Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0101221N *I Strategic Sub & Wpns Sys Supt*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	786.117	86.197	94.525	107.039	-	107.039	129.957	130.431	82.845	84.290	Continuing	Continuing
0951: *Joint Warhead Fuze Sustainment Program*	133.370	83.751	84.962	95.400	-	95.400	113.938	110.608	64.964	66.351	Continuing	Continuing
2228: *Technical Applications Programs*	633.772	-	-	9.000	-	9.000	13.300	17.024	15.024	15.025	Continuing	Continuing
3097: *W78/88-1 Life Extension Program*	0.000	-	7.000	-	-	-	-	-	-	-	-	7.000
3158: *Integrated Nuclear Weapons Security Sys Dev*	18.975	2.446	2.563	2.639	-	2.639	2.719	2.799	2.857	2.914	Continuing	Continuing
Program MDAP/MAIS Code: **Project MDAP/MAIS Code(s):** 178												

A. Mission Description and Budget Item Justification

The Joint Warhead Fuze Sustainment Program (0951) is an effort to develop advanced components to improve the reliability, safety, and security of Arming, Fuzing and Firing (AF&F) systems for nuclear reentry systems. The current effort is focused on supporting the alteration of the AF&F system for the MK5/W88 system which will be five years beyond its design life at the scheduled deployment of the AF&F alteration. This effort also supports future utilization of the developed components by the US Air Force and United Kingdom.

The Technology Applications Program (2228) supports the TRIDENT II (D5) Submarine Launched Ballistic Missile (SLBM) that provides the U.S. a weapon system with greater accuracy and payload capability as compared to the TRIDENT I (C4) system. TRIDENT II enhances U.S. strategic deterrence providing a survivable, sea-based system capable of engaging the full spectrum of potential targets with fewer submarines. Efforts in FY16 will be the commencement of Multi-Star Enhanced Prelaunch (MEP) and the development of a Systems Engineering Modeling and Simulation capability. MEP will demonstrate the ability to use two stellar sightings to formulate the in-flight correction (rather than one) which may in the future provide relief to the strict tolerance requirements of the strategic navigator on the current OHIO class submarines and the OHIO Class Replacement program. The Systems Engineering Modeling and Simulation capability will assess overall performance of the Strategic Weapon System which today requires extensive test flights and unique special tests that can only be conducted on operational SSBN platforms. This capability will provide visibility into technical margin across the deployed system to reduce reliance on operational SSBN assets for flight / special test evolutions and enable low cost/ risk trade space exploration for future lifecycle cost savings initiatives.

The W78/88-1 Life Extension Program (3097) is an effort to conduct the Navy portion of a Department of Defense/Department of Energy (DOD/DOE) Nuclear Weapons Council initiated Phase 6.2/6.2A investigation of design options and associated feasibility and cost study for a life extension of the Air Force W78 Reentry Vehicle and Navy W88 Reentry Body. The study will evaluate options and select a preferred solution(s) for a common Nuclear Explosive Package (NEP), including improved safety

capabilities, which could be integrated into both the W78 and W88 platforms. In addition, the study will conduct a cost study for a refurbishment life extension of the current W88 design.

The Integrated Nuclear Weapons Security System (INWSS) (3158) efforts support the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay, or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs (SSP), the FBM program manager, with mission responsibility for the safeguard of FBM nuclear technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies. These efforts will improve countermeasure technologies to address detection, delay and denial.

FY15 Congressional add for Missile Component Development.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	98.057	96.943	107.800	-	107.800
Current President's Budget	86.197	94.525	107.039	-	107.039
Total Adjustments	-11.860	-2.418	-0.761	-	-0.761
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-12.418			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.375	-			
• SBIR/STTR Transfer	-2.485	-			
• Rate/Misc Adjustments	-	-	-0.761	-	-0.761

Change Summary Explanation

Funding reduced in FY 2015 ($12.418M) for underexecution in the Joint Warhead Fuze program. Funding increased $10M in FY 2015 for Missile Component Development.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 0951 / *Joint Warhead Fuze Sustainment Program*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0951: *Joint Warhead Fuze Sustainment Program*	133.370	83.751	84.962	95.400	-	95.400	113.938	110.608	64.964	66.351	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 178

A. Mission Description and Budget Item Justification

The Joint Warhead Fuze Sustainment Program is an effort to develop advanced components to improve the reliability, safety, and security of AF&F systems for nuclear reentry systems. The current effort is focused on supporting the alteration of the AF&F system for the MK5/W88 system which will be five years beyond its design life at the scheduled deployment of the AF&F alteration. This effort also supports future utilization of the developed components by the US Air Force and United Kingdom.

FY15 Congressional add for Missile Component Development.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: TRIDENT II	83.751	74.962	95.400	-	95.400
Articles:	-	-	-	-	-
Description: Identify, prioritize, develop, proof, and demonstrate advanced technologies that will be leveraged and incorporated into future AF&Fs.					
FY 2014 Accomplishments: Continue development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Support engineer working groups. Continue AF&F sub-assembly design demonstrations Continue development of advanced safety and surety architecture solutions. Continue detailed design Conduct performance assessment of tested designs (FCET 50 completed) Conduct production engineering Support Critical Radar Arming and Firing Test (CRAFT) Develop and implement software changes due to AF&F					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Support engineer working groups. Continue AF&F sub-assembly design demonstrations Continue development of advanced safety and surety architecture solutions. Continue detailed design Continue to develop and implement software changes due to AF&F Conduct performance assessment of tested designs Conduct production engineering Initial pre-production line development and initial builds Procure material for qualification testing; Commercial-Off-The-Shelf (COTS) qualification testing ***FY 2016 Base Plans:*** Continue development, proofing, demonstration of identified advanced technologies for future AF&Fs Support engineer working groups and program reviews. Continue AF&F sub-assembly design demonstrations Continue development of advanced safety and surety architecture solutions. Continue detailed design Continue to develop and implement software changes due to AF&F Conduct performance assessment of tested designs Conduct production engineering Begin missile integration of the Mk5A Alt 370 fuze development, and perform pre-flight test and analysis Design, develop and qualify production tools and processes, testers, gauges, AF&F simulators and trainers ***FY 2016 OCO Plans:*** N/A					
Title: Missile Component Development	-	10.000	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Congressional add for missile component development					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	83.751	84.962	95.400	-	95.400

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN/3219: *SBSD Nuclear Technology Development*	296.050	369.964	422.661	-	422.661	411.598	401.698	291.302	278.600	Continuing	Continuing
• RDTEN/3220: *Advanced Submarine System Development*	760.100	816.800	971.400	-	971.400	712.400	766.500	484.900	206.000	-	4,718.100
• SCN/1045: *OHIO Replacement Program*	-	-	-	-	-	777.793	791.793	2,771.344	1,316.280	Continuing	Continuing
• RDTEN/3237: *Launch Test Facility*	-	36.470	-	-	-	-	-	-	-	-	36.470
• MILCON/0805376N: *Ohio Replacement Power and Propultion Facility*	-	23.985	-	-	-	-	-	-	-	-	23.985
• MILCON/0901211N: *MCON Design Funds*	-	0.364	-	-	-	-	-	-	-	-	0.364
• OPN/5358: *SWS Modernization Funds*	224.484	201.832	240.694	-	240.694	200.789	222.157	227.140	231.945	Continuing	Continuing
• WPN/1250: *TRIDENT II Mods*	1,130.079	1,175.455	1,099.640	-	1,099.640	1,142.004	1,151.852	1,194.240	1,249.313	Continuing	Continuing
• OMN/12D2: *Fleet Ballistic Missile*	968.966	1,001.297	1,034.760	-	1,034.760	1,051.946	1,067.652	1,092.294	1,117.407	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*

D. Acquisition Strategy

Contracts will continue to be awarded to those sources who were engaged in the Mk4LE Reentry Body development program and are currently engaged in the production and/or operational support of the deployed Mk4LE Reentry Body on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 0951 / *Joint Warhead Fuze Sustainment Program*	

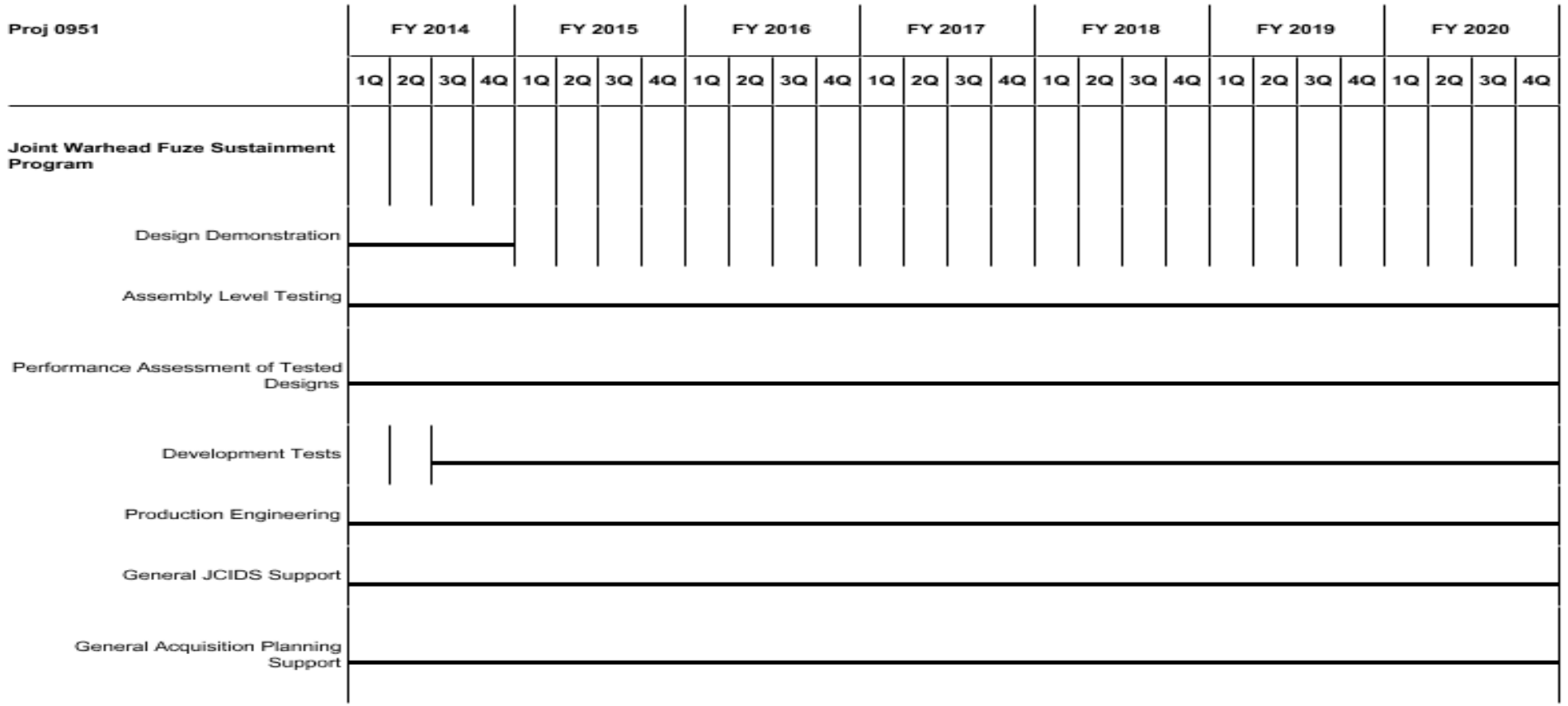
Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Warhead Fuze Sustainment DOE	MIPR	DOE : NM	120.550	69.523	Nov 2013	59.710	Jan 2015	79.044	Nov 2015	-		79.044	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment ITT	SS/CPFF	ITT : VA	5.687	1.993	Nov 2013	3.000	Nov 2014	4.000	Nov 2015	-		4.000	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment LMMS	SS/CPFF	LMMS : CA	6.500	6.500	Nov 2013	6.600	Nov 2014	5.900	Nov 2015	-		5.900	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment	WR	NSWC Dahlgren : VA	0.633	5.461	Oct 2013	5.144	Oct 2014	5.278	Oct 2015	-		5.278	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment	SS/CPFF	BAE : Not Specified	0.000	0.219	Dec 2013	0.185	Dec 2014	0.291	Dec 2015	-		0.291	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment	SS/CPIF	APL : Not Specified	0.000	0.025	Dec 2013	0.323	Dec 2014	0.437	Dec 2015	-		0.437	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment	C/BA	GDAIS : Not Specified	0.000	0.030	Nov 2013	-	Jan 2015	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment	WR	CNSW : Not Specified	0.000	-		-		0.200	Oct 2015	-		0.200	-	0.200	-
Joint Warhead Fuze Sustainment	WR	NCCC : Not Specified	0.000	-		-		0.100	Oct 2015	-		0.100	-	0.100	-
Congressional Add *Missile Component Development	TBD	TBD : Not Specified	0.000	-		10.000	Feb 2015	-		-		-	-	10.000	-
		Subtotal	133.370	83.751		84.962		95.400		-		95.400	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	133.370	83.751		84.962		95.400		-		95.400	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*



2016DON - 0101221N - 0951

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0951				
Joint Warhead Fuze Sustainment Program: Design Demonstration:	1	2014	4	2014
Joint Warhead Fuze Sustainment Program: Assembly Level Testing:	1	2014	4	2020
Joint Warhead Fuze Sustainment Program: Performance Assessment of Tested Designs:	1	2014	4	2020
Joint Warhead Fuze Sustainment Program: Development Tests:	3	2014	4	2020
Joint Warhead Fuze Sustainment Program: Production Engineering:	1	2014	4	2020
Joint Warhead Fuze Sustainment Program: General JCIDS Support:	1	2014	4	2020
Joint Warhead Fuze Sustainment Program: General Acquisition Planning Support:	1	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 2228 / *Technical Applications Programs*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2228: *Technical Applications Programs*	633.772	-	-	9.000	-	9.000	13.300	17.024	15.024	15.025	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY16 the Multi-Star Enhanced Prelaunch (MEP) program will commence. This system leverages the capability of the D5 Life Extension Guidance (Mk6 Mod1) to sight two stars vice one combined with the interface updates to the Fire Control and Navigation. Allowing for in-flight correction, the potential to operate in environments where GPS is denied, and may provide future relief to the strict tolerance requirements of the strategic navigator on the current OHIO class submarines and the OHIO Class Replacement program. The Systems Engineering Modeling and Simulation capability will consist of three elements: Model Based Design, Strategic Weapon System (SWS) Integrated Modeling and Simulation/Common Architecture & Framework, and SWS Enhancement Ground Test. This effort will provide the capability to comprehensively evaluate and test the integrated SWS within representative operational environments, providing unprecedented visibility across the SWS and system performance characterization equivalent to flight testing. This capability will enable trade space analysis to identify technical margin, subsystem interactions, and lifecycle affordability opportunities.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Multi-Star Enhanced Prelaunch (MEP)	-	-	9.000	-	9.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: Define interface specifications between Navigation, Fire Control and Guidance subsystems for executing MEP algorithm Begin early software engineering development					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	-	9.000	-	9.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Contracts will continue to be awarded to those sources who were engaged in program and are currently engaged in the production and/or operational support on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*

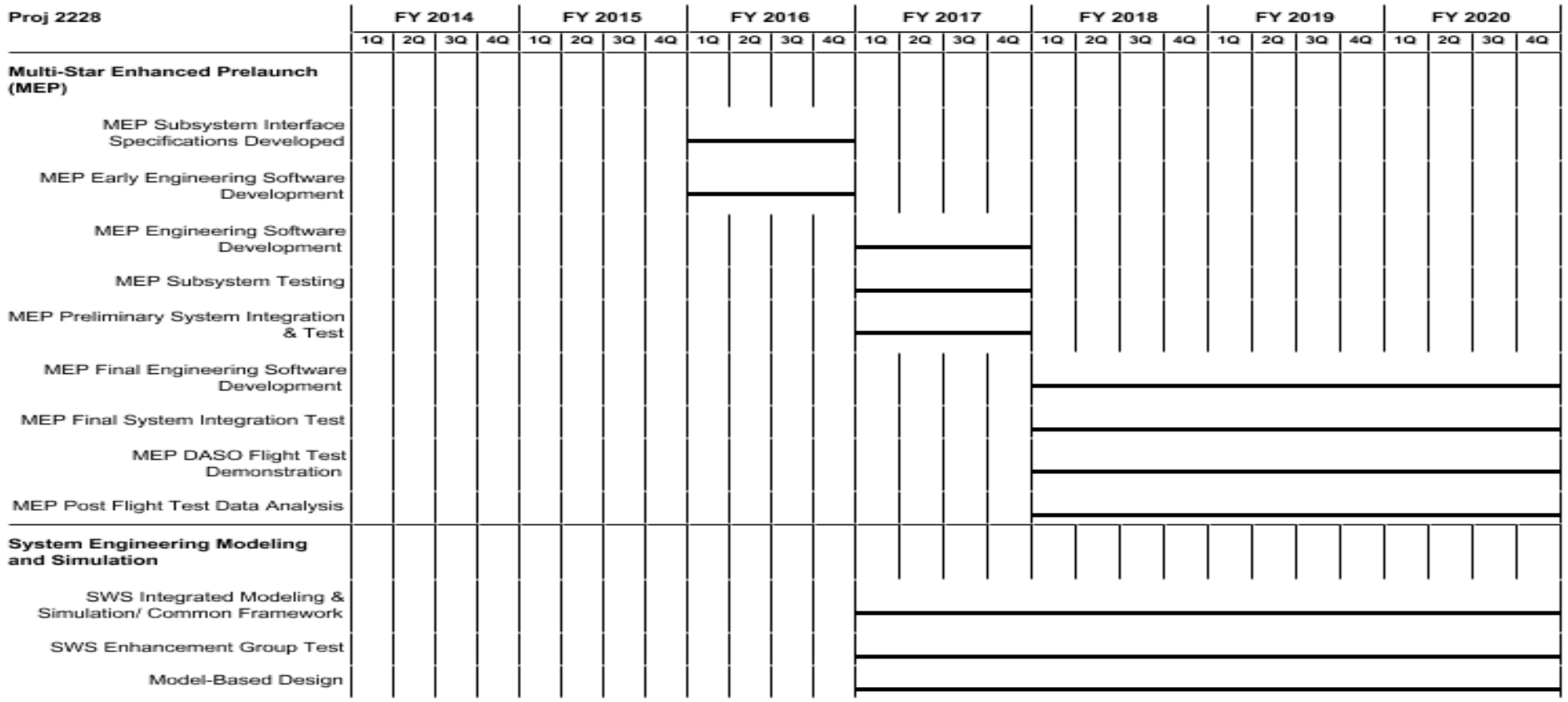
Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Applications LMSS	SS/CPFF	LMSS : CA	160.450	-		-		0.500	Oct 2015	-		0.500	Continuing	Continuing	Continuing
Technology Applications NSWC	WR	NSWC : VA	92.504	-		-		0.750	Oct 2015	-		0.750	-	93.254	-
Technology Applications DOE	MIPR	DOE : NM	33.717	-		-		-		-		-	-	33.717	-
Technology Applications ITT	SS/CPFF	ITT : CO	12.194	-		-		-		-		-	-	12.194	-
Technology Applications CSDL	SS/CPFF	CSDL : MA	313.522	-		-		7.500	Oct 2015	-		7.500	-	321.022	-
Technology Applications AERO	SS/CPFF	AERO : CA	3.068	-		-		-		-		-	-	3.068	-
Technology Applications VAR	Various	Various : Various	18.317	-		-		-		-		-	-	18.317	-
Technology Applications GD-AIS	SS/CPFF	GDAIS : MA	0.000	-		-		0.250	Oct 2015	-		0.250	-	0.250	-
		Subtotal	633.772	-		-		9.000		-		9.000	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	633.772	-		-		9.000		-		9.000	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*



2016PB - 0101221N - 2228

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2228				
Multi-Star Enhanced Prelaunch (MEP): MEP Subsystem Interface Specifications Developed:	1	2016	4	2016
Multi-Star Enhanced Prelaunch (MEP): MEP Early Engineering Software Development:	1	2016	4	2016
Multi-Star Enhanced Prelaunch (MEP): MEP Engineering Software Development:	1	2017	4	2017
Multi-Star Enhanced Prelaunch (MEP): MEP Subsystem Testing:	1	2017	4	2017
Multi-Star Enhanced Prelaunch (MEP): MEP Preliminary System Integration & Test:	1	2017	4	2017
Multi-Star Enhanced Prelaunch (MEP): MEP Final Engineering Software Development:	1	2018	4	2020
Multi-Star Enhanced Prelaunch (MEP): MEP Final System Integration Test:	1	2018	4	2020
Multi-Star Enhanced Prelaunch (MEP): MEP DASO Flight Test Demonstration:	1	2018	4	2020
Multi-Star Enhanced Prelaunch (MEP): MEP Post Flight Test Data Analysis:	1	2018	4	2020
System Engineering Modeling and Simulation: SWS Integrated Modeling & Simulation/ Common Framework:	1	2017	4	2020
System Engineering Modeling and Simulation: SWS Enhancement Group Test:	1	2017	4	2020
System Engineering Modeling and Simulation: Model-Based Design:	1	2017	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3097 / *W78/88-1 Life Extension Program*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3097: *W78/88-1 Life Extension Program*	-	-	7.000	-	-	-	-	-	-	-	-	7.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The W78/88-1 Life Extension Program (3097) is an effort to conduct the Navy portion of a DoD/DOE Nuclear Weapons Council initiated Phase 6.2/6.2A investigation of design options and associated feasibility and cost study for a life extension of the Air Force W78 Reentry Vehicle and Navy W88 Reentry Body. The study will evaluate options and select a preferred solution(s) for a common NEP, including improved safety capabilities, which could be integrated into both the W78 and W88 platforms. In addition the study will conduct a cost study for a refurbishment life extension of the current W88 design.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: W78/88-1 Life Extension Program	-	7.000	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: This program has been deferred.					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	7.000	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3097 / *W78/88-1 Life Extension Program*

D. Acquisition Strategy

Contracts will be awarded to those sources who were engaged in the W78/88-1 Life Extension Program and are currently engaged in the production and/or operational support of the deployed W78/88-1 Systems on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3097 / *W78/88-1 Life Extension Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD	TBD	TBD : TBD	0.000	-	Nov 2013	7.000	Mar 2015	-		-		-	-	7.000	-
		Subtotal	0.000	-		7.000		-		-		-	-	7.000	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		7.000		-		-		-	-	7.000	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3097 / *W78/88-1 Life Extension Program*

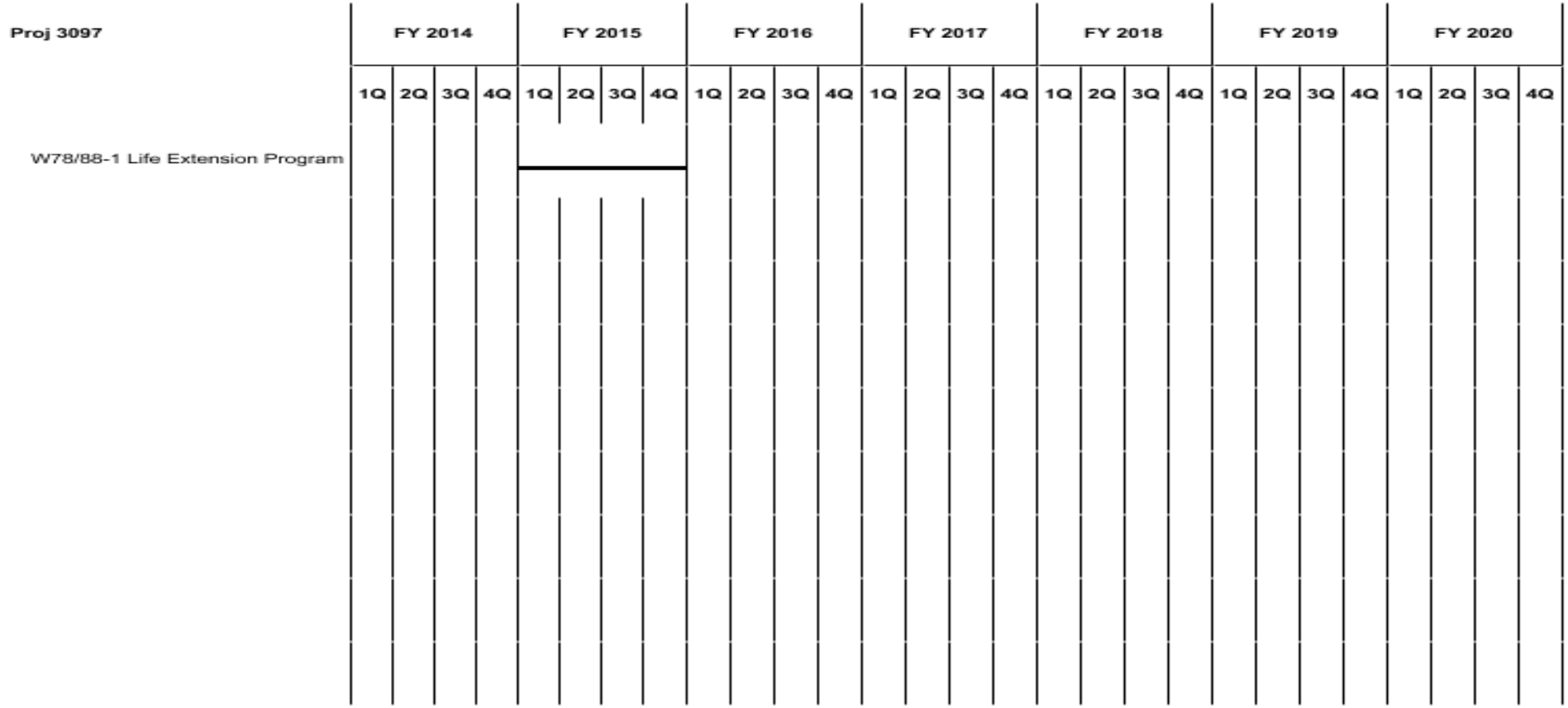


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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3097 / *W78/88-1 Life Extension Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3097				
W78/88-1 Life Extension Program: W78/88-1 Study	1	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3158 / *Integrated Nuclear Weapons Security Sys Dev*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3158: *Integrated Nuclear Weapons Security Sys Dev*	18.975	2.446	2.563	2.639	-	2.639	2.719	2.799	2.857	2.914	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Enhanced Special Weapons effort supports the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The CNO has assigned SSP, the FBM program manager, with mission responsibility for the safeguard of FBM nuclear assets. More specifically, the mission includes landside and pier operations as well as transits to and from the dive point, each of which present challenges to personnel as well as existing technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies focusing on land and in transit requirements. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Integrated Nuclear Weapons Security Sys Dev	2.446	2.563	2.639	-	2.639
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Continue development of advanced technologies for Site-Wide Nuclear Weapons Security Systems including a secure wireless command network and enhanced automated security systems. - Continue development of advanced technologies for Limited Area/Convoy Route Nuclear Weapons Security Systems including extended perimeter detection, vehicle barrier systems at entry control points, and enhanced tracking capabilities. - Continue Multi Purpose Receiver Array: Enhances waterside detection of swimmers/divers by developing passive acoustic hydrophone arrays for open circuit diver detection. - Continue Multi-Static/Bi-Static Sensor Development: Enhances waterside detection of swimmers/divers by integrating passive hydrophone arrays with current active elements to increase capability of detection without adding any new active elements. - Continue Autonomous Reacquisition and Classification: Enhances the Marine Mammal System (MMS) by developing localization buoys for use with the MK6 Mod 2 System. Localization buoys will direct the dolphin to areas for a more efficient swimmer/diver assessment process.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continue Human Systems Interface: Analyze Watchstander Operations to identify inefficiencies, define operational needs, design the next generation system concept to meet current and future needs. ***FY 2015 Plans:*** - Sensor development for: Land Water Interface project (LWI), underwater Sonar Track Association Research (STAR), Waterside Detection System (WDS) - Development of technologies: for refresh of electronic systems in the Waterfront Restricted Area (WRA), increase detection and tracking capabilities, and to reduce manpower by automating processed and enhancing security technologies. - Enhance the Marine Mammal System (MMS) - Continue Multi-Static/Bi-Static Sensor Development: Enhances waterside detection of swimmers/divers by integrating passive hydrophone arrays with current active elements to increase capability of detection without adding any new active elements. - Wide Area/Extended Detection: Development of technologies to increase detection, localization, classification, and tracking capabilities beyond the perimeter of the limited area, waterfront restricted area, along the convoy route and transit route. This effort includes technologies to detect intruders in difficult environments such as dense foliage, marsh, fog and heavy rain. - Continue research and development efforts towards the improvement of countermeasures technologies addressing detection, delay and denial. ***FY 2016 Base Plans:*** - WDS Upstream Data Fusion: Development of software and hardware to fuse low level sensor data from multiple WDS sensors to increase capability for tracking and classification of current sensors. - NWS Technology Refresh: Development of technologies for refresh of electronic security systems for the Limited Area and Electronic Harbor Security System in the Waterfront Restricted Area (WRA). This includes electronic hardware and algorithms. - Continue Wide Area/Extended Detection: Development of technologies to increase detection, localization, classification, and tracking capabilities beyond the perimeter of the limited area, waterfront restricted area, along the convoy route and transit route. This effort includes technologies to detect intruders in difficult environments such as dense foliage, marsh, fog and heavy rain. - FOPEN Sensor Transition: OSD(NM) is funding evaluation and demonstration of a variety of FOPEN Sensors. This effort will fund in situ demonstration as well as necessary transition planning and development to facilitate transition of down selected sensors for incorporation into NWS POR.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continue research and development efforts towards the improvement of countermeasures technologies addressing detection, delay and denial. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.446	2.563	2.639	-	2.639

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/Various-2: *OPN (Nuclear Weapons Security)*	43.914	126.429	33.253	-	33.253	38.825	27.873	29.544	52.307	Continuing	Continuing
• OMN/11D2D-3: *Fleet Ballistic Missile (Nuclear Weapons Security)*	93.871	83.319	75.723	-	75.723	81.537	91.182	84.189	85.584	Continuing	Continuing
• OMN/11D2D-5: *Fleet Ballistic Missile (Transit/Escort)*	116.000	82.207	95.658	-	95.658	83.558	85.948	95.176	97.107	Continuing	Continuing
• MCN/Various-1: *MILCON (CNI) (Nuclear Weapons Security)*	-	20.638	34.177	-	34.177	-	-	-	-	-	98.657

Remarks

D. Acquisition Strategy

Procurements are being executed through a combination of private contractors (large and small business), government Centers of Excellence (COEs), other government agencies and the Naval Submarine Bases, Kitsap and Kings Bay. Contract awards are based upon "best value" determinations, and where practical will be performance based or include incentive provisions.

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3158 / *Integrated Nuclear Weapons Security Sys Dev*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Nuclear Weapons Security Sys Dev	WR	NFESC : CA	2.347	-	Dec 2013	0.353	Dec 2014	-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	CNWS : CA	0.404	-		-		-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JHU APL : MD	3.162	0.275	Oct 2013	0.183	Nov 2014	0.275	Nov 2015	-		0.275	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	SNWS : CA	4.252	-	Dec 2013	0.306	Dec 2014	-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NSWC : VA	2.877	-	Oct 2013	0.191	Oct 2014	0.607	Oct 2015	-		0.607	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JRC : VA	1.612	0.275	Oct 2013	0.502	Oct 2014	0.275	Oct 2015	-		0.275	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NUWC : RI	0.870	0.023	Oct 2013	0.049	Dec 2014	0.636	Dec 2015	-		0.636	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NEDU : FL	0.383	-		-		-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	LMSS : CA	1.001	-	Dec 2013	0.180	Dec 2014	0.846	Oct 2015	-		0.846	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOEI : ID	0.180	-		-		-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOE : NM	0.425	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3158 / *Integrated Nuclear Weapons Security Sys Dev*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	ARL : TX	0.932	0.500	Oct 2013	0.448	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NUWD : WA	0.530	-	Oct 2013	0.351	Dec 2014	-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	C/BA	NRL : DC	0.000	0.628	Feb 2014	-		-		-		-	-	0.628	-
Integrated Nuclear Weapons Security Sys Dev	C/BA	DRAPER : DC	0.000	0.355	Apr 2014	-		-		-		-	-	0.355	-
Integrated Nuclear Weapons Security Sys Dev	C/BA	SPAWAR : DC	0.000	0.390	Feb 2014	-		-		-		-	-	0.390	-
		Subtotal	18.975	2.446		2.563		2.639		-		2.639	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	18.975	2.446		2.563		2.639		-		2.639	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*

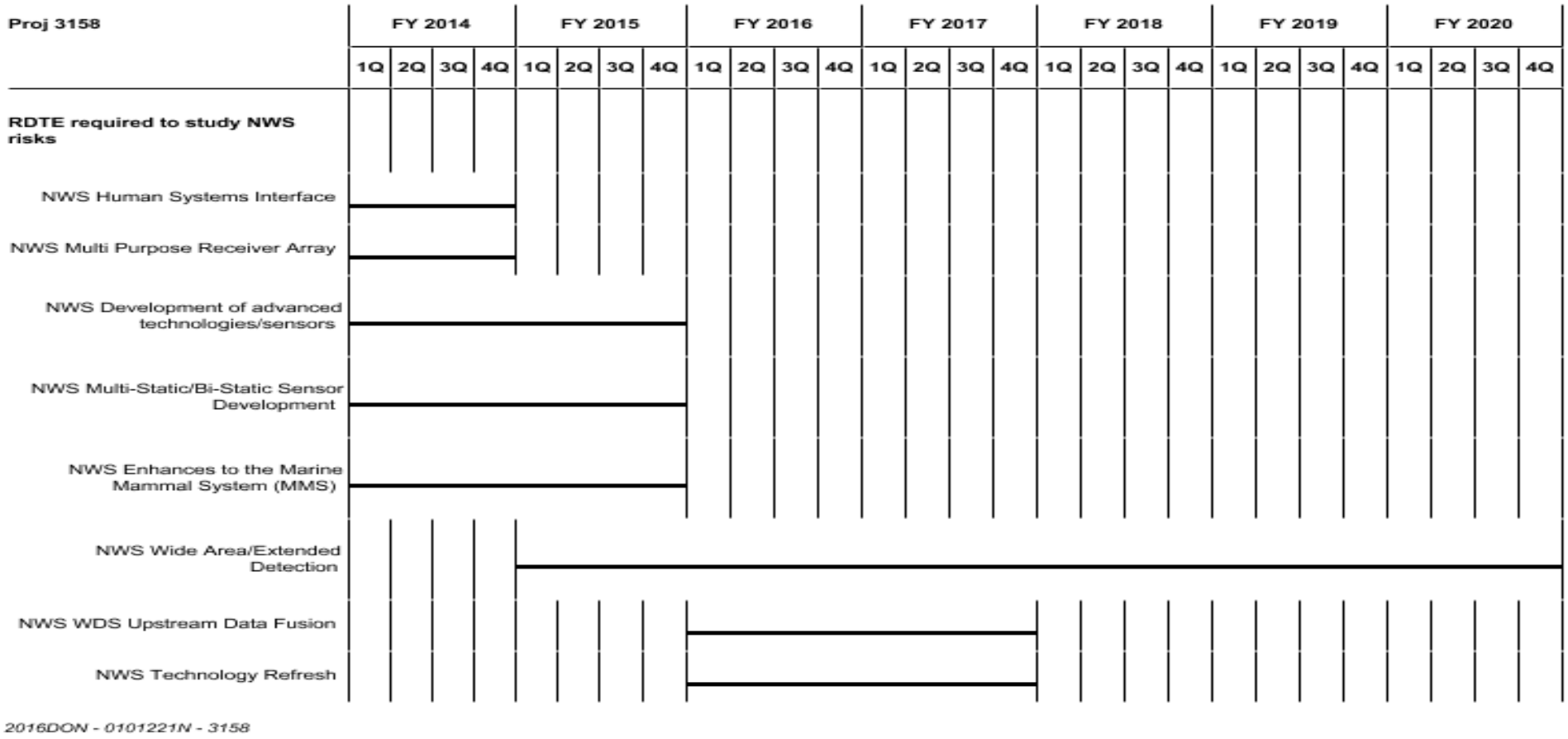

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3158				
RDTE required to study NWS risks: NWS Human Systems Interface:	1	2014	4	2014
RDTE required to study NWS risks: NWS Multi Purpose Receiver Array:	1	2014	4	2014
RDTE required to study NWS risks: NWS Development of advanced technologies/ sensors:	1	2014	4	2015
RDTE required to study NWS risks: NWS Multi-Static/Bi-Static Sensor Development:	1	2014	4	2015
RDTE required to study NWS risks: NWS Enhances to the Marine Mammal System (MMS):	1	2014	4	2015
RDTE required to study NWS risks: NWS Wide Area/Extended Detection:	1	2015	4	2020
RDTE required to study NWS risks: NWS WDS Upstream Data Fusion:	1	2016	4	2017
RDTE required to study NWS risks: NWS Technology Refresh:	1	2016	4	2017