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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 0603609N: Conventional Munitions | | | | | | | |
| 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 | 6.368 | 4.241 | 5.388 | 0.000 | 5.388 | 4.988 | 5.491 | 5.758 | 6.014 | Continuing | Continuing |
| 0363: Insensitive Munitions Adv. Development | 2.479 | 3.444 | 5.388 | 0.000 | 5.388 | 4.988 | 5.491 | 5.758 | 6.014 | Continuing | Continuing |
| 1821: Conventional Fuzed Warfare Package | 3.357 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 165.143 |
| 2299: Non-Nuclear Expendable Ordnance | 0.532 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 88.518 |
| 9999: Congressional Adds | 0.000 | 0.797 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.707 |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | |
| <p>Insensitive Munitions Advanced Development (IMAD) (Project 0363) - Most Navy munitions react violently when exposed to unplanned stimuli such as fire, shock and bullet or fragment impact, thus presenting a great hazard to ships, aircraft and personnel. This program will provide, validate and transition technology to all new weapon developments and priority weapon systems and enable production of munitions insensitive to these stimuli with no reduction in combat performance. IMAD is the Navy's focused effort on propellants, propulsion units, explosives, warheads, fuses and pyrotechnics to reduce the severity of cook-off and bullet/fragment impact reactions, minimizing the probability for sympathetic detonation, both in normal storage and in use, increasing ship and platform survivability and satisfying performance and readiness requirements.</p> <p>Conventional Fuzed Warhead Package (Project 1821) - The Navy requires improved lethality of air and surface launched ordnance to defeat advanced threats. This is the only Navy 6.3B RDT&E program that addresses improvements in warhead and fuze technology to meet this requirement. This program is a significant vehicle for orderly planning, and timely and effective transition of Navy 6.2 and 6.3A investments to Engineering and Manufacturing Development (E&MD) phase missile/ weapon systems. This program addresses increased lethality against current and emerging threats, and is responsive to all mission areas anti-air, strike, defense suppression, theater defense and ship defense and supports development of complete ordnance sections. The current on-going projects address significant technology advancements for missile systems by developing mature physical concepts to enhance anti-air kill probability, advanced ordnance with augmented overland cruise missile defense and theater ballistic missile defense capabilities, and advanced seeker technology and development and incorporation of Software Guidance Integrated Fuzing (S/W GIF). The program supports the full spectrum of missile advanced development and technology improvements</p> | | | | | | | | | | | |

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy | | | | DATE: February 2010 | |
| APPROPRIATION/BUDGET ACTIVITY | | R-1 ITEM NOMENCLATURE | | | |
| 1319: Research, Development, Test & Evaluation, Navy | | PE 0603609N: Conventional Munitions | | | |
| BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | | |
| and in future years will continue to provide the vehicle to address emergent requirements by transitioning mature development efforts into weapon systems with minimal technical and financial risk. | | | | | |
| Non-Nuclear Expendable Ordnance (NNEO) (Project 2299) - This item addresses improvements to Navy surface launched (2T) NNEO. | | | | | |
| Improved Kinetic Energy Cargo Round (Project 10C120) - To design, develop, and demonstrate technologies and components for a kinetic energy payload for a 5-inch round. The Navy I-KEET program projectile features a forward expulsion mechanism to expel a multi-component kinetic energy payload with significantly increased on-target energy and expanded lethality footprint relative to its predecessor. The I-KEET round, considered to be a product-improved version of the MK182 KE-ET for ship self defense and force protection with higher lethality against a broader array of threats at a greater range. | | | | | |
| B. Program Change Summary (\$ in Millions) | | | | | |
| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| Previous President's Budget | 8.087 | 3.458 | 0.000 | 0.000 | 0.000 |
| Current President's Budget | 6.368 | 4.241 | 5.388 | 0.000 | 5.388 |
| Total Adjustments | -1.719 | 0.783 | 5.388 | 0.000 | 5.388 |
| • Congressional General Reductions | | -0.017 | | | |
| • Congressional Directed Reductions | | 0.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | | 0.800 | | | |
| • Congressional Directed Transfers | | 0.000 | | | |
| • Reprogrammings | -1.567 | 0.000 | | | |
| • SBIR/STTR Transfer | -0.152 | 0.000 | | | |
| • Program Adjustments | 0.000 | 0.000 | 5.388 | 0.000 | 5.388 |
| Congressional Add Details (\$ in Millions, and Includes General Reductions) | | | | | |
| Project: 9999: Congressional Adds | | | | | |
| Congressional Add: Improved Kinetic Energy Cargo Round | | | | | |
| | FY 2009 | FY 2010 | | | |
| | 0.000 | 0.797 | | | |
| Congressional Add Subtotals for Project: 9999 | 0.000 | 0.797 | | | |
| Congressional Add Totals for all Projects | 0.000 | 0.797 | | | |

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| Exhibit R-2, RDT&E Budget Item 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 0603609N: <i>Conventional Munitions</i> | |
| <p><u>Change Summary Explanation</u></p> <p>Technical: Not applicable.</p> <p>Schedule: Not applicable.</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 0603609N: <i>Conventional Munitions</i> | | | | PROJECT 0363: <i>Insensitive Munitions Adv. Development</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 |
| 0363: <i>Insensitive Munitions Adv. Development</i> | 2.479 | 3.444 | 5.388 | 0.000 | 5.388 | 4.988 | 5.491 | 5.758 | 6.014 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Most Navy munitions react violently when exposed to unplanned stimuli such as fire, shock and bullet impact, thus presenting a great hazard to ships, aircraft and personnel. This program will provide, validate and transition technology to all new weapon developments and priority weapon systems and enable production of munitions insensitive to these stimuli with no reduction in combat performance. The Insensitive Munitions (IM) Program is the Navy's focused effort on propellants, propulsion units, explosives, warheads, fuses and pyrotechnics to reduce the severity of cook-off and bullet/fragment impact reactions, minimizing the probability for sympathetic detonation, both in normal storage and in use, increasing ship survivability and satisfying performance and readiness requirements. Each technology area is divided into subtasks addressing specific munition/munition class IM deficiencies. Energetic materials producibility is demonstrated to assure national capability to produce and load munitions systems. The program leverages are being closely coordinated with other Military Departments, North Atlantic Treaty organization (NATO) and allied countries to eliminate redundant efforts and maximize efficiency. A joint service IM requirement has been developed and through the IM Strategic Planning process, all PEO's are implementing IM in their priority munitions. Insensitive munitions are identified as a DoD critical technology requirement and considered as part of a weapon design. The Insensitive Munitions Advanced Development (IMAD) program matures the technology developed by a variety of Science and Technology (S&T) sources for program management integration into weapons systems to meet the IM technical deficiencies documented in the PEO IM Strategic Plans. IMAD provides the link between S&T programs and the PMs by optimizing IM technologies to meet Navy requirements. IMAD offers risk mitigation for the PMs in terms of IM technical knowledge, expertise and manpower with the State of the Art expertise across IM products. Each technology area is divided into subtasks addressing specific munition and munition class IM deficiencies.

B. Accomplishments/Planned Program (\$ in Millions)

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|--|----------------|----------------|-------------------------|------------------------|--------------------------|
| Insensitive Munitions Adv. Development | 2.479 | 3.444 | 5.388 | 0.000 | 5.388 |
| Validate and assess weapon systems POA&M's for Insensitive Munitions (IM) compliance. Review Insensitive Munitions Strategic Plan (IMSP) for Navy Compile and analyze weapon system, energetic | | | | | |

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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 0603609N: Conventional Munitions | | PROJECT 0363: Insensitive Munitions Adv. Development | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| material and generic technology IM test data. Perform Threat Hazard Assessments (THAs). Perform analysis of Energetic Material properties logistic process. Review IM Certification and Waivers. Support Insensitive Munitions Council (IMC), Insensitive Munitions Coordination Group (IMCG), and IMC Working Group. Support and develop Insensitive Munitions Technology Tool (IMT2). Support North Atlantic Treaty Organization Standardization Agreement (NATO STANAG) and Advanced Operations (AOP) development. Support Insensitive Munitions Advanced Development (IMAD) program briefs. Support all Navy Joint Services Insensitive Munitions Technical Panel (JSIMTP) meetings. Support Explosive Safety Working Group (ESWG) meetings. Provide task management support for financial management, review of programmatic deliverables and overall task coordination. | | | | | | |
| FY 2009 Accomplishments: Demonstrate high explosives that show improved IM characteristics while maintaining or improving operational performance. Evaluate pressed and cast metal accelerating explosives. Complete qualification of high performance booster explosive for multiple weapons systems. Begin qualification of best candidate metal accelerating explosive. Perform Experimental Plastic-Bonded Explosive, Indian Head (PBXIH-18) production evaluation. Perform Class 5 Cyclotetramethylenetetranitramine (HMX) particle size evaluation in Plastic-Bonded Explosive, Navy (PBXN-114) to optimize particle size distribution. Perform a study to show the effect of levels of confinement have on IM response for cookoff of shaped charge warheads. | | | | | | |
| FY 2010 Plans: Evaluate and Demonstrate IM gun propulsion systems which provide improved or comparable performance to in-service systems and have improved IM characteristics. Gun propellants are being formulated with less sensitive ingredients to decrease IM response, while still maintaining the energy and performance of the gun system. Less sensitive energetic solids are replacing part of the shock sensitive RDX in these formulations. In addition, less sensitive binder systems are being developed that help by partitioning the energy of the propellant system to help minimize IM response. Initial small- | | | | | | |

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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 0603609N: Conventional Munitions | | PROJECT 0363: Insensitive Munitions Adv. Development | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| scale testing of a new propellant formulation to extend the range for the conventional 5" gun shows that these formulations are much less sensitive to shock initiation than currently fielded propellants. Cooperative effort with AGS Long Range Land Attack Projectile (LRLAP) program office to develop a new IM propellant, i.e. formulate, scale-up, test. | | | | | | |
| FY 2011 Base Plans: Evaluate and demonstrate IM propellants and propulsion systems which provide improved or comparable performance to in-service systems and better IM characteristics. Combine candidate IM propellants and case concepts to demonstrate compliance with IM and performance requirements. Demonstrate an insensitive multi-mission, high performance rocket motor. Evaluate options for minimum smoke propellants for shoulder launched applications. Evaluated and demonstrated IM boost propellant formulation for future Tomahawk systems which provide improved and comparable performance to in-service systems and better IM characteristics. Combined candidate IM propellants and case concepts to demonstrate compliance with IM and performance requirements. Design a composite booster case for Tomahawk which will improve IM performance for cookoff and impact scenarios. Demonstrate new formulations that will self extinguish while maintaining performance for Advanced Medium-Range Air to Air Missile (AMRAAM), Sidewinder and other air launched systems. Look at new way to develop rocket propellant formulations that meet performance requirements and solve IM deficiencies. IM problems resolution using top down approach. Evaluate ordnance and container concepts. Model applications that reduce and enhance IM warhead design. Assess the operations utility of current and projected IM improvements to determine current state of IM and prioritize future funding for IM technology. Assess shielding evaluation of Tomahawk VLS storage canister. New cooperative effort with Advanced Gun System (AGS) LRLAP to review modeling to solve impact and cookoff with AUR pallet. | | | | | | |
| Accomplishments/Planned Programs Subtotals | | 2.479 | 3.444 | 5.388 | 0.000 | 5.388 |

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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 0603609N: <i>Conventional Munitions</i> | PROJECT 0363: <i>Insensitive Munitions Adv. Development</i> |
| C. Other Program Funding Summary (\$ in Millions) N/A | | |
| D. Acquisition Strategy NOT APPLICABLE- The Insensitive Munitions Advanced Development Program (IMAD) is assigned as a Non-ACAT program and therefore does not have program milestones like the ACAT I to IV programs. IMAD develops and evaluates IM technologies for use in Navy weapon systems and is not part of a particular weapon acquisition program. | | |
| E. Performance Metrics Quarterly Program Reviews | | |

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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 0603609N: Conventional Munitions | | | | PROJECT 0363: Insensitive Munitions Adv. Development | | | | | |
| 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 | |
| PROPULSION DEV. AND EVAL. | WR | NAWC DIV/ CHINA LAKE WX | 88.295 | 0.665 | Nov 2009 | 1.123 | Nov 2010 | 0.000 | | 1.123 | 0.000 | 90.083 | Continuing | |
| EXPLOSIVES DEV. AND EVAL. | WR | NSWC/INDIAN HEAD DIV. WX | 72.368 | 1.038 | Nov 2009 | 1.930 | Nov 2010 | 0.000 | | 1.930 | 0.000 | 75.336 | Continuing | |
| ORDNANCE DEV. AND EVAL. | WR | NSWC/ DAHLGREN WX | 20.376 | 0.386 | Nov 2009 | 0.325 | Nov 2010 | 0.000 | | 0.325 | 0.000 | 21.087 | Continuing | |
| GUN PROPULSION AND EVAL. | WR | NSWC/INDIAN HEAD DIV. WX | 1.109 | 0.640 | Nov 2009 | 1.125 | Nov 2010 | 0.000 | | 1.125 | 0.000 | 2.874 | Continuing | |
| Subtotal | | | 182.148 | 2.729 | | 4.503 | | 0.000 | | 4.503 | 0.000 | 189.380 | | |
| 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 | |
| PROGRAM MANAGEMENT SUPT | WR | NOSSA IN HEAD MD | 4.397 | 0.715 | Nov 2009 | 0.885 | Nov 2010 | 0.000 | | 0.885 | 0.000 | 5.997 | Continuing | |
| Subtotal | | | 4.397 | 0.715 | | 0.885 | | 0.000 | | 0.885 | 0.000 | 5.997 | | |

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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 0603609N: <i>Conventional Munitions</i> | | | | PROJECT 0363: <i>Insensitive Munitions Adv. Development</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 | | | 186.545 | 3.444 | | 5.388 | | 0.000 | | 5.388 | 0.000 | 195.377 | |
| Remarks | | | | | | | | | | | | | |

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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 0603609N: <i>Conventional Munitions</i> | | | | PROJECT 1821: <i>Conventional Fuzed Warfare Package</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 |
| 1821: <i>Conventional Fuzed Warfare Package</i> | 3.357 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 165.143 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| A. Mission Description and Budget Item Justification <p>This program provides for orderly planning, timely maturation, and effective transition of Navy 6.2 and 6.3A investments in ordnance technology to missile/weapon systems end item System Development and Demonstration (SD&D) phase development. It is the only Navy 6.3B RDT&E program that addresses improvements in warhead and fuze technology. It focuses on increasing effectiveness against current and emerging threats and is responsive to all mission areas -- anti-air, strike, defense suppression, theater defense, and ship defense. On-going projects make advanced fuze and warhead technology available to and reduce the time and risk for specific system development programs by performing three important functions: (1) identify technology advances with the most potential to improve generic warhead and fuze safety, reliability, and effectiveness, e.g. development and incorporation of Software Guidance Integrated Fuzing - S/W GIF; (2) mature the most promising technologies with a goal of achieving Technology Readiness Level 6, or preferably TRL 7, and (3) transition mature technology to specific cruise missile, surface-to-air missile, and land attack weapons system development programs. The program supports the full spectrum of missile advanced development and technology improvements and in future years will continue to provide the vehicle to address emergent requirements by transitioning mature development efforts into weapon systems with minimal technical and financial risk.</p> | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |
| | | | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | |
| Conventional Fuzed Warfare Package | | | | | | 3.357 | 0.000 | 0.000 | 0.000 | 0.000 | |
| <i>FY 2009 Accomplishments:</i> N/A | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | 3.357 | 0.000 | 0.000 | 0.000 | 0.000 | |

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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 0603609N: <i>Conventional Munitions</i> | PROJECT 1821: <i>Conventional Fuzed Warfare Package</i> |
| <p><u>C. Other Program Funding Summary (\$ in Millions)</u> N/A</p> <p><u>D. Acquisition Strategy</u> Raytheon Missile Systems is designing and implementing Fuze enhancements for current missiles like the SM-2 and for future platforms like the SM-6. This evolution in fuzing technology is required to pace current threats to the US Navy.</p> <p><u>E. Performance Metrics</u> Quarterly Program Reviews</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 0603609N: <i>Conventional Munitions</i> | | | | PROJECT 2299: <i>Non-Nuclear Expendable Ordnance</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 |
| 2299: <i>Non-Nuclear Expendable Ordnance</i> | 0.532 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 88.518 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| A. Mission Description and Budget Item Justification This budget item addresses improvements to Navy surface launched (2T) Non-Nuclear Expendable Ordnance (NNEO) outside existing operational capabilities. The commodities comprising 2T NNEO are : Major and medium caliber gun ammunition, small arms ammunition, other ship gun ammunition, pyrotechnics, and demolition items. There are no other RDT&E budget items supporting the 2T NNEO program. This project currently supports the close-out of the Guidance Integrated Fuze (GIF) SAASMS receiver Development to TRL 6. | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |
| | | | | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| Non-Nuclear Expendable Ordnance <i>FY 2009 Accomplishments:</i> N/A | | | | | | | 0.532 | 0.000 | 0.000 | 0.000 | 0.000 |
| Accomplishments/Planned Programs Subtotals | | | | | | | 0.532 | 0.000 | 0.000 | 0.000 | 0.000 |
| C. Other Program Funding Summary (\$ in Millions) N/A | | | | | | | | | | | |
| D. Acquisition Strategy Completed development of Guidance Integrated Fuze to Technology Readiness Level 6 and development of GPS SAASM Receiver to Technology Readiness Level of 6. | | | | | | | | | | | |

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| 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 0603609N: <i>Conventional Munitions</i> | PROJECT 2299: <i>Non-Nuclear Expendable Ordnance</i> |
| E. Performance Metrics Quarterly Program Reviews | | |

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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 0603609N: <i>Conventional Munitions</i> | | | | PROJECT 9999: <i>Congressional Adds</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 |
| 9999: <i>Congressional Adds</i> | 0.000 | 0.797 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.707 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| A. Mission Description and Budget Item Justification To design, develop, and demonstrate technologies and components for a kinetic energy payload for a 5-inch round. The Navy I-KEET program projectile features a forward expulsion mechanism to expel a multi-component kinetic energy payload with significantly increased on-target energy and expanded lethality footprint relative to its predecessor. The I-KEET round, considered to be a product-improved version of the MK182 KE-ET for ship self defense and force protection with higher lethality against a broader array of threats at a greater range. | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |
| | | | | | | | FY 2009 | FY 2010 | | | |
| Congressional Add: Improved Kinetic Energy Cargo Round <i>FY 2010 Plans:</i> - Further develop payload expulsion, payload dispersion, projectile body design, base plug strengthening, and nose removal; - Demonstrate all components in full scale bench tests and in full scale integrated live-fire warhead tests; | | | | | | | 0.000 | 0.797 | | | |
| Congressional Adds Subtotals | | | | | | | 0.000 | 0.797 | | | |
| C. Other Program Funding Summary (\$ in Millions) N/A | | | | | | | | | | | |
| D. Acquisition Strategy N/A | | | | | | | | | | | |

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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 0603609N: <i>Conventional Munitions</i> | PROJECT 9999: <i>Congressional Adds</i> |
| E. Performance Metrics Quarterly Program Reviews. | | |