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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603925N *I Directed Energy and Electric Weapon System*

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	-	-	58.696	-	58.696	34.964	16.593	16.897	9.895	Continuing	Continuing
3370: *Railgun*	0.000	-	-	50.005	-	50.005	25.468	7.297	7.401	0.497	Continuing	Continuing
9823: *Lasers for Navy applicat*	0.000	-	-	8.691	-	8.691	9.496	9.296	9.496	9.398	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This program element will transition Directed Energy and Electric Weapon Systems (DE&EWS) technology from Science and Technology (S&T) research through Technology Development into System Development and Demonstration, leading to acquisition initiation for the Surface/Subsurface Navy.

DE&EWS consist of multiple breakthrough technologies, including: laser weapons that provide for speed-of-light engagements at tactically significant ranges (with savings realized by minimizing the use of defensive missiles and projectiles); electromagnetic launch of projectiles that will significantly increase firing ranges, impose greater cost to adversaries of ballistic and air defense missile engagements, and enhance the land attack mission; and fielding of high power radio frequency systems for non-kinetic electronic attack and active denial technology, allowing for non-lethal determination of threat intent beyond small arms fire ranges.

PMS 405 will manage development of DE&EWS that incorporate: Weapons Grade High Energy Lasers, Free Electron Lasers (Megawatt class), Electromagnetic Railgun (EMRG) Weapon Systems, High Power Radio Frequency Weapon/Sensor Systems, and other systems/capabilities.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	58.696	-	58.696
Total Adjustments	-	-	58.696	-	58.696
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	59.364	-	59.364
• Rate/Misc Adjustments	-	-	-0.668	-	-0.668

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603925N *I Directed Energy and Electric Weapon System*

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 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 3370 / *Railgun*	

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
3370: *Railgun*	-	-	-	50.005	-	50.005	25.468	7.297	7.401	0.497	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

Electromagnetic Railgun (Railgun): Provide ship-based program/technical commonality with the Office of the Secretary of Defense Strategic Capabilities Office (OSD SCO) Land Based Rail Gun (LBRG), PE 0604250D8Z, Project P250 Advanced Innovative Technologies. PE 0603925N will use the LBRG as funding leverage to produce a common Railgun and mount that will be capable for use onboard Navy warships.

Railgun provides increased capability for the following mission sets: Naval Surface Fire Support (NSFS), Integrated Air and Missile Defense (IAMD), Fast Attack Craft and Fast Inshore Attack Craft (FAC/FIAC), and future potential for Anti-Surface Warfare (ASuW). Railgun will launch the Hypervelocity Projectile (HVP), currently in development as a Future Naval Capability (FNC).

Railgun uses electromagnetic energy, vice traditional propellant (powder), to launch projectiles, providing the following advantages: increased range (i.e. 110nm vice 13nm for NSFS); increased ammunition storage capacity; improved ship safety due to decreased explosives safety hazards; decreased costs when compared to current land attack missiles.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Electromagnetic Railgun	-	-	50.005
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Program is a new start for FY15.			
FY 2015 Plans: Engineer/manage commonality with the OSD Experimental Campaign for mount, power, projectile, weapon and combat interface/ control; Conduct sensor/shooter engineering trade studies, define interface and control requirements; Design/develop ship-based hardware/software for shipboard gun mount; Design/develop ship-based prime power components/subsystems; Design/ develop ship-based pulsed power components/subsystems; Design/develop/certify ship-based battery and charging components/			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 3370 / *Railgun*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
subsystems; Define/design projectile critical components, develop/conduct flight simulations, conduct lethality analyses; Conduct airframe simulations and analyses; Define/develop projectile electronics components/subsystems.			
Accomplishments/Planned Programs Subtotals	-	-	50.005

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Government Field Activities: Technology development and demonstration/test of capabilities for designated Directed Energy and Electric Weapon System Components, subsystems, and system(s). Program Office approved design, development, and demonstration/test efforts.

Non-Government Activities: Technology development and demonstration/test of capabilities for designated Directed Energy and Electric Weapon Systems components, subsystems, and system(s). Program Office approved design, development, and demonstration/test efforts.

E. Performance Metrics

Quarterly Reviews, Monthly Reports, Periodic Design Reviews.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 9823 / *Lasers for Navy applicat*	

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
9823: *Lasers for Navy applicat*	-	-	-	8.691	-	8.691	9.496	9.296	9.496	9.398	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

Lasers for Navy Applications, Solid State Laser (SSL) Development: A condition of military urgent need for a laser based weapon solution is documented by United States Central Command (USCENTCOM) and Chief of Naval Operations (CNO). The SSL provides a capability to support these gaps with the ability to deter, damage and/or destroy asymmetric threats including rockets, missiles, fast attack craft, and Unmanned Aerial Systems (UASs). A SSL Weapon System, at varying power levels, can deter or blind Intelligence, Surveillance, Reconnaissance (ISR) systems at low powers, as well as, destroy the platforms (UAS, small boat) that carry them. SSL leverages the Office of Naval Research (ONR) efforts on the SSL Quick Reaction Capability (QRC) and SSL Technology Maturation (TM) efforts. SSL will transition this capability from Science and Technology (S&T) development to a Program of Record (PoR).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: New Accomplishment/Planned Program Entry	-	-	8.691
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans: Lasers for Navy Applications, Solid State Laser (SSL) Development: Manage/engineer product development of the Low Power Module (LPM) Counter -Electro Optic Infra Red (EO/IR) hardware/software/firmware module and associated test and control equipment to interface with the SSL TM System and other Counter-ISR Systems. At the unclassified level, this module will provide the capability to dazzle ISR sensors at tactically significant ranges.			
Accomplishments/Planned Programs Subtotals	-	-	8.691

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 9823 / *Lasers for Navy applicat*

D. Acquisition Strategy

Annual Task Planning Sheets for Government Field Activities delineating the requisite technology development and test/demonstration capabilities for designated DE&EWS component(s), module(s), subsystem(s), and/or system(s) using Program Office approved design, documentation, and development/test efforts.

Statements of Work for Non-Government Field Activities delineating the requisite technology development and test/demonstration capabilities for designated DE&EWS component(s), module(s), subsystem(s), and/or system(s) using Program Office approved design, documentation, and development/test efforts.

E. Performance Metrics

Quarterly Reviews, Monthly Progress/Status Reports, Scheduled Design/Program Reviews.