

UK IM Policy

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Scope

- **Background**
- **Current Policy**
- **Progress**
- **Priorities**
- **Policy Review**
- **Policy Changes**



UK Policy Development History

- **1989 - Ordnance Board (OB) IM WG established**
- **1990 - OB IM Pillar Proc 42657 issued**
- **1991 - OB Proc 42657 compliance stipulated**
- **1995 - STANAG 4439 ratified by UK**
- **1996 - UK IM Policy proposed**
 - STANAG 4439 compliance
 - 2-star waiver for non-compliance
- **2001 - Policy endorsed by DOSB and JCB**
- **2005 - Policy issued in JSP 520 (OME SMS)**
- **2012 - Policy Review**



Current UK 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 IM criteria in STANAG 4439.
 - *Formal dispensation at 2-star level required for non-compliance*
- All legacy munitions are to be kept under review to identify opportunities to achieve IM compliance.
 - *Formal dispensation at 2-star level required for non-compliance*



IM Signature

Response \ Stimulus		Fast Heating	Slow Heating	Bullet Impact	Fragment Impact	Sympathetic Reaction	Shaped Charge Jet Impact
None	-	✓	✓	✓	✓	✓	✓
Burning	V	✓	✓	✓	✓	✓	✓
Deflagration	IV	X	X	X	X	✓	✓
Explosion	III	X	X	X	X	✓	✓
Partial Detonation	II	X	X	X	X	X	X
Detonation	I	X	X	X	X	X	X

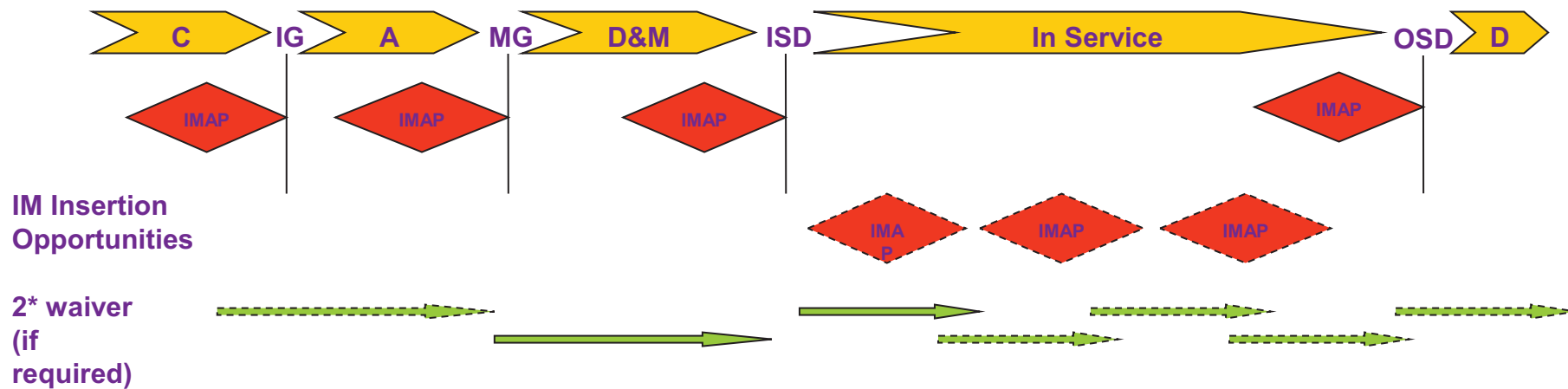
'A' = Assessment

'T' = Test



IM Signature and 2* Waivers

- PT develops solution – presents case to IMAP
- IMAP conducts assessment and allocates IM signature:
 - If IM-compliant - no waiver.
 - If IM non-compliant - waiver.



IM – Technical Inventory Improvements

Storm Shadow



G-MLRS



Paveway IV



IM 105 mm XL53



IM 81mm XL59



Stingray Mod 1



IM Success – Reduced Consequence of Accident

Harrier Accident Kandahar May 09

Paveway IV and CRV7



WEAPONS STATIONS:

Stn	1	2	1a	3	4	5	7a	6	7
Actual Store	PWIV	5003S	BOL	TANK	+/- DJRP	TANK	BOL	5003S	PWIV
Store Code	130	047	052	092	082	092	052	047	130
Fuse	09/08	00/19	00/00	00/00	00/00	00/00	00/00	00/19	09/08
Config	1	1	0	0	0	0	0	1	1



IM Success – Reduced Consequence of Accident

Harrier Accident Kandahar May 09



UK IM Priorities

■ Review 2009 and 2011

- Sponsor Involvement
- Subject to funding/technical feasibility/insertion opportunity
- Current/Contingency Ops focused

■ Broad Priority Areas

- Air to Ground GW
- Land HE Projectiles and Charges (Tank, Artillery and Mortars)
- Ship-borne and Submarine munitions
 - Torpedoes
 - Depth Charge
- Vehicle Launched Anti-Tank Mines/Mine Clearance Systems



UK IM Policy Review

■ Commissioned 2011/Completed 2012

- First formal review since policy adopted 2001
- Assess effectiveness in improving OME safety
- Progress towards IM Goals
- Alignment with wider OME Safety Management System (JSP 520)

■ Areas of Investigation

- Progress and VFM of current policy
- Assessment of NATO Standards
- Review of IM role in Carrier/Strike Operations
- Relationship to wider SMS
- CBA
- Other Nations' approaches



UK IM Policy Review

■ Key Findings

- Policy generally sound
- Significant progress in certain areas/weapons
- Small percentage of Inventory IM 'compliant'
- Scope for improving process
- 2* waiver system not driving 'good behaviours'



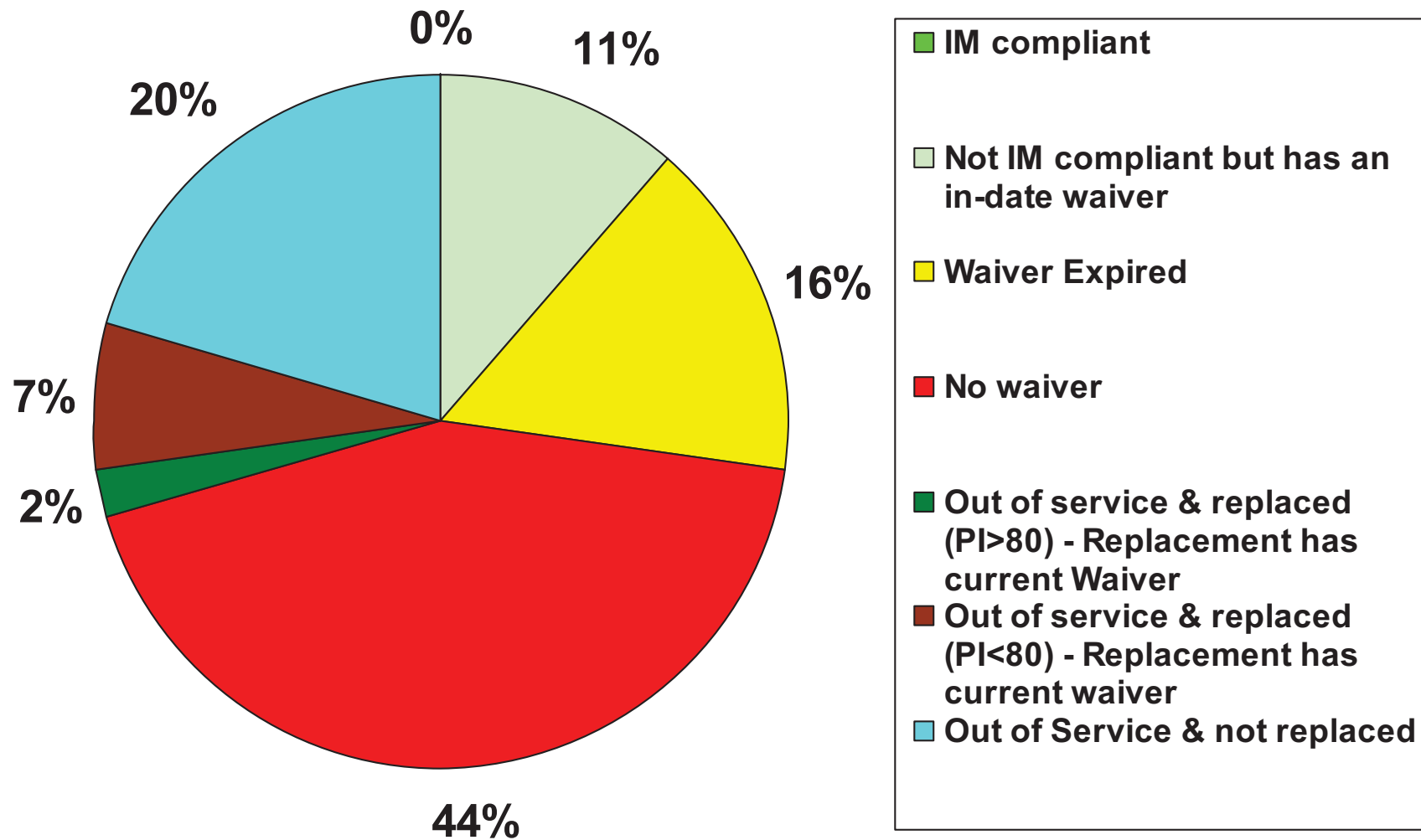
UK IM Database PI Scoring

	FH	SH	BI	FI	SR
NR	10	10	10	10	10
V	10	10	10	10	10
IV	8	8	8	8	10
III	5	5	5	5	10
II	2	2	2	2	2
I	0	0	0	0	0

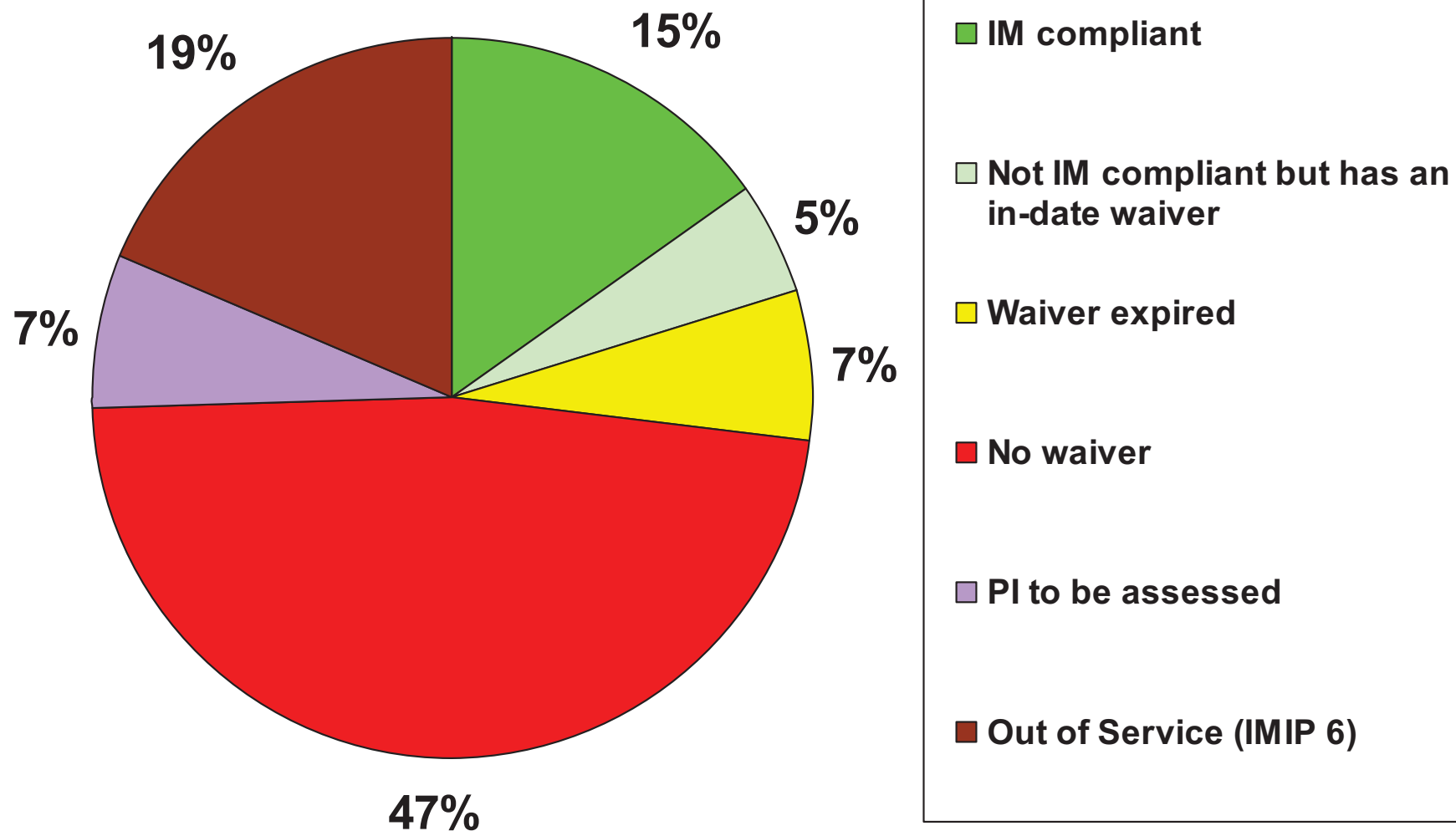
Score doubled to give percentage
> 80% = 'Compliant'



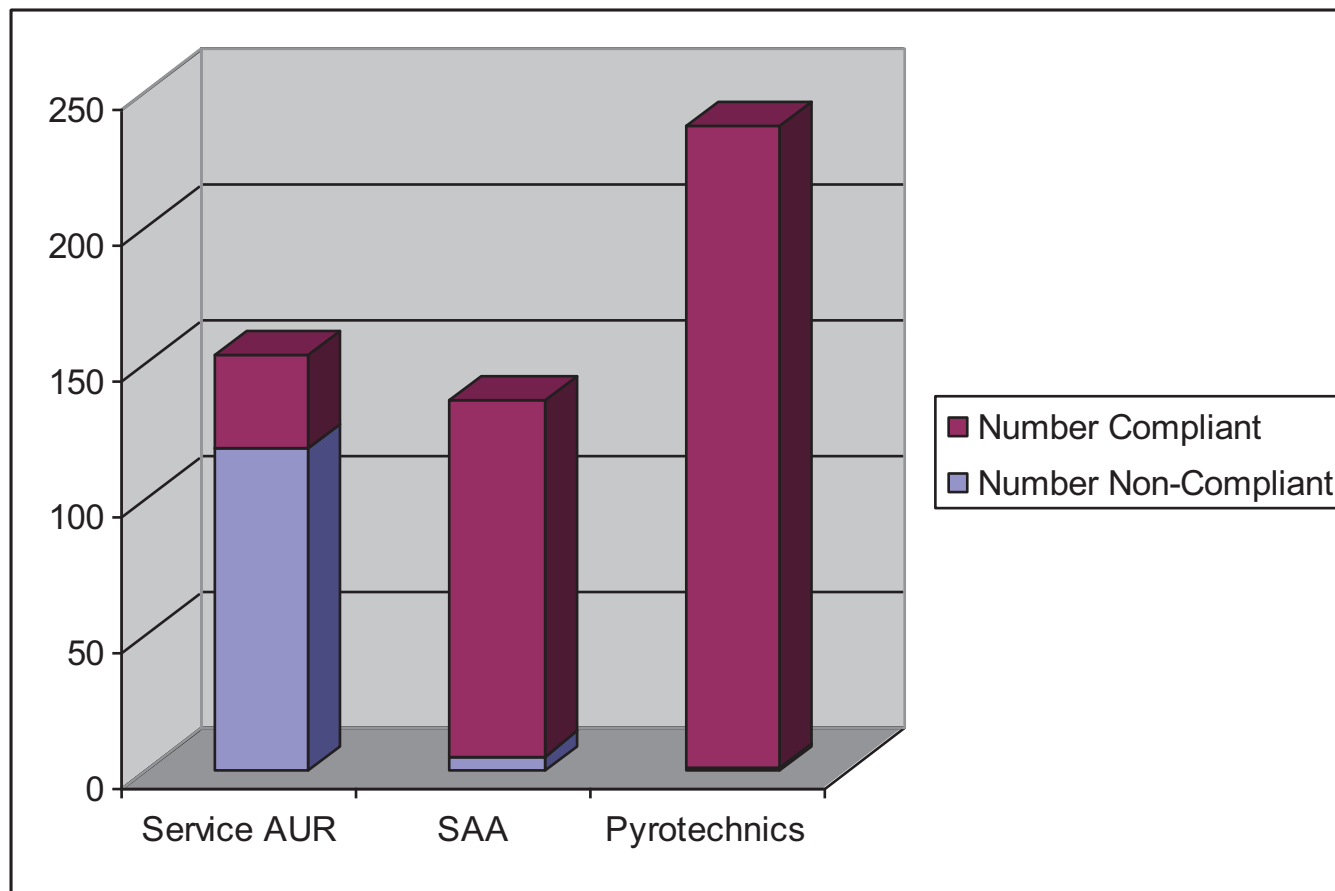
2002 – IM Progress (44 OME)



2012 - IM Progress (312 OME AUR)



UK OME Inventory – IM Compliance



Source: DOSG IM Database



UK IM Policy Review

■ Key Recommendations

- Headline policy statement should remain
- Treat IM as part of S³ process – relate to MTDS/Lifecycle
- Replace waiver process with THA and risk referral process
- Wider use of CBA with data from present and recent conflicts

■ Way Forward

- Headline policy statement unchanged
- Remove Waiver Process
- Robust process for setting/reviewing/trading IM requirements
- Improved THA and CBA processes
- Fully integrated with OME Safety Management System
- Revision of Policy Documents (JSP 520)



IM Challenges

■ Compliance Challenges:

- Full STANAG compliance challenging target
- Consistency/Representative Testing

■ IM Technology Challenges:

- Anti-armour warheads
- Rocket Motors (especially high performance and minimum smoke)
- Gun launched projectiles (performance vs IM properties)
- Alternative risks/reliability of IM mitigation:
 - Passive Initiation Devices
 - Confinement Relief



Summary

- IM should not be considered in isolation:
- Vulnerability *has* been reduced over time – more to do
- Technical cost and policy challenges
- Revised approach to IM implementation:
 - Retaining headline policy
 - Considering IM in context of OME lifecycle
 - Throughout MTDS and integrated in Safety Case
 - Use of THA and CBA
 - Embedding IM within OME Safety and Engineering Assurance
 - Expanded IMAP role
 - Formal risk referral process



Questions?....



Ministry of Defence

Defence Equipment & Support