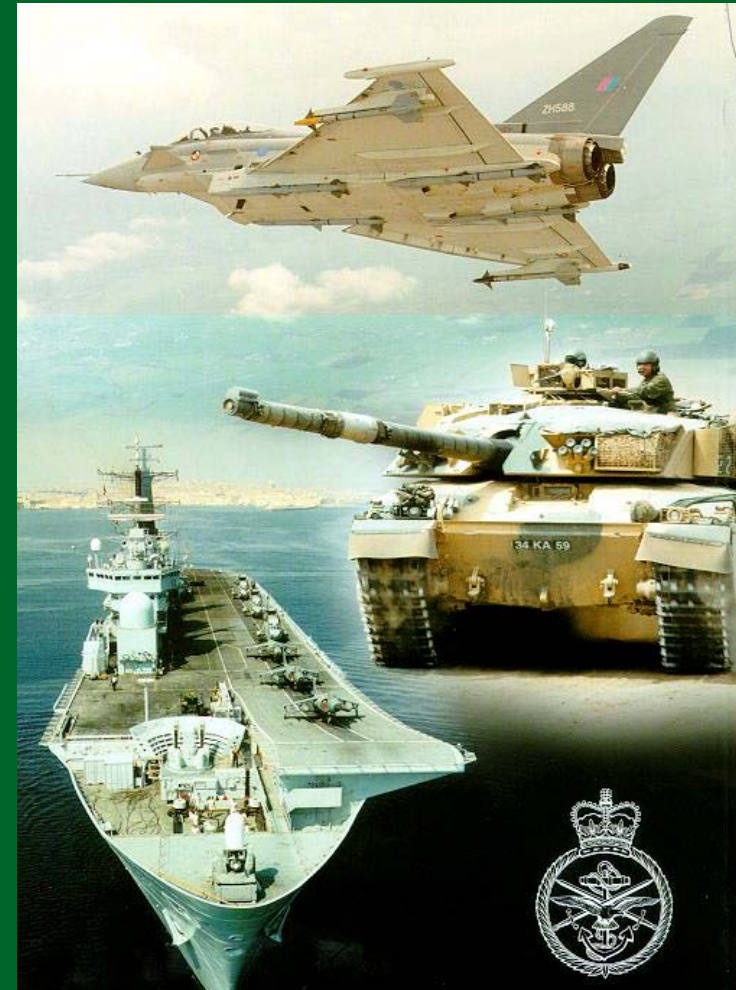
*Presented on behalf of UK
MOD's Joint IM Strategy Group*

by

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UK MOD IM POLICY - HISTORICAL OVERVIEW

- ◆ **IM Policy first promulgated in 1990**
 - ◆ “Introduce IM where possible”
- ◆ **STANAG 4439 UK ratification - 1995**
- ◆ **IM Policy reissued 1996**
 - ◆ Mandates compliance with STANAG 4439
- ◆ **IM Policy strengthened in 2001**
- ◆ **Endorsed in 2001 by key stakeholder groups:**
 - ◆ Joint Capabilities Board
 - ◆ Defence Ordnance Safety Board
 - ◆ Defence Procurement Agency Executive Board
 - ◆ Defence Logistics Organisation Management Board

UK MOD IM POLICY

The vulnerability of munitions in the MOD inventory will be reduced over time to meet the requirements of STANAG 4439.

All new munition requirements are to stipulate compliance with the criteria for IM set out in STANAG 4439. Formal dispensation at 2-star level is required for any non-compliance either in the requirement definition or the procurement solution.

All legacy munitions are to be kept under review to identify opportunities to achieve IM compliance. Formal dispensation at 2-star level is required for any non-compliance either in the requirement definition or the procurement solution.

IM 2-STAR WAIVER

- ◆ **Purpose of waiver:**
 - ◆ Record IM non-compliances
 - ◆ Identify risks posed
 - ◆ Describe mitigating procedures to reduce risks to ALARP
- ◆ **Each waiver is subject to scrutiny and comment by D
DOSG**
- ◆ **Each waiver has an expiry date**
- ◆ **All waivers are reviewed annually and reported to
DOSB**
- ◆ **Waivers ensure:**
 - ◆ Plans are in place to overcome IM non-compliances
 - ◆ Implications of IM non-compliances are fully understood
 - ◆ The associated risks are reduced to an acceptable level

IM IMPLEMENTATION STRATEGY (IMIS)

- ◆ **IMIS developed in 2002**
- ◆ **Endorsed by IM Policy stakeholders**
- ◆ **IM Implementation involves:**
 - ◆ **Capability Staff**
 - ◆ **Equipment and Munition IPTs**
 - ◆ **Defence Ordnance Safety Group (DOSG)**
 - ◆ **Front Line Commands**
 - ◆ **Munition Management Agencies**
 - ◆ **R&D Establishments**
 - ◆ **Defence Industry**
- ◆ **All represented on Joint IM Strategy Group - JIMSG**
 - ◆ **MOD's top level IM focus, responsible for development of IMIS**

JIMSG SUB-GROUPS

- ◆ **IM Assessment Panel (IMAP)**
 - ◆ Reviews test plans prior to full-scale testing
 - ◆ Assesses IM signature using all available evidence
 - ◆ Reviews technical aspects of all IM waiver submissions
 - ◆ Chaired by DOSG
 - ◆ Includes IM specialists as Permanent Members
- ◆ **IMIS Sub Group**
 - ◆ Task: to develop IM Insertion Plan (IMIP)
 - ◆ Identifies technology gaps and research requirements
 - ◆ Chaired by DOSG
 - ◆ Includes representatives of all JIMSG organisations except Industry

IM INSERTION PLAN (IMIP)

- ◆ **Plan is the key output of the IM Implementation Strategy**
- ◆ **Plan has developed over 2 years so far**
- ◆ **For each munition, the plan identifies:**
 - ◆ **IM Signature**
 - ◆ **Opportunities for IM insertion**
 - ◆ **Technology implications of achieving IM compliance**
 - ◆ **Outline costs of IM insertion**
 - ◆ **Plans of munition IPT for achieving IM compliance and progress achieved**
- ◆ **Munitions are grouped according to category for IM insertion (Cats 1 - 5)**

IMIP CATEGORIES

Cat 1

Non-compliant munitions, strong candidates for IM insertion, near-term insertion opportunities, solutions available now

Cat 2

Non-compliant munitions, strong candidates for IM insertion, no near-term insertion opportunity, technology not available

Cat 3

Munitions which would be candidates for IM insertion if solution became available or which have no opportunity for insertion

Cat 4

Unlikely candidates for IM insertion, eg OSD in less than 5 yrs, no insertion opportunity, IM replacement in procurement or sufficiently close to IM compliant

Cat 5 IM compliant

IM INSERTION PLAN - EXAMPLE ENTRY

Munition/ IPT	IM Signature	Energetics/ Design	IPT Comments	JIMSG Comments	Technology Implications	Funding Implications	OSD
<p>Sky Rocket AAM (ALM IPT)</p>	<p>AUR: FH: IV SH: II BI: III FI: I SR: I</p> <p>Warhead: FH - IV SH - II BI - III FI - II SR - I</p> <p>Motor: FH - IV SH - II BI - IV FI - I SR- No Prop</p>	<p>Warhead: 5.4 kg Comp B92</p> <p>Motor: 31.5 kg SRZ6 composite propellant in monolithic steel case</p>	<p>This is a UK developed and produced missile for which there is a planned mid life update in 2009 when the motor becomes lifex. The opportunity will be taken to introduce a new, IM-compliant motor. A TDP to demonstrate the required technology is due to complete in 2005. The design authority has been asked to provide costed proposals for an IM-compliant warhead as part of the mid life update programme.</p>	<p>The Mid Life Update provides an excellent opportunity to introduce IM technology. DOSG has funded a TDP to develop an HTPE-filled composite case motor and test results so far indicate that it should provide full IM compliance.</p>	<p>For the motor, existing technology is unable to provide full IM compliance. The suitability of HTPE and composite case technology is being explored.</p> <p>For the warhead, filling with a PBX such as Rowanex 1234 in place of the TNT-based Comp B92 should achieve IM compliance without any loss in performance.</p>	<p>Motor TDP Programme (Funded): £4.6M</p> <p>Design Authority estimate of likely additional costs:</p> <p>Motor development and Qualification: £8.4M</p> <p>Warhead development and Qualification: £5.3M</p>	<p>2021</p>

IM INSERTION PLAN - STATUS

- ◆ **Plan currently addresses 200 plus munitions**
- ◆ **Includes all UK's HD 1.1 munitions**
- ◆ **04/05 objectives:**
 - ◆ **Include all pyrotechnic stores (300+)**
 - ◆ **HD 1.2 and 1.3 stores identified as priority by User Commands**
- ◆ **Overall objective:**
 - ◆ **Include 95% of UK inventory by end FY 05/06**

IM INSERTION PLAN REPORTING

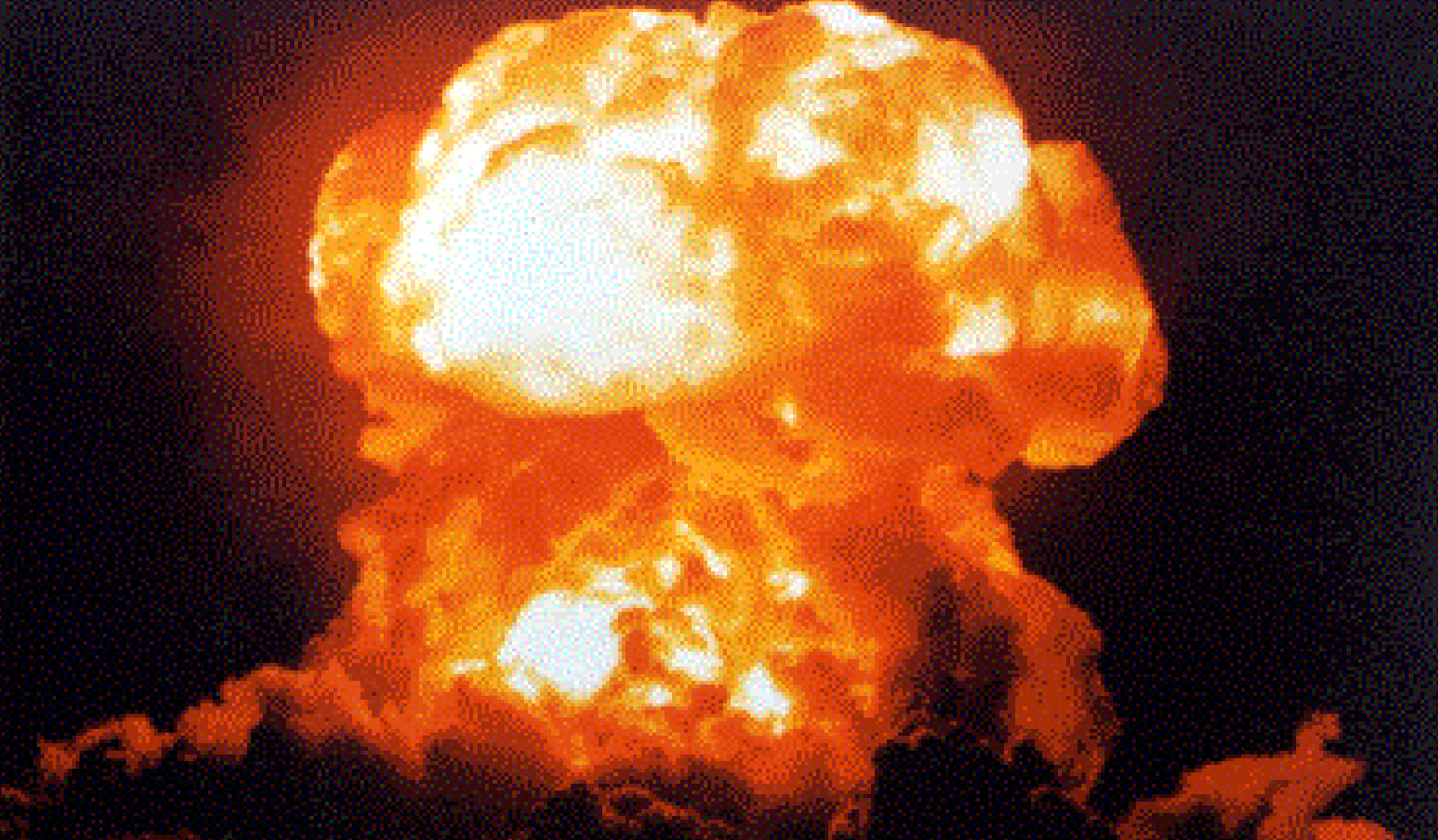
- ◆ **Plan is a living document**
- ◆ **Entries are reviewed and updated**
- ◆ **Plan is reported formally each year to top level stakeholder groups**
- ◆ **Principal use of plan: to inform the UK equipment programme**
- ◆ **Plan provides overview for safety assurance purposes**
- ◆ **Plan provides audit trail of IM intentions and achievements across the inventory**

IM DATABASE

- ◆ **IM Database underpins IM Implementation Strategy**
- ◆ **Developed over past 4 years**
- ◆ **Covers all 200+ munitions in IM Insertion Plan**
- ◆ **Includes munition design information and full IM test and assessment details**
- ◆ **Detailed brief on database follows**

CONCLUSION

- ◆ **UK MOD IM Policy - refined and endorsed**
- ◆ **Emphasis is now on implementing the policy**
- ◆ **IM Insertion Plan is key to the Implementation Strategy**
- ◆ **Progress now being made to improve IM characteristics of existing inventory**



Questions ?

IM INSERTION PLAN - SUMMARY

(As at Nov 04, excluding Pyrotechnics)

Category	Number of Munitions/ Natures	Solutions in progress	Studies in progress
1	12	8	2
2	16	4	2
3	28	4	4
Sub Total	56	16	8
4	65		
5	2		
Sub Total	67		
Total	123	16	8