Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603114N *I Power Projection Advanced Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	51.739	48.201	37.734	-	37.734	44.408	27.293	12.433	12.486	Continuing	Continuing
2911: *Power Proj Adv Tech*	0.000	51.739	48.201	37.734	-	37.734	44.408	27.293	12.433	12.486	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The efforts described in this Program Element (PE) are based on investment directions as defined in the Naval S&T Strategic Plan approved by the S&T Corporate Board (Sep 2011). This strategy is based on needs and capabilities from Navy and Marine Corps guidance and input from the Naval Research Enterprise (NRE) stakeholders (including the Naval enterprises, the combatant commands, the Chief of Naval Operations (CNO), and Headquarters Marine Corps). It provides the vision and key objectives for the essential science and technology efforts that will enable the continued supremacy of U.S. Naval forces in the 21st century. The Strategy focuses and aligns Naval S&T with Naval missions and future capability needs that address the complex challenges presented by both rising peer competitors and irregular/asymmetric warfare.

This program develops and demonstrates advanced technologies, including Electromagnetic (EM) Rail Gun for naval weapon systems.

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	56.543	48.201	31.327	-	31.327
Current President's Budget	51.739	48.201	37.734	-	37.734
Total Adjustments	-4.804	-	6.407	-	6.407
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.172	-			
• SBIR/STTR Transfer	-1.651	-			
• Program Adjustments	-	-	6.407	-	6.407
• Rate/Misc Adjustments	0.001	-	-	-	-
• Congressional General Reductions Adjustments	-5.326	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy	Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603114N *I Power Projection Advanced Technology*

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 3					R-1 Program Element (Number/Name) PE 0603114N / *Power Projection Advanced Technology*				Project (Number/Name) 2911 / *Power Proj Adv Tech*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2911: *Power Proj Adv Tech*	-	51.739	48.201	37.734	-	37.734	44.408	27.293	12.433	12.486	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project supports the Time Critical Strike (TCS) and ForceNet FNC components which address technological issues associated with the development of strike weapons that significantly decrease the launch to engagement timeline; provide the Navy of the future the ability to quickly locate, target, and strike critical targets; and enhance mission capabilities and operational utility of Naval forces by dramatically increasing the autonomy, performance, and affordability of Naval organic, Unmanned Vehicle systems. The Navy is furthering the development of solid state, high energy laser technology for use as a weapon system on future surface ships.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: PRECISION STRIKE TECHNOLOGY	51.739	48.201	37.734

Description: The focus of this activity is on those technologies that will support the Naval Precision Strike Operations and provide the Navy of the future the ability to quickly locate, target, and strike critical targets. This activity includes support to the following FNC Enabling Capabilities (ECs): Advanced Naval Fires Technology, Hostile Fire Detection and Response, Dynamic Target Engagement & Enhanced Sensor Capabilities, and Discriminate and Provide Terminal Guidance for Weapons Targeted at Moving Targets.

FY13 to FY 2014 reduction is due to the Solid State Laser (SSL) program completing efforts in 0603114N. Solid State Laser program funding continues in PE 0602114N for FY 2015.

The SSL-QRC program was initiated during FY13 and is planned to complete during FY 2015. The reduction of funding from FY 2014 to FY 2015 is due to the completion of procurement and design activities during FY 2014.

FY 2013 Accomplishments:

Electromagnetic (EM) Railgun:
-Continued development and testing of projectile component concepts at 32 MJ muzzle energy tests.
-Continued ship integration study efforts.
-Continued next generation industry repetitive rate launcher development and test planning.
-Continued generation repetitive rate pulsed power fabrication in support of future repetitive rate launcher testing.
-Completed next generation industry rep rate launcher conceptual/feasibility design.
-Initiated fabrication of rep rate lab launcher for testing of barrel life components.
-Initiated next generation industry rep rate launcher preliminary design.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 3	**R-1 Program Element (Number/Name)** PE 0603114N / *Power Projection Advanced Technology*	**Project (Number/Name)** 2911 / *Power Proj Adv Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Initiated component fabrication and testing of repetitive firing rate barrel life with EM lab launcher at tactically relevant muzzle energy. Weapons System Improvement: -Continued kill-chain studies to identify and recommend engineering trades to enable weapon system interoperability and data fusion alternatives. These studies will assess engineering feasibility of various kill-chain options and assess the capability provided. Solid State Laser Technology Quick Reaction Capability (SSL-QRC): - Initiated development of the Solid State Laser Quick Response Capability (SSL-QRC) to upgrade the NAVSEA developed Laser Weapons System (LaWS) that will support an extended deployment on a Naval Surface combatant in the Persian Gulf during FY 2014. Solid State Laser Technology Maturation Program (SSL-TM): -Initiated development of a maritime laser weapons system through competitive procurement. Initiate Laser System engineering integration trade studies and design with contractor developed designs. This system will be capable of supporting missions such as small boat, UAV, and ISR disruption and defeat. This work included scientific and engineering trade studies to support integration and test of an advanced development system. This system will include a maritime beam director and high power, solid state laser (SSL) that is capable of tracking and engaging a surface or airborne target at a suitable stand-off distance in the maritime environment and includes efforts to measure atmospheric absorption and turbulence. -Continued development of the Hybrid Predictive Avoidance Safety System (HPASS) to deconflict laser system operations with friendly sensor and platforms.			
FY 2014 Plans: Electromagnetic (EM) Railgun: -Continue all efforts of FY 2013 unless completed above. Weapons System Improvement: -Continue all efforts of FY 2013 unless completed above. Solid State Laser Technology Quick Reaction Capability (SSL-QRC): -Complete development of the Solid State Laser Quick Response Capability (SSL-QRC) to upgrade the NAVSEA developed Laser Weapons System (LaWS).			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 3	**R-1 Program Element (Number/Name)** PE 0603114N / *Power Projection Advanced Technology*	**Project (Number/Name)** 2911 / *Power Proj Adv Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Complete integration and installation of LaWS on a Naval Surface combatant to support an extended demonstration in the Persian Gulf that will conclude during FY 2015. Solid State Laser Technology Maturation Program (SSL-TM): -Continue all efforts of FY 2013 unless completed above. ***FY 2015 Plans:*** Electromagnetic (EM) Railgun: -Continue all efforts of FY 2014 unless completed above. Weapons System Improvement: -Continue all efforts of FY 2014 unless completed above. Solid State Laser Technology Quick Reaction Capability (SSL-QRC): -Complete LaWS demonstration on a Naval Surface combatant in the Persian Gulf and remove LaWS equipment. Solid State Laser Technology Maturation Program (SSL-TM): -Complete Laser System engineering integration trade studies and design and begin integration of contractor developed designs. -Initiate land based testing of system and system components. -Continue development of the Hybrid Predictive Avoidance Safety System (HPASS) to deconflict laser system operations with friendly sensors and platforms.			
Accomplishments/Planned Programs Subtotals	51.739	48.201	37.734

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

The metrics used are programmatic milestones and technical milestones, such as completion of technical trade studies examining suitable technologies for subsequent prototype development; incremental laboratory and field testing of components and sub-systems; and delivery of industry-developed prototypes for demonstration.