Fuzing for UK Precision Guided Bomb
UK PGB – ASR 1248

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UK PGB program still in competition

Down selection process has resulted in 2 final competitors

- MBDA/Boeing bidding with UK-JDAM variant
- Raytheon Systems UK bidding with Paveway IV

Both Primes have selected MEHTF as the fuze for their proposals

Award announcement anticipated in May 03, contract 3Q03

- Program Background -
- UK Fuzing Philosophy -
- UK Fuzing Options -
- Technical and Development Status -

Jointly prepared presentation by ATK and TME
The RAF Staff Target (ST(A) 1248) was initiated in the early 90s
- The program is now known as UK Precision Guided Bomb
  - UK PGB

The program was initially conceived as a tail modification kit for the UK in-service, 2” pocket, bomb stock
- In parallel, UK MoD sponsored UK-US PSFT program giving support to MEHTF
- MEHTF is being developed for AFRL by ATK with TME support

In 2000 UK MoD/Dstl studies established that the US Mk82 was better suited to UK requirements than the UK 540lb warhead
- Dstl undertook a fuze study that concluded that MEHTF was the best solution but that JPF was an acceptable alternative
Up to the mid-80s the UK fuzing stock consisted of a large variety of release mode specific fuzes and pistols.

The Falklands War highlighted some performance problems and the logistic burden associated with this variety of fuzes.

As a result, the UK established a requirement for a single fuze capable of fuzing all UK freefall and LGB weapons in all release modes.

TME won the subsequent competition with MFBF.

- This fuze has been used very successfully by the UK since the early 90s (Desert Storm, Kosovo, ...).
UK policy is to have a variety of weapons for all war scenarios/targets

- But number of individual weapons is small
- To avoid a logistic burden and achieve economies of scale, a single all-purpose fuze solution is preferred
  - Approach proved successful with MFBF
  - MoD accepts that this may result in a fuze overmatched to some requirements, including PGB

MoD has invested in advanced/intelligent bomb fuzing research in conjunction with TME for over 10 years

Recently, MoD fuze investment has been channelled into MEHTF through PSFT plus some other technology risk reduction exercises
UK MoD Warhead and Fuzing Options

Legacy Weapon 2002-2012+

- MFBF 960
- UK 1000lb Paveway II
- UK 540lb

New Programs

- Paveway III
- PGB (Mk82)
- SPEAR
- NEW WEAPONS JSF/SDB

NEW WEAPONS

JSF/SDB
SPEAR
PGB (Mk82)
NEW WEAPONS JSF/SDB

NEXT GENERATION FUZE
By 2001 the UK fuzing philosophy resulted in 3 basic options:

- MFBF adaptation
- JPF (FMU-152)
- MEHTF (2” fuze in 3” ‘can’)

However, UK procurement policy remains to procure Systems and not components

- Thus fuze selection has been left to the Primes

Both MBDA and Raytheon have selected MEHTF for their PGB proposals
Prior to MEHTF and PSFT, both ATK and TME funded hard target research work

TME & ATK have successfully worked on MEHTF and PSFT for the last five years

TME will be Prime for UK PGB with ATK as major sub-contractor

- These roles will reverse for a US program

PGB will fund the final development and qualification of the MEHTF/PSFT fuze

UK development investment in MEHTF has been circa $20M

- PSFT and PGB

Production:

- Initially approximately 2,000 weapons
MEHTF – UK PGB Timelines

- **US MEHTF**
- **UK/US Govt MOU**
- **UK PSFT**
- **UK Research**
- **Pathfinder 97**
- **Pathfinder**

- 1994
- **Trials & Intgn**
- **Development**
- **Dev’t Fuzes**
- **Qualification Fuzes**
- **Production deliveries start**
- **Production Hardware**
- **PGB ISD**
- **UK ABF (PGB, Pwy III (UK), SPEAR)**
- **MEHTF: candidate for several programs**

- **PGB Prime selection**
- **In-house pre-Contract PV (IR&D) tasks**
MEHTF Technical and Development Status
MEHTF Development Status

From Paper Concepts

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MEHTF Development Status

From Paper Concepts
To Test hardware
From Paper Concepts
To Test hardware
To Functional Prototypes

MEHTF Development Status

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<tr>
<td>MEHTF (Eglin (AFRL)/ATK/TME)</td>
<td>Phase 1 (Concept)</td>
<td>Phase 2 (Research)</td>
<td>Pathfinder '94</td>
<td>Pathfinder '97 etc. Long Term Research</td>
<td>&quot;PSFT&quot; I and II</td>
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Pathfinders, (DERA/TME)

PGB Devt.
Qualification
Production
MEHTF Development Status

From Paper Concepts
To Test hardware
To Functional Prototypes
To Development Hardware
MEHTF Development Status

From Paper Concepts
To Test hardware
To Functional Prototypes
To Development Hardware
To PSFT Development Hardware
Assembled Fuze Boards
Under both US and UK government funding, and with our own IRAD and PV support, ATK and TME have brought the MEHTF fuze to a level of maturity suitable for selection in a major UK weapon procurement program.

MEHTF fits with the UK philosophy of utilising a single fuze with the capability and the growth potential to support many future weapons.

MEHTF will be the UK’s next generation fuze and has strong potential to spiral back into the US.