

UNCLASSIFIED

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|--|----------------|------------------|-----------------------|--|------------------------|------------------|------------------|------------------|---------------------|------------------|------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | | | | | | | |
| COST (\$ in Millions) | FY 2009 Actual | FY 2010 Estimate | FY 2011 Base Estimate | FY 2011 OCO Estimate | FY 2011 Total Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost To Complete | Total Cost |
| Total Program Element | 0.000 | 40.757 | 25.121 | 0.000 | 25.121 | 28.791 | 12.441 | 0.000 | 0.000 | 0.000 | 107.110 |
| 3214: Fuze Development Program | 0.000 | 28.392 | 25.121 | 0.000 | 25.121 | 28.791 | 12.441 | 0.000 | 0.000 | 0.000 | 94.745 |
| 3215: Strike Weapons Technology Demonstrations | 0.000 | 12.365 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 12.365 |
| Note This PE begins in FY2010 and includes the new start effort FMU-164 Fuze under Project 3214. The Hard Target Void Sensing Fuze effort under Project 3214 is not a new start and was funded under PE 0604329N, Project 3072 Small Diameter Bomb II. Strike Weapons Technology Demonstration (SWTD) Project 3215 is not a new start and was formerly funded under PE 0604329N, Project 3072 Small Diameter Bomb II. | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification The Precision Strike Weapons Development program provides for initial and continuing development of strike weapons consisting of armament, munitions, and weapon subsystems to allow for the horizontal integration among current and future weapon system capabilities. This program will also provide the Navy with the opportunity to improve upon the accuracy, lethality, interoperability, and overall effectiveness of current and future precision strike weapons. | | | | | | | | | | | |
| B. Program Change Summary (\$ in Millions) | | | | | | | | | | | |
| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | | | | | | |
| Previous President's Budget | 0.000 | 40.926 | 0.000 | 0.000 | 0.000 | | | | | | |
| Current President's Budget | 0.000 | 40.757 | 25.121 | 0.000 | 25.121 | | | | | | |
| Total Adjustments | 0.000 | -0.169 | 25.121 | 0.000 | 25.121 | | | | | | |
| • Congressional General Reductions | | -0.169 | | | | | | | | | |
| • Congressional Directed Reductions | | 0.000 | | | | | | | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | | | | | | | |
| • Congressional Adds | | 0.000 | | | | | | | | | |
| • Congressional Directed Transfers | | 0.000 | | | | | | | | | |
| • Reprogrammings | 0.000 | 0.000 | | | | | | | | | |
| • SBIR/STTR Transfer | 0.000 | 0.000 | | | | | | | | | |
| • Program Adjustments | 0.000 | 0.000 | 25.121 | 0.000 | 25.121 | | | | | | |

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy | | DATE: February 2010 |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | |
| <p><u>Change Summary Explanation</u></p> <p>Technical: Not applicable.</p> <p>Schedule: The revised acquisition strategy (AS) was approved by PEO(U&W) on 16 DEC 2009. The impacts to the original AS schedule included the Material Development Decision to enter the Program into the Technology Development phase instead of at Milestone B as was the decision of the original AS. The change of the Program's initiation point moved the Milestone B decision from the first quarter of FY 10 to the first quarter of FY 13. The change also moved the planned contract award from the second quarter of FY 10 to the first quarter of FY 11.</p> <p>The integration requirements including preparations for pilot/platform interface updates, JDAM Block 09 S/W update, GBU-24/FZU-48 flight certification, GBU-31/FZU-48 flight certification will start prior to contract award to provide risk reduction to the program. The BLU-109 Bomb (inerts) are required to support FMU-164 RDT&E requirements.</p> <p>FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.</p> | | |

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|---|-----------------------|-------------------------|------------------------------|--|-------------------------------|-------------------------|-------------------------|---|-------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604659N: <i>Precision Strike Weapons Development Program</i> | | | | PROJECT 3214: <i>Fuze Development Program</i> | | | |
| COST (\$ in Millions) | FY 2009 Actual | FY 2010 Estimate | FY 2011 Base Estimate | FY 2011 OCO Estimate | FY 2011 Total Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost To Complete | Total Cost |
| 3214: <i>Fuze Development Program</i> | 0.000 | 28.392 | 25.121 | 0.000 | 25.121 | 28.791 | 12.441 | 0.000 | 0.000 | 0.000 | 94.745 |
| Quantity of RDT&E Articles | 0 | 0 | 517 | 0 | 517 | 0 | 0 | 0 | 0 | | |
| A. Mission Description and Budget Item Justification <p>The Precision Strike Weapons Development program provides for initial and continuing development of strike weapons consisting of armament, munitions, and weapon subsystems to allow for the horizontal integration among current and future weapon system capabilities. This program will also provide the Navy with the opportunity to improve upon the accuracy, lethality, interoperability, and overall effectiveness of current and future precision strike weapons.</p> <p>The current funding profile provides funding for the FMU-164/Bomb Fuze and the Hard Target Void Sensing Fuze (HTVSF) . The Engineering and Manufacturing Development (EMD) of the FMU-164/B Bomb Fuze is intended to upgrade and expand the capabilities of the Navy's bomb fuze inventory. The FMU-164/B Bomb Fuze provides the Warfighter with next-generation bomb fuze capability including a Serial Data Interface (SDI), which provides additional in-flight cockpit selectable fuze arm/functional delay times and provides increased reliability. The FMU-164/B is used to initiate General Purpose (GP), penetrator, Joint Direct Attack Munition (JDAM), and Laser Guided Bomb (LGB) weapons. The FMU-164/B will reduce the Navy fuze footprint by combining capabilities of the existing FMU-139C/B an FMU-143 fuze. The HTVSF meets a capability gap requirement for harder, deeper and more complex targets. The HTVSF will provide in-flight cockpit reprogramming with fuze time delay options and void sensing providing aircrew the ability to detonate penetrating bombs at various levels within multi-story complex target facilities. The HTVSF will be used only with BLU-109 JDAMs.</p> <p>Note: First article quantity includes FMU-164/B (FY11-Quantity 512 & FY12-Quantity 1130) and Hard Target Void Sensing Fuze (FY11-Quantity 5 & FY 12- Quantity 40)</p> | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |
| | | | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | |
| FMU-164/B Primary Hardware Development | | | | | | 0.000 | 24.892 | 17.051 | 0.000 | 17.051 | |
| The FMU-164/B funding develops the a bomb fuze to replace the FMU-139 and FMU-143 legacy bomb. The vendor's efforts include providing platform integration support. | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | | PROJECT 3214: Fuze Development Program | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| FY 2010 Plans: Commence FMU-164/B requirement development, logical analysis and System Engineering Technical Reviews (SETR) leading up to MS B approval, Preliminary Design Review (PDR). Commence aircraft integration and ancillary hardware development including H8E, H6.1, 25X and JDAM software updates. | | | | | | |
| FY 2011 Base Plans: Commence FMU-164/B design confidence testing including explosive train reliability, insensitive munition, hazard classification, electro-magnetic environment, product oriented packaging and target penetration (sled) tests. These tests will be conducted to gather design information. RDT&E test units are consumed during testing by the contractor. | | | | | | |
| FMU-164/B Design Qualification The FMU-164/B funding will be used to qualify Fuze to weapon and Fuze to aircraft interfaces. | | 0.000 | 0.000 | 2.570 | 0.000 | 2.570 |
| FY 2011 Base Plans: Continue FMU-164/B design development and testing of the electrical firing circuit and serial data interface. The cockpit selectability Key Performance Parameter (KPP) will be tested using Software - In-the-Loop (SIL) prototypes with F/A-18 Operational Flight Program (OFP) and JDAM tail kits. | | | | | | |
| Hard Target Void Sensing Fuze (HTVSF) Hardware Development The Hard Target Void Sensing Fuze hardware development funding will be used to qualify the fuze booster as part of the BLU-109 explosive train and begin F/A-18 EF software OFP development. | | 0.000 | 3.500 | 5.500 | 0.000 | 5.500 |
| FY 2010 Plans: Continue Hard Target Void Sensing Fuze hardware development, modeling & simulation and target construction. This phase includes initial F/A-18 EF OFP software development explosive train qualification test. | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | | | | PROJECT 3214: Fuze Development Program | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | | |
| | | | | | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| FY 2011 Base Plans: Funding is for F/A-18 OFP development, buy sled and flight test hardware and execute tests. | | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | 0.000 | 28.392 | 25.121 | 0.000 | 25.121 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| Line Item | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | FY 2012 | FY 2013 | FY 2014 | FY 2015 | Cost To Complete | Total Cost | |
| • PAN&MC/014500: General Purpose Bombs HTVSF/FMU-164 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.000 | 4.300 | 4.300 | 526.448 | 537.048 | |
| • Proc/PE 020803: USAF | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 18.800 | 37.500 | 38.500 | 0.000 | 94.800 | |
| • RDTE/ PE 064602F: (JCTD) Air Force | 0.000 | 10.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 10.000 | |
| • RDTE/ PE 064635F: Air Force (SDD) | 0.000 | 18.800 | 33.400 | 0.000 | 33.400 | 27.900 | 5.400 | 0.000 | 0.000 | 0.000 | 85.500 | |
| D. Acquisition Strategy | | | | | | | | | | | | |
| The FMU-164/B will provide a capability upgrade to the existing FMU-139 and FMU-143 Bomb Fuzes. The capability upgrades include in-flight cockpit selectability via a Serial Data Interface and increased reliability. The FMU-164/B will also be Insensitive Munition compliant. Program plan consists of Engineering & Manufacturing Development (EMD) in FY13 followed by Low Rate Initial Production (LRIP) in FY16 and Full Rate Production (FRP) in FY17. | | | | | | | | | | | | |
| The Hard Target Void Sensing Fuze Joint Capabilities Technology Demonstration (JCTD) is considered a risk reduction effort and was funded in PE0604329N, PU 3072, Small Diameter Bomb II. The JCTD supports 2 competitively selected sources for development and testing of initial prototyping. Following the JCTD, a down select to a single source will occur and enter into a EMD effort followed by LRIP in FY13 and FRP in FY14. | | | | | | | | | | | | |
| E. Performance Metrics | | | | | | | | | | | | |
| Successfully complete milestones: Enter MS B (EMD), System Functional Review (SFR), Preliminary Design Review (PDR), and Critical Design Review (CDR). | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | | | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | | | | | PROJECT 3214: Fuze Development Program | | | | |
| Product Development (\$ in Millions) | | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Primary Hardware Development1 | C/CPIF | TBD TBD | 0.000 | 3.500 | Apr 2010 | 1.200 | Feb 2011 | 0.000 | | 1.200 | 0.000 | 4.700 | 4.700 | |
| Primary Hardware Development2 | C/CPIF | TBD TBD | 0.000 | 0.000 | | 13.636 | Feb 2011 | 0.000 | | 13.636 | 89.152 | 102.788 | 102.788 | |
| Subtotal | | | 0.000 | 3.500 | | 14.836 | | 0.000 | | 14.836 | 89.152 | 107.488 | 107.488 | |
| Remarks Changes are based on updated FMU-164 schedule change | | | | | | | | | | | | | | |
| Support (\$ in Millions) | | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Software Development | WR | NAWC WD China Lake | 0.000 | 2.514 | Feb 2010 | 3.800 | Dec 2010 | 0.000 | | 3.800 | 5.152 | 11.466 | Continuing | |
| Software Development | MIPR | Air Force Eglin AFB FL | 0.000 | 0.500 | Feb 2010 | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.500 | Continuing | |
| Integrated Logistic Support | WR | Various Various | 0.000 | 0.000 | | 0.100 | | 0.000 | | 0.100 | 0.400 | 0.500 | Continuing | |
| Configuration Management | WR | Various Various | 0.000 | 1.882 | Feb 2010 | 1.300 | Nov 2010 | 0.000 | | 1.300 | 1.050 | 4.232 | Continuing | |
| Subtotal | | | 0.000 | 4.896 | | 5.200 | | 0.000 | | 5.200 | 6.602 | 16.698 | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | | | | PROJECT 3214: Fuze Development Program | | | | | |
| Support (\$ in Millions) | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Remarks Changes are based on updated FMU-164 schedule change | | | | | | | | | | | | | |
| Test and Evaluation (\$ in Millions) | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Flight Certification | WR | NAWC AD Patuxent River, MD | 0.000 | 6.500 | Apr 2010 | 1.225 | Dec 2010 | 0.000 | | 1.225 | 0.300 | 8.025 | Continuing |
| Operational Test & Evaluation | WR | NAWC WD China Lake | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | 0.900 | 0.900 | Continuing |
| Test Assets | MIPR | JMC Moline, IL | 0.000 | 5.934 | Mar 2010 | 0.000 | | 0.000 | | 0.000 | 0.000 | 5.934 | Continuing |
| Test Assets | C/CPIF | Boeing St.Louis MO | 0.000 | 1.500 | Apr 2010 | 0.000 | | 0.000 | | 0.000 | 0.318 | 1.818 | 1.818 |
| Subtotal | | | 0.000 | 13.934 | | 1.225 | | 0.000 | | 1.225 | 1.518 | 16.677 | 1.818 |
| Remarks Changes are based on updated FMU-164 schedule change and BLU-109 Bomb (inerts) required to support FMU-164 RDT&E requirements. | | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604659N: <i>Precision Strike Weapons Development Program</i> | | | | PROJECT 3214: <i>Fuze Development Program</i> | | | | | |
| Management Services (\$ in Millions) | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Support | WR | NAWC AD Patuxent River, MD | 0.000 | 3.100 | Mar 2010 | 1.100 | Nov 2010 | 0.000 | | 1.100 | 0.861 | 5.061 | Continuing |
| Government Engineering Support | WR | NAWC WD China Lake, CA | 0.000 | 2.382 | Feb 2010 | 1.900 | Nov 2010 | 0.000 | | 1.900 | 3.305 | 7.587 | Continuing |
| Program Management Support | C/FP | Various Various | 0.000 | 0.500 | Feb 2010 | 0.700 | Dec 2010 | 0.000 | | 0.700 | 1.200 | 2.400 | 2.400 |
| Travel | Allot | NAWC AD Patuxent River, MD | 0.000 | 0.080 | Feb 2010 | 0.160 | Oct 2010 | 0.000 | | 0.160 | 0.100 | 0.340 | Continuing |
| Subtotal | | | 0.000 | 6.062 | | 3.860 | | 0.000 | | 3.860 | 5.466 | 15.388 | 2.400 |
| Remarks Changes are based on updated FMU-164 schedule change | | | | | | | | | | | | | |
| | | | Total Prior Years Cost | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 0.000 | 28.392 | | 25.121 | | 0.000 | | 25.121 | 102.738 | 156.251 | 111.706 |
| Remarks | | | | | | | | | | | | | |

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604659N: Precision Strike Weapons
Development Program

PROJECT

3214: Fuze Development Program

| Fiscal Year | | FY 2009 | | | | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | |
|--|--|---------|---|---|---|------------------------|---|---|---|----------|---|---|---|----------|---|---|-----------|---|----------|---|---------|---------|---|---|---|---------|-------------|-----------|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| FMU-164/Bomb Fuze Acquisition Milestones | | | | | | ★ MDD AS | | | | ☆ CTA | | | | | | | ☆ MS B | | | | | | | | | | | ☆ MS C | |
| Development Phase | | | | | | Technology Development | | | | | | | | | | | | Engineering & Manufacturing Development Phase | | | | | | | | | | | |
| Development Critical Events | | | | | | | | | | | | | | △ PDR | | | △ CDR | | | | | | | | | | △ PRR | | |
| Test Unit Deliveries | | | | | | BLU-109 | | | | | | | | | | | | | | | △ DT | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Test | | | | | | | | | | | | | | | | | | | △ TRR | | | | | | | | | | |
| Integrated Operational T & E | | | | | | | | | | | | | | | | | | | | | | | | | | | △ OT RPT | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Rate Initial Production | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full Rate Production | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* LRIP 1st Q FY17

* FRPD 1st Q FY17

* IOC 2nd Q FY17

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

| APPROPRIATION/BUDGET ACTIVITY |
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1319: Research, Development, Test & Evaluation, Navy
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604659N: *Precision Strike Weapons Development Program*

| | |
|---------|--|
| PROJECT | |
|---------|--|

3214: *Fuze Development Program*

| Fiscal Year | FY2009 | | | | FY2010 | | | | FY2011 | | | | FY2012 | | | | FY2013 | | | | FY2014 | | | | FY2015 | | | | |
|---|--------|---|---|---|--------|---|---------------|----------|---|----------|---|---------|--------|---|---|---|--------|-----------|---------|------------|----------|---|---|---------|--------|------------|---|---|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| Hard Target Void Searing Fuze (HTVSF) Acquisition Milestones | | | | | | | | △ MSB | | | | | | | | | | △ MSC | | | △ FRP | | | | | | | | |
| Development Phase | | | | | JCTD | | | | Engineering & Manufacturing Development Phase | | | | | | | | | | | | | | | | | | | | |
| Development Critical Events | | | | | | | △ JCTD CDR | | | △ CDR | | | | | | | | | | | | | | | | | | | |
| Test Unit Deliveries | | | | | | | | | | | | △ DT | | | | | | | △ OT | | | | | | | | | | |
| Test & Evaluation Milestones Developmental Test | | | | | | | | | | | | DT&E | | | | | | | | | | | | | | | | | |
| Integrated Operational T&E | | | | | | | | | | | | | | | | | | | OT | | | | | | | | | | |
| Production Milestones Low Rate Initial Production Award | | | | | | | | | | | | | | | | | | △ LRIP | | | | | | | | | | | |
| Full Rate Production Award | | | | | | | | | | | | | | | | | | | | △ FRP-1 | | | | | | △ FRP-2 | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | LRIP-50 | | FRP-1-225 | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy | | | DATE: February 2010 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604659N: <i>Precision Strike Weapons Development Program</i> | PROJECT 3214: <i>Fuze Development Program</i> | |

Schedule Details

| Event | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Hard Target Void Sensing Fuze (HTVSF) | 1 | 2010 | 4 | 2015 |
| -- Joint Capability Technology Demonstration (JCTD) | 1 | 2009 | 3 | 2010 |
| -- JCTD CDR | 3 | 2010 | 3 | 2010 |
| -- Milestone B (MS B) | 4 | 2010 | 4 | 2010 |
| -- Engineering, Manufacturing, and Development Phase (EM&D) | 4 | 2010 | 2 | 2013 |
| -- Critical Design Review (CDR) | 2 | 2011 | 2 | 2011 |
| -- Test Unit Deliveries DT | 3 | 2011 | 3 | 2011 |
| -- Developmental Test and Evaluation (DT&E) | 4 | 2011 | 2 | 2013 |
| -- Milestone C (MS C) | 2 | 2013 | 2 | 2013 |
| -- Test Unit Deliveries OT | 2 | 2013 | 2 | 2013 |
| -- Low-Rate Initial Production (LRIP) | 2 | 2013 | 2 | 2013 |
| -- Operational Test (OT) | 3 | 2013 | 4 | 2013 |
| -- Full Rate Production (FRP) | 1 | 2014 | 1 | 2014 |
| -- Full Rate Production (FRP-1) | 1 | 2014 | 1 | 2014 |
| -- Full Rate Production (FRP-2) | 1 | 2015 | 1 | 2015 |
| -- LRIP Delivery | 2 | 2014 | 1 | 2015 |
| -- FRP-1 Delivery | 1 | 2015 | 4 | 2015 |
| FMU-164/Bomb Fuze | 1 | 2010 | 4 | 2015 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy | | | DATE: February 2010 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604659N: <i>Precision Strike Weapons Development Program</i> | PROJECT 3214: <i>Fuze Development Program</i> | |

| Event | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| -- FMU-164 Materiel Development Decision (MDD) | 1 | 2010 | 1 | 2010 |
| -- FMU-164 Technology Development Contract Award (CTA) | 1 | 2011 | 1 | 2011 |
| -- FMU-164 BLU-109 Test Unit Deliveries | 1 | 2010 | 4 | 2010 |
| -- FMU-164 Preliminary Design Review (PDR) | 2 | 2012 | 2 | 2012 |
| -- FMU-164 Milestone B (MS B) | 1 | 2013 | 1 | 2013 |
| -- FMU-164 Engineering, Manufacturing, and Development Phase (EM&D) | 2 | 2013 | 4 | 2015 |
| -- FMU-164 Critical Design Review (CDR) | 2 | 2013 | 2 | 2013 |
| -- FMU-164 Technical Readiness Review (TRR) | 4 | 2013 | 4 | 2013 |
| -- FMU-164 Developmental Test | 2 | 2014 | 2 | 2014 |
| -- FMU-164 Development Test Evaluation (DT&E) | 4 | 2014 | 3 | 2015 |
| -- FMU-164 Developmental Test Report | 3 | 2015 | 3 | 2015 |
| -- FMU-164 Preproduction Readiness Review (PRR) | 3 | 2015 | 3 | 2015 |
| -- FMU-164 Milestone C (MS C) | 4 | 2015 | 4 | 2015 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604659N: <i>Precision Strike Weapons Development Program</i> | | | | PROJECT 3215: <i>Strike Weapons Technology Demonstrations</i> | | | |
| COST (\$ in Millions) | FY 2009 Actual | FY 2010 Estimate | FY 2011 Base Estimate | FY 2011 OCO Estimate | FY 2011 Total Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost To Complete | Total Cost |
| 3215: <i>Strike Weapons Technology Demonstrations</i> | 0.000 | 12.365 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 12.365 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | |
| <p>The overall intent of the Strike Weapons Technology Demonstrations (SWTD) is to demonstrate, operationally assess, rapidly deploy, and transition capability solutions and innovative concepts to address the joint, coalition and interagency operational gaps and shortfalls. The Combatant Commands drive SWTDs through their stated operational priorities and needs, which are applied to an agile acquisition process that yields results years ahead of traditional material development cycles.</p> <p>The SWTD will demonstrate robust, end-to-end kill chains to engage enemy surface combatants. Intelligence Surveillance and Reconnaissance (ISR) platforms will include the USAF E-8 Joint Surveillance Targeting Attack Radar System (JSTARS) and the USN P-3 Littoral Surveillance Radar System (LSRS). The launch platform will be the F/A-18E/F Super Hornet. Weapons will include the AGM-154C Joint Stand-off Weapon (JSOW-C-1), and the AGM-84K Stand-off Land Attack Missile-Expanded Response (SLAM-ER). In the case of the SLAM-ER, the FA-18 will translate ISR Link-16 targeting information and transmit that information to the SLAM-ER with J3.3/J3.5 messages via the AWW-13 pod. The focus will be on in-flight targeting messages going directly from the ISR platforms to the weapons themselves.</p> | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |
| | | | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | |
| Strike Weapons Technology Demonstrations | | | | | | 0.000 | 12.365 | 0.000 | 0.000 | 0.000 | |
| <i>FY 2010 Plans:</i> FY10-The SWTD will exploit the success of the Weapons Data Link Network (WDLN) Advanced Concept Technology Demonstration (ACTD) and its networking protocols by integrating the WDLN messages into Intelligence Surveillance and Reconnaissance platforms in accordance with MIL-STD-6016C; the launch platform and weapons will integrate the messages as part of their programs of record. Platform modifications will be centered around the integration of the WDLN messages (hereafter referred to as the Net-Enabled Weapon (NEW) messages) into aircraft mission computers | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | | | DATE: February 2010 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | R-1 ITEM NOMENCLATURE PE 0604659N: <i>Precision Strike Weapons Development Program</i> | | PROJECT 3215: <i>Strike Weapons Technology Demonstrations</i> | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | |
| | | | | FY 2009 | FY 2010 |
| | | | | FY 2011 Base | FY 2011 OCO |
| | | | | FY 2011 Total | |
| to transmit and receive joint targeting data. Weapon modifications (outside of JSuW SWTD funding but included as part of the capability) include the avionics changes necessary to transmit and receive the WDLN message set to enable targeting of surface ships. | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | 0.000 | 12.365 |
| | | | | 0.000 | 0.000 |
| | | | | 0.000 | 0.000 |
| C. Other Program Funding Summary (\$ in Millions) N/A | | | | | |
| D. Acquisition Strategy The contracting strategy for JSuW SWTD is planned to be sole source for the duration of the demonstration. Cost type contracts will be utilized with Raytheon for Littoral Surveillance Radar System, and Northrop Grumman for Joint Surveillance Targeting Attack Radar System (JSTARS). In addition, funds will be provided to the current Programs of Record contracts for JSOW (Raytheon, Tucson Arizona), and F/A-18E/F (Boeing, St. Louis, Missouri). | | | | | |
| E. Performance Metrics The Joint Surface Warfare (JSuW) Joint capability technology demonsration (JCTD) will exploit the success of the Weapons Data Link Network (WDLN) Advanced Concept Technology Demonstration (ACTD) and its networking protocols by integrating the J-11 messages set via Joint Surveillance Targeting Attack Radar System (JSTARS) and the USN P-3 Littoral Surveillance Radar System (LSRS)into Intelligence Surveillance and Reconnaissance platforms. | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | R-1 ITEM NOMENCLATURE PE 0604659N: Precison Strike Weapons Development Program | | | | PROJECT 3215: Strike Weapons Technology Demonstrations | | | | | |
| Product Development (\$ in Millions) | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | SS/CPFF | Raytheon Dallas, TX | 0.000 | 1.759 | Feb 2010 | 0.000 | | 0.000 | | 0.000 | 0.000 | 1.759 | Continuing |
| Primary Hardware Development | SS/CPFF | Northrup Grumman Melbourne, FL | 0.000 | 1.646 | Feb 2010 | 0.000 | | 0.000 | | 0.000 | 0.000 | 1.646 | Continuing |
| Primary Hardware Development | WR | CINCPACFLT Hawaii | 0.000 | 0.345 | Dec 2009 | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.345 | Continuing |
| Subtotal | | | 0.000 | 3.750 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 3.750 | |
| Remarks FY10 0.345 Funding will be sent Direct Cite to CINCPACFLT,Hawaii. | | | | | | | | | | | | | |
| Support (\$ in Millions) | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development | SS/CPFF | Raytheon Tucson, AZ | 0.000 | 0.303 | Dec 2009 | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.303 | Continuing |
| Subtotal | | | 0.000 | 0.303 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.303 | |
| Remarks | | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | | | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | | | | | PROJECT 3215: Strike Weapons Technology Demonstrations | | | | |
| Test and Evaluation (\$ in Millions) | | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Developmental Test & Evaluation | WR | NAWCWD China Lake, CA | 0.000 | 6.022 | Nov 2009 | 0.000 | | 0.000 | | 0.000 | 0.000 | 6.022 | Continuing | |
| Developmental Test & Evaluation | WR | COMOPTEVFOR Norfolk, VA | 0.000 | 0.435 | Nov 2009 | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.435 | Continuing | |
| Subtotal | | | 0.000 | 6.457 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 6.457 | | |
| Remarks | | | | | | | | | | | | | | |
| Management Services (\$ in Millions) | | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Contractor Engineering Support | WR | NAVSEA Washington, DC | 0.000 | 0.225 | Nov 2009 | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.225 | Continuing | |
| Government Engineering Support | WR | NAWCWD China Lake, CA | 0.000 | 1.150 | Jan 2010 | 0.000 | | 0.000 | | 0.000 | 0.000 | 1.150 | Continuing | |
| Government Engineering Support | WR | NAWCAD Patuxent River, MD | 0.000 | 0.470 | Nov 2009 | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.470 | Continuing | |
| Government Engineering Support | MIPR | Air Force ACC Eglin AFB, FL | 0.000 | 0.010 | Nov 2009 | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.010 | Continuing | |
| Subtotal | | | 0.000 | 1.855 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 1.855 | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604659N: <i>Precision Strike Weapons Development Program</i> | | | | PROJECT 3215: <i>Strike Weapons Technology Demonstrations</i> | | | | | |
| Management Services (\$ in Millions) | | | | | | | | | | | | | |
| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Remarks | | | | | | | | | | | | | |
| | | | Total Prior Years Cost | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 0.000 | 12.365 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 12.365 | |
| Remarks | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy | | | | | | | | | | | | | | | | | DATE: February 2010 | | | | | | | | | | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | | | | | | | R-1 ITEM NOMENCLATURE PE 0604659N: Precison Strike Weapons Development Program | | | | | | | | | | PROJECT 3215: Strike Weapons Technology Demonstrations | | | | | | | | | |
| Fiscal Year | | 2009 | | | | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | |
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| JSuW S/WTD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase II Demonstration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lab Test | | | | | | Lab Test | | | | | | | | | | | | | | | | | | | | | | | |
| Ground Test | | | | | | | Grd Test | | | | | | | | | | | | | | | | | | | | | | |
| Flight Test | | | | | | | | Flt Test | | | | | | | | | | | | | | | | | | | | | |
| Test Report | | | | | | | | | Test Rpt | | | | | | | | | | | | | | | | | | | | |
| COTF Operational Utility Assessment (OUA) | | | | | | | | | OUA | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy | | | DATE: February 2010 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P) | R-1 ITEM NOMENCLATURE PE 0604659N: Precision Strike Weapons Development Program | | PROJECT 3215: Strike Weapons Technology Demonstrations | |
| Schedule Details | | | | |
| | Start | | End | |
| Event | Quarter | Year | Quarter | Year |
| Lab Test | 1 | 2010 | 1 | 2010 |
| Ground Test | 2 | 2010 | 2 | 2010 |
| Flight Test | 3 | 2010 | 3 | 2010 |
| Test Report | 4 | 2010 | 4 | 2010 |
| COTF Operational Utility Assessment (OUA) | 4 | 2010 | 1 | 2011 |

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