Improved Flash Bang Grenade (IFBG)

Joint Armaments Conference, Exhibition & Firing Demonstration

National Defense Industrial Association
Seattle, WA 15 May 2012

Technical Lead: Ken Tiedge, PhD
Email: Kenneth.Tiedge@navy.mil
Voice: 540-653-2732 (DSN 249-2732)
Introduction

- IFBG is a Joint Non-Lethal Weapons Program sponsored program for developing an improved non-lethal incapacitating grenade:
  - Increases non-lethal incapacitation
  - Government-owned Technical Data Package (TDP)
  - Joint Service buy-in (SOCOM-lead, USMC, USAF)
  - Perchlorate-free payload and initiator (excepting fuze)
- On track for a 4th qtr FY13 Milestone (MS) C

Performers:
NSWC Crane, NSWC Dahlgren, NSWC Indian Head, AFRL (Human Effects Center Of Excellence (HECOE))
What is a Flash Bang?

Hand deployed counter-personnel tool to move/deny/suppress individuals in non-lethal force operations.

• Intended to Distract / Disorient
• Causes temporary threshold hearing shift (like a loud gunshot)
• Causes temporary visual obscuration (like looking into the sun)
Previous Flash Bang Grenade Increments

Mk-141, Increment I (not in service)
- In service 1987 - 2004
- Fragmenting (not hand safe)
- Safety issues
- Contains perchlorates, chromates, lead

BTV-1, Increment II (Currently in service)
- In service 2005 - 2011+
- Hand safe
- Contains perchlorates & chromates
A safer, more effective, hand employed flash-bang grenade with
- Greater light output and duration of flash-incapacitation (10 seconds)
- Environmental and health concerns reduced by removal of perchlorates
  - Perchlorates can have a negative impact on the environment and the Warfighters that train with & use flash-bang grenades
- Decrease in smoke output from previous increments*
- Similar or better sound output to safely startle / confuse target subjects

* Reduced smoke output requirement is on based on User Assessment Feedback.
# Requirements

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<thead>
<tr>
<th>Requirement Description / Short Title</th>
<th>Threshold</th>
<th>Objective</th>
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| KPP Fuze Safety                      | • Dual Safe & Arm  
• Out-of-Line Fuze Train                                                   | • Prevent Inadvertent Activation of Grenade  
• Function in 1.5 (+ -) 0.5 seconds                                                       |
| KPP Hand-Safe (Non-Fragmenting Body)  | • Hand Safe  
• Blast effects directed away from operator’s hand                        | • Threshold = Objective                                                                       |
| KPP Induce Temporary Flash Incapacitation | • Induce temporary flash incapacitation for 5 seconds against low contrast target in dim room | • Induce temporary flash incapacitation for 10 seconds against low contrast target in dim room |
| KSA Remove Perchlorates from Payload | • Remove Perchlorates from Payload                                          | • T = O                                                                                       |
| KSA Sound/Pressure Output            | • 140-143 dBA                                                             | • T = O                                                                                       |
| KSA Reduce Smoke Output              | • Reduce beyond Increment II                                               | • T = O                                                                                       |
| KSA Dimensions                       | • ≤ 5.5 in length, ≤ 2.0 in diameter                                        | • ≤ 4.5 in length, ≤ 2.0 in diameter                                                          |
| KSA Water Immersion                  | • Must pass water immersion testing unpackaged for 2 hours at 3 feet        | • Must pass water immersion testing unpackaged for 1 hours at 66 feet                          |
| KSA Shelf Life                       | • Operable after 10 years                                                   | • Operable after 15 years                                                                     |
| KSA Insensitive Munitions (IM)       | • Will be compliant with the IM requirement as required by DoD 5000.1      | • T = O                                                                                       |

Distribution A: Approved for public release, distribution is unlimited
Design Approach

Performance Goals:
• Optimize Light / Sound – Improved non-lethal effects
• Igniter formulation - Reduced smoke
• Internal geometry - Optimized grenade efficiency
• Structural integrity - Hand-safe & non-fragmenting
• Material selection - Reduce cost and weight (lighten warfighter loads)
• Environmental sealing - Ensure performance in all environments
Manufacturable Grenade Design

- Reduce number and complexity of parts
- Ease of assembly
- Material selection
- COTs energetics
- Government qualified fuze
- Safety
- Price
**Overall POA&M (FY10 – FY13)**

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<thead>
<tr>
<th>Task, Milestone, or Deliverable</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
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<tbody>
<tr>
<td>FY10/11 Grenade Design and Testing</td>
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<td>FY11 Prototype Design Optimization</td>
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**Schedule highlights:**
- DT summer/fall 2012
- CDR Dec 2012
- MS C 4th qtr FY13
Future Contract Opportunities

• Government plans to release a build-to-print RFP 4QTR FY13 / 1QTR FY14
  • Anticipate 5 year firm fixed price IDIQ RFP to be released by NSWC Crane
  • First article and LAT will be performed in accordance with performance specification
• SOCOM acquisition IOC 20121 FOC 80488
  • USMC and USAF supporting and expected to adopt IFBG as their flash bang
Questions?