Small Diameter Bomb
Increment I
(SDB I)
Precision Strike Association
Annual Program Review
19 April 2006

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**Mission:**
All-weather, Autonomous, Precision Strike
Decrease Collateral Damage
Increased Loadout for Multiple Strikes Per Sortie at Standoff Ranges

**Description:**
IM Compliant 250 Lb Class Multipurpose Warhead
Diamond-back Wing Provides Increased Range
4-place Pneumatic Carriage System
Cockpit Selectable Electronic Fuze - Impact, Height Of Burst, & Delay

**Guidance:**
INS/GPS Augmented by Differential GPS
Anti-Jam GPS with SAASM

**Platforms:**
Threshold: F-15E
Objective: F-22A, F-35, F-16, F-117, A-10, B-1, B-2, B-52, MQ-9
SDB I Weapon System

Weapon

Carriage

Accuracy Support Infrastructure

RSU

DMS

Logistics

Mission Planning
SDB Accuracy Support Infrastructure

Download Corrections Prior to Launch

Air Operations Center

Link 16

AWACS

JSTARS

GPS

DMS

RSU

RSU

RSU

Acquires GPS
Apply DGPS Corrections
Increased Loadout / Standoff

4 Weapons per 1760 Station

Loadout Balanced vs Weapon Effects: 250 lb Class SDB I
SDB I Schedule

Prior Fiscal Years

<table>
<thead>
<tr>
<th>FY 05</th>
<th>FY 06</th>
<th>FY 07</th>
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<tbody>
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<td>03</td>
<td>A M J</td>
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- MS A (CAD) Contract Award
- MS B (SDD) Contractor I
- MS C (LRIP) Contractor II
- OTRR Seamless Verification
- SVR IOT&E
- L1 Awd ($18.8M)
- Lot 1
- Lot 2
- L2 Awd ($38.3M)
- L3/FR Awd
- CAD SDD Production

Full Rate Production

F-15E RAA

Small Diameter Bomb
# SDB I Schedule

<table>
<thead>
<tr>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
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<tr>
<td>IOT&amp;E</td>
<td>L1 Awd</td>
<td>L2 Awd</td>
<td>F-15E RAA</td>
<td>L3/FR Awd</td>
<td>L4 Awd</td>
<td>L5 Awd</td>
<td>L6 Awd</td>
<td>L7 Awd</td>
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<tr>
<td>Seamless Verification</td>
<td>Full Rate Production</td>
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<td>AMJ</td>
<td>JAS</td>
<td>OND JFM</td>
<td>AMJ</td>
<td>JAS</td>
<td>OND JFM</td>
<td>AMJ</td>
<td>JAS</td>
</tr>
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**Focused Lethality Munition**
- Tech Insertion
- Tech Maturation
- CDR
- LRIP
- ACTD
- COM
- MS C Prep
- Fielded Residuals

**SDB I UAI (Carriage/Weapon)**
- SDB I UAI (Carriage/Weapon)

**Carriage/Weapon OIFP (2 Yr Cycle)**
- SDB I UAI (Carriage/Weapon)

**Sustaining Engineering**
- SDB I UAI (Carriage/Weapon)

**Focused Lethality Munition**
- Detailed Design
- Development, Integration, & Testing
- IMV Tests
- Req Analysis/IMV Planning

**F-22A Integration Support**
- F-22A Integration Support

**Other Aircraft Integration**
- F-15E Ext. Envelope (SER 05-03)
- F-15E Suite 6 (Legacy Interface)
- F-16 Blk 30 SCU8 (Legacy Interface)
- F-16 Blk 40/50 M6.1+ (UAI Interface)
- F-35A Blk 3 (Legacy Interface)
- MQ-9B (Legacy Interface) TBD

**Pre-Contract Work**

**Integrity - Service - Excellence**
History...Why SDB I?

Commander’s Intent: You Will Deliver Small Diameter Bomb (SDB) to the Warfighter in FY06. Schedule Is Paramount

- Fewer Aircraft
- Fewer Crews
- ...More Effect from Less
- Diminishing Sources
- Changing Laws, Ops

- Tactics
- Laws of Armed Conflict
- “Combat” JAG

- Global News Coverage

- Increase Number of Kills Per Pass
- Enhance Weapon Stand-off Range
- Combat Effective in Adverse Weather
- Provide Weapon Penetration Capability
- Minimize Collateral Damage
- Provide Autonomous Target Attack
- Reduce Logistics Footprint
- Reduce Aircraft Generation Times
- Achieve Battlefield Effects Against
  - Fixed Covered,
  - Fixed Concealed,
  - Fixed Hardened

(JROC: Feb 2005)
SDB I Target Set

• C3 Sites
  – Communication Facility
  – Antenna, Park Drive SATCOM

• Air Defense Sites
  – Radar, Revetted, EW/GCI Site
  – Radar, Grill Pan

• POL Sites
  – POL Refinery
  – POL, Large Partially Underground Tanks

• Airfield Targets
  – Aircraft, Fighter – Revetted
  – Aircraft Shelter, Large Concrete Arch
  – Airfield Maintenance Complex w/ Machine Tool
SDB I Target Set (Con’t)

- **Infrastructure Targets**
  - Transformer Yard

- **Missile Sites**
  - SCUD Missile in Travel Mode, Stationary
  - BM-21 Rocket Launcher, 122mm, Stationary

- **Artillery Sites**
  - ARTY, 152mm Towed Field Gun/Howitzer

- **AAA Sites**
  - ZSU-23-4, Stationary
**One F-15E Loadout with SDB I Kills This Airfield...Single Sortie**
“Small” Can be Lethal

- MMTD Warhead
  - Small, Well-Placed, Well Designed Warheads Do Damage

- SDB I Size Warhead Test
SDB I Test Status

- Development Portion of Seamless Verification Complete
  - 35 for 37 Successful Flight Tests (CAD & SDD)
  - Insensitive Munitions Testing Completed
  - IM Certified by AF
  - Operational Testing Ongoing
# SDB I Executive Summary

<table>
<thead>
<tr>
<th>KPPs</th>
<th>Criteria</th>
<th>Status</th>
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<tbody>
<tr>
<td>Requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weapon Loadout</td>
<td>4 SDB Weapons per SDB I Carriage</td>
<td>✓</td>
</tr>
<tr>
<td>Net-Ready</td>
<td>100% of Top-Level IERs Designated Critical. NAV Data From GPS to SDB I</td>
<td>✓</td>
</tr>
</tbody>
</table>

## Thresholds

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Criteria</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range (40kft, 0.8m)</td>
<td>40nm</td>
<td>50nm</td>
</tr>
<tr>
<td>Weapon Effectiveness</td>
<td>17 Weapons for 14 Targets</td>
<td>15 for 14</td>
</tr>
<tr>
<td>F-15E Integration</td>
<td>4QFY06 RAA</td>
<td>✓</td>
</tr>
<tr>
<td>AUPP Cost of $64K (BY01$)</td>
<td>$(24,000 Weapons) + $(2,000 Carriage Systems)</td>
<td>&lt;$30K</td>
</tr>
<tr>
<td>($41K Objective)</td>
<td>24,000 Weapons</td>
<td></td>
</tr>
<tr>
<td>A/C Loadout</td>
<td>F-15E - 12 Weapons</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>F-22A - 8 Weapons</td>
<td></td>
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</tbody>
</table>
SDB I Meeting Commitments
On Track for RAA 4QFY06