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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604512N *I Shipboard Aviation Systems*							
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	464.297	77.046	122.083	120.217	-	120.217	43.973	17.837	10.999	11.279	Continuing	Continuing
2232: *CV/CVN Launch and Recover*	464.297	77.046	122.083	120.217	-	120.217	43.973	17.837	10.999	11.279	Continuing	Continuing

A. Mission Description and Budget Item Justification

CV Launch & Recovery System - This Navy unique project addresses the System Development and Demonstration of all systems required to recover and launch Navy/ Marine Corps Aircraft (Fixed/Rotary Wing and Vertical/Short Take Off and Landing) operating aboard aircraft carriers, amphibious assault ships and air capable ships. This program element includes the following:

(1) Advanced Arresting Gear
(2) Aviation Data Management and Control System
(3) Compact Swaging Machine
(4) Aircraft Launch & Recovery Equipment Modernization
(5) Aircraft Launch and Recovery Equipment Service Life Management program

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	69.615	122.083	121.226	-	121.226
Current President's Budget	77.046	122.083	120.217	-	120.217
Total Adjustments	7.431	-	-1.009	-	-1.009
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	7.431	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-1.009	-	-1.009

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604512N *I Shipboard Aviation Systems*

Change Summary Explanation

Cost: Added/Realigned $16.7M (which includes a $7.431M BTR) in FY14 to the Advanced Arresting Gear (AAG) accomplishment to properly price the System Development and Demonstration (SDD) effort. Added funding in FY14 to the Aviation Data Management and Control System (ADMACS) Block effort to properly price the completion of the program in FY14.

Schedule:
Advanced Arresting Gear (AAG): Updated RALS Test and Shipboard Test.
Test Readiness Review (TRR): A TRR2 event was held in 1Q FY13 but had technical challenges driven by subcomponent design issues which were identified during integrated system test. Component redesign required retesting and subsequently the TRR2 event was rescheduled to 4Q FY14.
Environmental Qualification Test (EQT): As part of the program rebaseline, the EQT testing was reviewed and some tests were eliminated. Additionally shock testing was deferred to integrated test and evaluation following the System Development and Demonstration (SDD) phase.
Operational Evaluation(OPEVAL): AAG Ship Test OPEVAL is driven by the construction and testing schedule of CVN 78.

Aviation Data Management and Control System (ADMACS): Schedules delays due to issues with Cybersecurity compliance. Cybersecurity requirements, CVN availability schedules, and obsolescence mitigation necessitated a shift in events in order to bring three variations of ADMACS configuration into a single supportable Fleet configuration, as per MDA direction in the rebaseline plan.

Aircraft Launch and Recovery Equipment (ALRE) Modernization and Service Life Management Program (SLMP) events delayed one year due to funding higher priority issues within the ALRE program office.

Technical: Not Applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*				Project (Number/Name) 2232 / *CV/CVN Launch and Recover*			
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**
2232: *CV/CVN Launch and Recover*	464.297	77.046	122.083	120.217	-	120.217	43.973	17.837	10.999	11.279	Continuing	Continuing
Quantity of RDT&E Articles	1	-	-	4	-	4	-	-	-	-		

Note

PY article is Jet Car Track Site. FY16 Articles: Due to higher ALRE program priorities, the test articles were shifted one year to the right.

A. Mission Description and Budget Item Justification

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps Aircraft (Fixed/Rotary Wing and Vertical/Short Take-Off and Landing) operating aboard aircraft carriers (CVN), amphibious assault ships and air capable ships. This program includes the following systems under Project 2232, including the funding of production representative models for:

(1) Advanced Arresting Gear (AAG): The AAG program will design, develop, test and field an aircraft arrestment system to replace the legacy Mark 7 arresting gear. AAG systems will be installed on all new construction aircraft carriers. AAG will provide the U.S. Navy with improved operational capability, while reducing operating and support costs. The AAG system will recover all existing and projected carrier based tail hook-equipped air vehicles well into the 21st century. The AAG Program's SDD phase test article consists of a land based, single wire configured aircraft arresting system, which includes associated hardware and software needed to conduct system integrated testing by arresting both dead-loads and aircraft.

(2) Aviation Data Management and Control System (ADMACS): ADMACS is an integrated, network-centric, shipboard aviation operations information management system, which will provide data required for aircraft carriers aviation operations planning, execution and readiness assessment. ADMACS communicates aviation and command related data elements across the ADMACS Local Area Network and Integrated Shipboard Network System that electronically displays position and location of aircraft on the flight and hangar decks, status of aircraft, Aircraft Launch and Recovery Equipment, fuel, weapons types and quantity as well as a wide variety of other aviation related and ship information. Shipboard Aviation Information Management System providing CVN Aviation Planning, Execution & Readiness Assessment.

(3) Compact Swaging Machine: Funded by ONR (OSD PE# 060051D8Z) in FY 2009. The current process of pouring zinc sockets to attach the arresting gear purchase cable will be replaced with a new swaged terminal design that will be pressed on by means of a high density, compact swaging machine.

(4) Aircraft Launch & Recovery Equipment (ALRE) Modernization: ALRE Modernization encompasses efforts required to ensure continued functional performance, operational relevance, and cybersecurity accreditation for all product lines across the ALRE program. This includes efforts required to resolve emerging obsolescence issues (both hardware and software), implement fleet driven operational capability upgrades, and comply with Cybersecurity requirements and computer task order requirements for security threat mitigation.
(a)Improved Manually Operated Visual Landing Aid System (IMOVLAS): IMOVLAS will be the manual backup for Improved Fresnel Lens Optical Landing System (IFLOLS), which is the primary carrier Visual Landing Aid. IMOVLAS will be used in high sea states or if IFLOLS is inoperable, and will mirror current IFLOLS

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

configuration in size & display. Two production representative models will be procured in FY 2016; the models will be utilized for environmental and developmental testing.

(5) Aircraft Launch & Recovery Equipment (ALRE) Service Life Management Program (SLMP): The ALRE SLMP for Launcher and Recovery is required to sustain carrier aviation operations of higher energy aircraft launch and recoveries that are increasing loads on the ALRE systems, and that are affecting availability, maintainability and cost. This program will consist of service life assessment and extension initiatives and will establish the design foundation (structural, reliability, and maintainability analyses), permit appropriate assessment, track and focus design changes where most needed. Two SLMP Mark 7 prototypes will be procured in FY 2016.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Advanced Arresting Gear (AAG)	72.368	109.027	108.419	-	108.419
Articles:	-	-	-	-	-
Description: The AAG program is designing, developing, testing and fielding an aircraft arrestment system to replace the legacy Mark 7 arresting gear.					
FY 2014 Accomplishments: Continued AAG Jet Car Track Site (JCTS) Performance Testing via deadload arrestments. Conducted system investigative tests and implemented component upgrades to resolve system design and performance deficiencies. Continued execution of AAG Hardware Environmental Qualification testing. Commenced planning and site preparation of the Runway Arrested Landing Site (RALS) test facility. Continued development of AAG logistics products and system documentation.					
FY 2015 Plans: Continue JCTS performance testing utilizing deadloads. Continue site preparation, equipment integration and non-aircraft commissioning of the AAG system and software at the Runway Arrested Landing Site (RALS) test facility. Continue AAG Hardware Environmental Qualification testing. Conduct CVN-78 pre-commissioning training for maintainers and operators who will participate in AAG Operational Evaluation (OPEVAL). Continue development of AAG logistics products and system documentation.					
FY 2016 Base Plans: Continue JCTS performance testing utilizing deadloads. Conduct performance testing of the AAG hardware and software at the RALS test facility. Continue CVN-78 pre-commissioning training for maintainers and operators who will participate in AAG OPEVAL. Continue development of AAG logistics products and system documentation.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Aviation Data Management and Control System (ADMACS)	1.575	-	-	-	-
Articles:	-	-	-	-	-
Description: ADMACS provides a real time, fault tolerant (redundant), tactical information management system. ADMACS will integrate the Electromagnetic Aircraft Launch System and Advanced Arresting Gear interfaces into its baseline. ***FY 2014 Accomplishments:*** Software and Hardware development completed. All planning in support of Initial Operational Test and Evaluation in process, with completion dates on schedule. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Compact Swaging Machine (CSM)	0.153	-	-	-	-
Articles:	-	-	-	-	-
Description: Compact Swaging Machine - This program will replace the current process for attaching the terminal on the arresting gear purchase cable with a swaged terminal design that will be pressed on by means of a high density, compact, swaging machine. ***FY 2014 Accomplishments:*** Completed fleet terminal testing, evaluation, and training of CSM. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Aircraft Launch & Recovery Equipment Modernization	0.100	1.766	1.744	-	1.744
Articles:	-	-	2	-	2
Description: Improved Manually Operated Visual Landing Aid System (IMOVLAS) to improve carrier aviation operations. ***FY 2014 Accomplishments:*** IMOVLAS - Performed trade studies. Prepared Preliminary Engineering Change Proposal in preparation for Decision Memorandum. ***FY 2015 Plans:*** IMOVLAS - Begin the design, development and integration of the program, conduct Systems Requirements Review (SRR) and Preliminary Design Review (PDR). ***FY 2016 Base Plans:*** IMOVLAS - Commence System Design and Development of two production representative models. ***FY 2016 OCO Plans:*** N/A					
Title: Aircraft Launch & Recovery Equipment (ALRE) Service Life Management Program (SLMP)	2.850	11.290	10.054	-	10.054
Articles:	-	-	2	-	2
Description: ALRE SLMP analyzes launch and recovery equipment to determine feasible fielded equipment improvements. ***FY 2014 Accomplishments:*** Continue modeling and analysis of the Mark 7 (MK-7) arresting gear and C13-2 Catapult components and subcomponents. ***FY 2015 Plans:*** Continue modeling and analysis of the launch and recovery equipment. Continue design, development and testing of MK-7 components and subcomponents. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Procurement of MK-7 arresting gear prototypes and commence prototype testing. Continue design, development and testing of MK-7 components and subcomponents. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	77.046	122.083	120.217	-	120.217

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/4213: *Aircraft Launch & Recovery Equipment*	-	21.964	83.643	-	83.643	81.465	75.810	76.313	77.926	Continuing	Continuing
• SCN/2001: *Carrier Replacement Program*	1,505.653	1,882.425	2,633.119	-	2,633.119	2,955.056	3,530.762	2,075.957	873.334	Continuing	Continuing
• OPN/4216: *Aircraft Launch & Recovery Equipment*	58.110	-	-	-	-	-	-	-	-	-	276.910

Remarks

D. Acquisition Strategy

Advanced Arresting Gear (AAG): The Navy competitively awarded two Cost Plus Fixed Fee Technical Development phase contracts to develop the AAG system. Upon completion of the Preliminary Design and Integrated Baseline reviews, the Navy awarded a single Cost Plus Award Fee option to General Atomics for the System Development and Demonstration (SDD) phase to develop and demonstrate a production representative Advanced Arresting Gear (AAG) at the NAVAIR Lakehurst Jet Car Track Site and Runway Arrested Landing Site. In March 2009, the AAG program awarded a SDD contract modification to General Atomics for Transition to Production planning.

Aviation Data Management and Control System (ADMACS): The Navy designed and developed ADMACS using commercially available servers, switches, workstations and database and communications software. One Engineering Development Model and 2 Low Rate Initial Production systems have been procured from a directed 8(a) Alaskan Native Corporation source.

Compact Swaging Machine: The Navy amended an existing Small Business Technology Transfer Phase III contract in order to build and test a prototype high density swaging machine which has been developed under Defense Acquisition Challenge Program funding (OSD PE 060051D8Z).

Aircraft Launch & Recovery Equipment Modernization:
Improved Manually Operated Visual Landing Aid System (IMOVLAS): The Navy will develop IMOVLAS using commercial equipment racks, processors and displays.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

Aircraft Launch & Recovery Equipment Service Life Management Program (SLMP): This program will consist of Service Life Assessment and Extension initiatives and will establish the design foundation (structural, reliability and maintainability analyses), permit appropriate assessment, track and focus design changes where most needed. SLMP will develop a competitive procurement package to build and test the Mark 7 arresting gear prototypes.

E. Performance Metrics

Advanced Arresting Gear (AAG) will complete System Development and Demonstration Integrated testing at Jet Car Track Site and Runway Arrested Landing Site. AAG will demonstrate its key performance parameters and readiness for operational test.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*	Project (Number/Name) 2232 / *CV/CVN Launch and Recover*	

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
Primary HW Dev-AAG	C/CPAF	Gen Atomics : San Diego, CA	321.230	54.735	Dec 2013	57.900	Dec 2014	54.900	Dec 2015	-		54.900	14.900	503.665	503.665
Primary HW Dev-AAG	WR	NAWCAD : Lakehurst, NJ	25.452	4.761	Nov 2013	6.218	Nov 2014	14.786	Nov 2015	-		14.786	Continuing	Continuing	Continuing
System Eng-AAG	WR	NAWCAD : Lakehurst, NJ	16.530	3.607	Nov 2013	14.375	Nov 2014	12.079	Nov 2015	-		12.079	Continuing	Continuing	Continuing
Shipboard Integration-AAG	WR	NAWCAD : Lakehurst, NJ	3.472	0.017	Nov 2013	1.215	Nov 2014	0.055	Nov 2015	-		0.055	Continuing	Continuing	Continuing
Primary HW Dev-ADMACS	WR	NAWCAD : Lakehurst, NJ	6.590	0.142	Nov 2013	-		-		-		-	-	6.732	-
System Eng-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.637	0.100	Nov 2013	-		-		-		-	-	0.737	-
Shipboard Integration-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.055	0.333	Nov 2013	-		-		-		-	-	0.388	-
System Eng-CSM	WR	NAWCAD : Lakehurst, NJ	0.624	0.083	Nov 2013	-		-		-		-	-	0.707	-
Primary HW Dev-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.066	0.060	Nov 2013	1.173	Nov 2014	1.042	Nov 2015	-		1.042	Continuing	Continuing	Continuing
System Eng-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.019	0.030	Nov 2013	0.193	Nov 2014	0.146	Nov 2015	-		0.146	Continuing	Continuing	Continuing
Primary HW Dev-SLMP	WR	NAWCAD : Lakehurst, NJ	5.226	2.850	Nov 2013	5.966	Nov 2014	5.730	Nov 2015	-		5.730	Continuing	Continuing	Continuing
Prior Year Cost No Longer Funded in FYDP	Various	Various : Various	40.630	-		-		-		-		-	-	40.630	-
		Subtotal	420.531	66.718		87.040		88.738		-		88.738	-	-	-

Remarks

Note: $1.05M (10.5%) in Award Fees have been paid out of the $10M Award Fee Pool; the contractor Gen Atomics, San Diego, CA has waived remaining Award Fees.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*	Project (Number/Name) 2232 / *CV/CVN Launch and Recover*	

Support ($ 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
ILS-AAG	WR	NAWCAD : Lakehurst, NJ	10.497	1.747	Nov 2013	4.106	Nov 2014	5.399	Nov 2015	-		5.399	Continuing	Continuing	Continuing
ILS-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.584	0.129	Nov 2013	-		-		-		-	-	0.713	-
ILS-CSM	WR	NAWCAD : Lakehurst, NJ	0.291	0.070	Nov 2013	-		-		-		-	-	0.361	-
ILS-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.001	-		0.150	Nov 2014	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Obsolescence Redesign - Modernization	WR	NAWCAD : Lakehurst, NJ	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
ILS-SLMP	WR	NAWCAD : Lakehurst, NJ	0.235	-		0.291	Nov 2014	0.088	Nov 2015	-		0.088	Continuing	Continuing	Continuing
Studies & Analysis-SLMP	WR	NAWCAD : Lakehurst, NJ	3.889	-		5.033	Nov 2014	2.229	Nov 2015	-		2.229	Continuing	Continuing	Continuing
Prior Year Cost No Longer Funded in FYDP	Various	Various : Various	0.501	-		-		-		-		-	-	0.501	-
		Subtotal	15.998	1.946		9.580		7.866		-		7.866	-	-	-

Test and Evaluation ($ 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
Dev Test & Eval-AAG	WR	NAWCAD : Lakehurst, NJ	20.512	7.037	Dec 2013	24.714	Nov 2014	20.700	Nov 2015	-		20.700	Continuing	Continuing	Continuing
Operational T&E-AAG	WR	Various : Various	1.737	0.281	Dec 2013	0.290	Dec 2014	0.290	Dec 2015	-		0.290	Continuing	Continuing	Continuing
Dev Test Lab-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.000	0.471	Nov 2013	-		-		-		-	-	0.471	-
Integrated Testing ADMACS	WR	NAWCAD : Lakehurst, NJ	0.069	0.400	Nov 2013	-		-		-		-	-	0.469	-
Performance Test-CSM	WR	NAWCAD : Lakehurst, NJ	1.992	-		-		-		-		-	-	1.992	-
Integrated Testing-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.000	-		0.250	Nov 2014	0.406	Nov 2015	-		0.406	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*	Project (Number/Name) 2232 / *CV/CVN Launch and Recover*	

Test and Evaluation ($ 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
Materials/Validation Testing-SLMP	WR	NAWCAD : Lakehurst, NJ	1.194	-		-		2.007	Nov 2015	-		2.007	-	3.201	-
Prior Year Cost No Longer Funded in FYDP	Various	Various : Various	0.777	-		-		-		-		-	-	0.777	-
		Subtotal	26.281	8.189		25.254		23.403		-		23.403	-	-	-

Management Services ($ 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
Prgm Mgmt Supt	C/CPFF	L3 Communications : Lexington Park, MD	0.135	-		-		-		-		-	-	0.135	0.135
Prgm Mgmt Supt	C/CPFF	Sierra : California, MD	0.987	0.170	Dec 2013	0.170	Dec 2014	0.170	Dec 2015	-		0.170	0.510	2.007	2.007
Travel	Reqn	NAVAIR : Patuxent River, MD	0.365	0.023	Oct 2013	0.039	Oct 2014	0.040	Oct 2015	-		0.040	Continuing	Continuing	Continuing
		Subtotal	1.487	0.193		0.209		0.210		-		0.210	-	-	-

	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	464.297	77.046		122.083		120.217		-		120.217	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

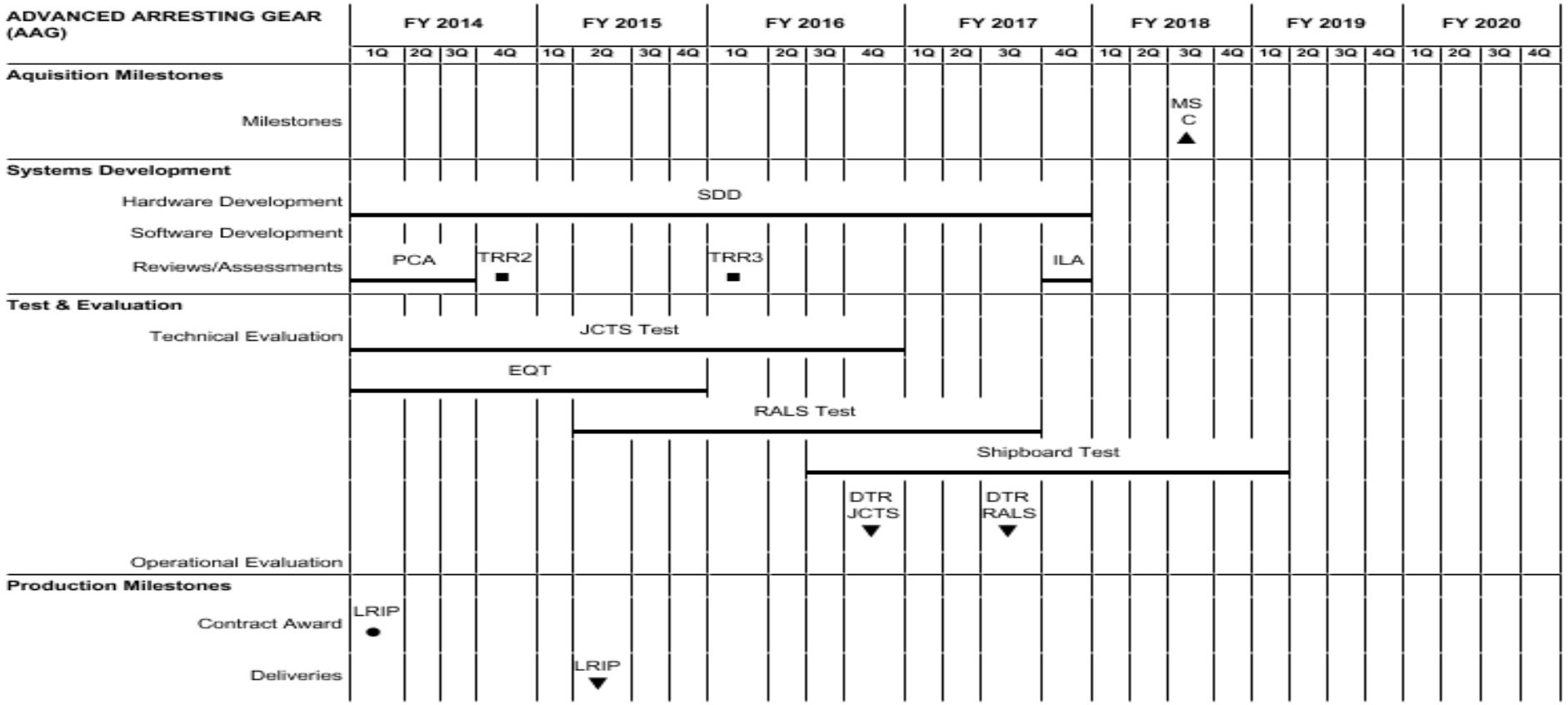

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

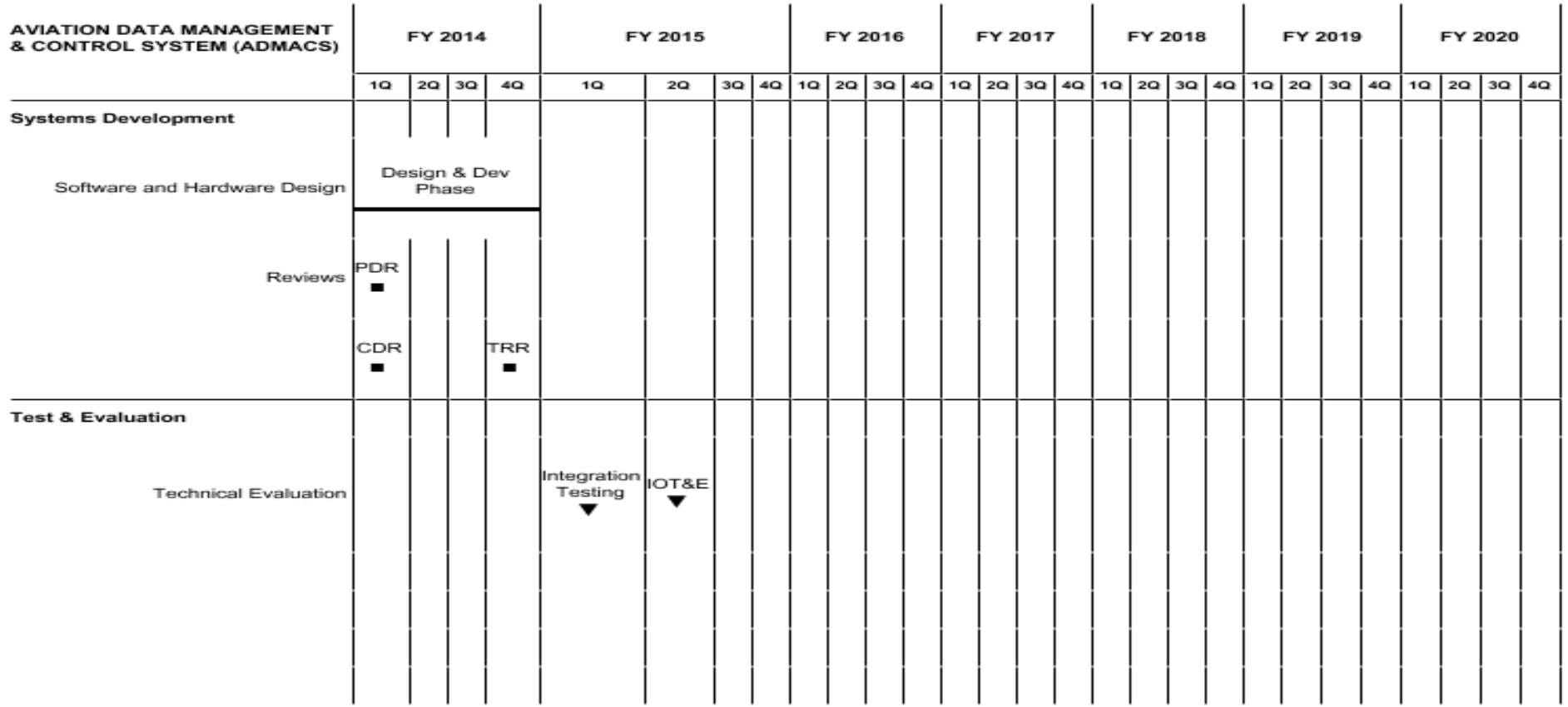

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

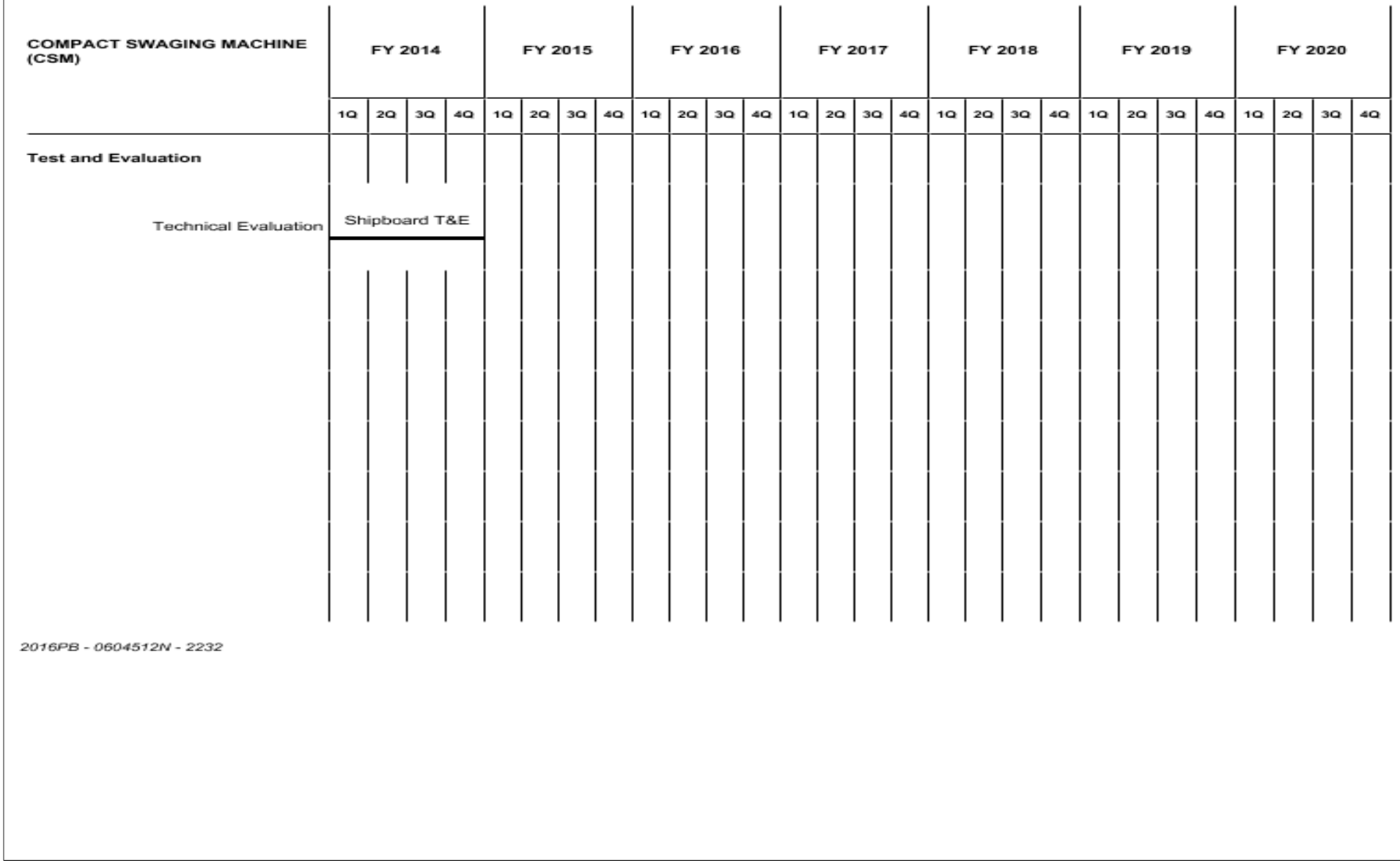

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

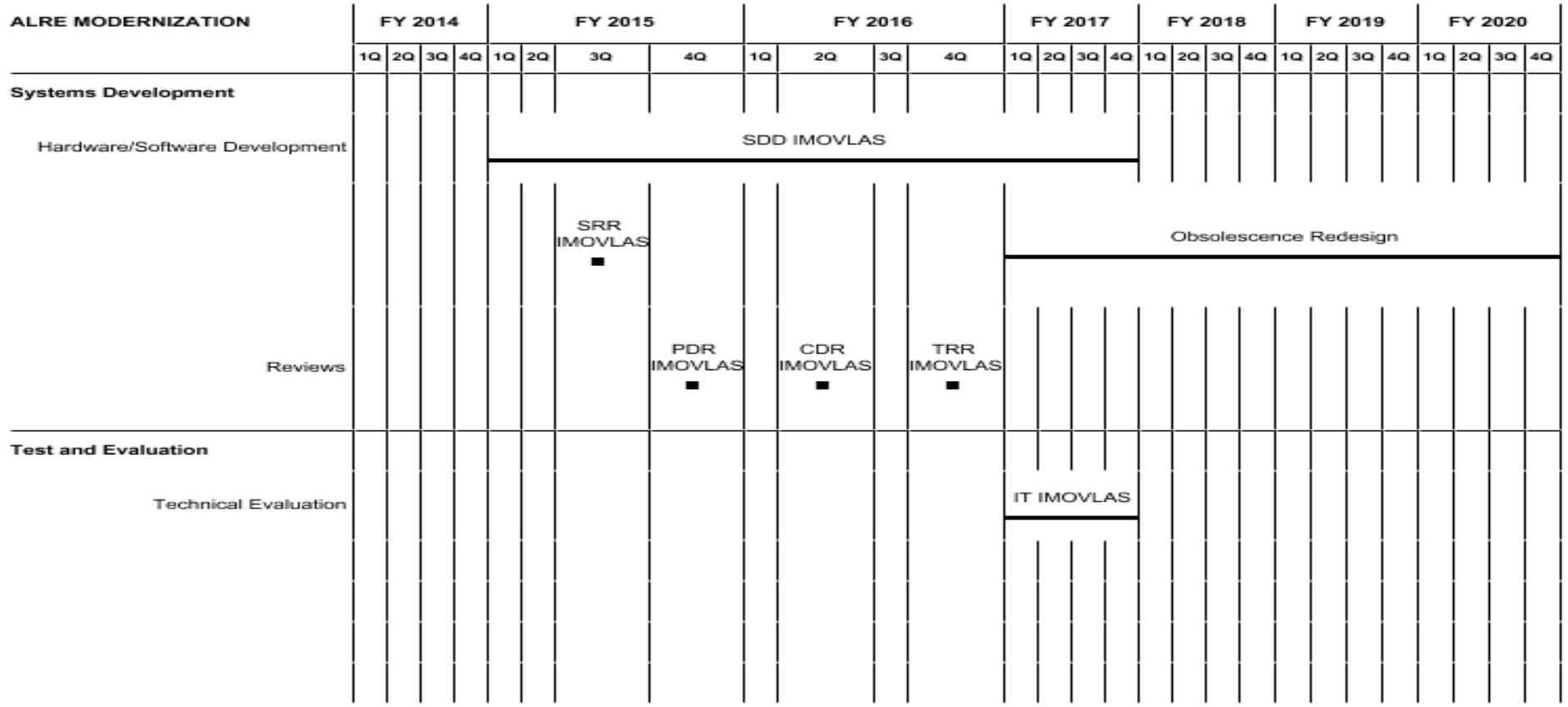

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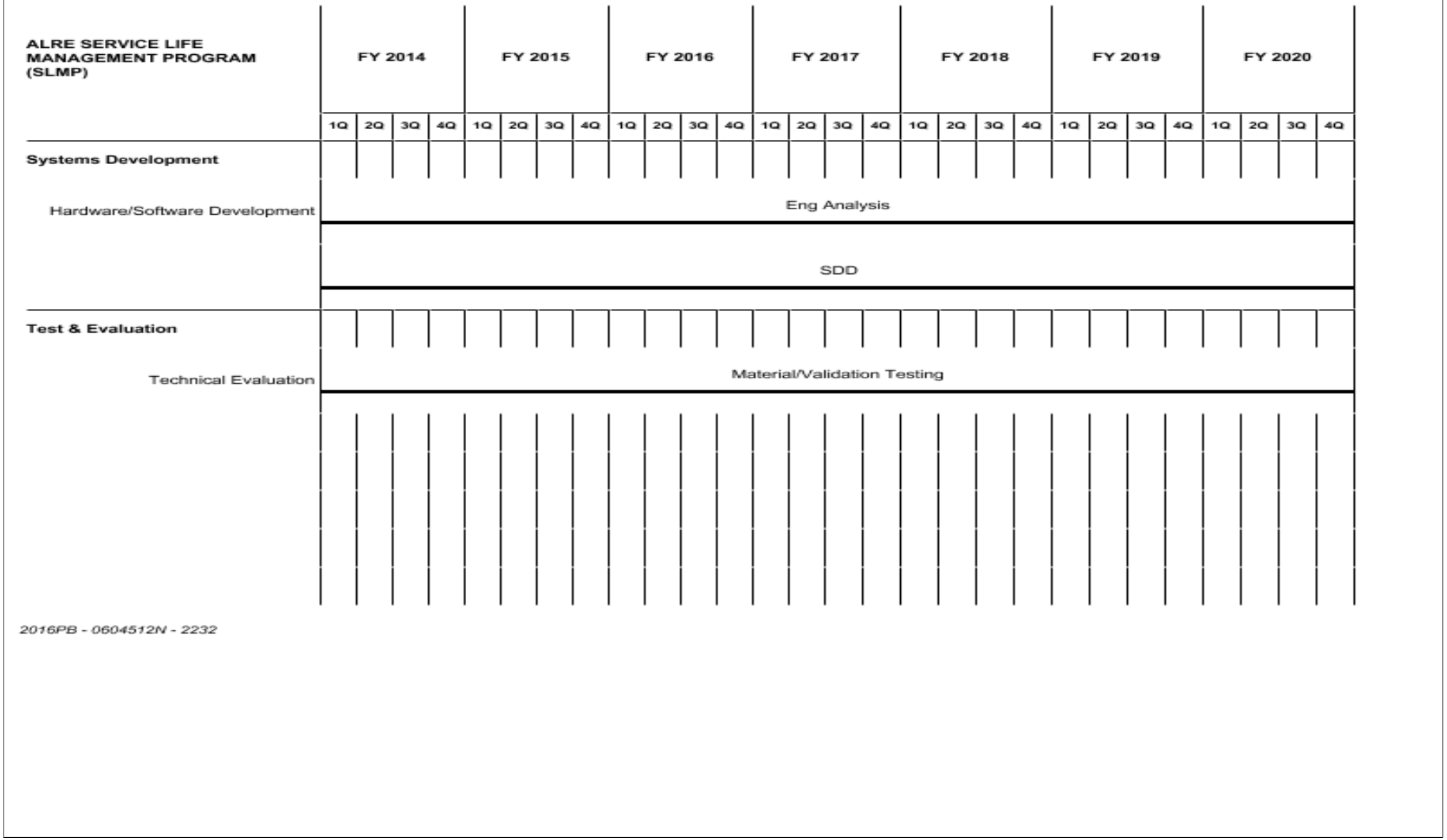
Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*



2016PB - 0604512N - 2232

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ADVANCED ARRESTING GEAR (AAG)				
Aquisition Milestones: Milestones: Milestone C	3	2018	3	2018
Systems Development: Hardware Development: System Design & Development (SDD Phase)	1	2014	4	2017
Systems Development: Reviews/Assessments: Integrated Logistic Assessment (ILA)	4	2017	4	2017
Systems Development: Reviews/Assessments: Physical Configuration Assessment (PCA)	1	2014	3	2014
Systems Development: Reviews/Assessments: Technical Readiness Review (TRR2) JCTS Performance Deadload	4	2014	4	2014
Systems Development: Reviews/Assessments: Technical Readiness Review (TRR3) RALS	1	2016	1	2016
Test & Evaluation: Technical Evaluation: Jet Car Test Site (JCTS) Test	1	2014	4	2016
Test & Evaluation: Technical Evaluation: Environmental Qualification Test (EQT)	1	2014	4	2015
Test & Evaluation: Technical Evaluation: Runway Arrested Landing Site Test (RALS)	2	2015	3	2017
Test & Evaluation: Technical Evaluation: Shipboard Test / OPEVAL	3	2016	1	2019
Test & Evaluation: Technical Evaluation: JCTS Development Test Report (DTR)	4	2016	4	2016
Test & Evaluation: Technical Evaluation: RALS Development Test Report (DTR)	3	2017	3	2017
Production Milestones: Contract Award: Low Rate Initial Production (LRIP) OPN	1	2014	1	2014
Production Milestones: Deliveries: Low Rate Initial Production (LRIP) OPN	2	2015	2	2015
AVIATION DATA MANAGEMENT & CONTROL SYSTEM (ADMACS)				
Systems Development: Software and Hardware Design: Design and Development Phase	1	2014	4	2014
Systems Development: Reviews: Preliminary Design Review (PDR)	1	2014	1	2014
Systems Development: Reviews: Critical Design Review (CDR)	1	2014	1	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Reviews: Test Readiness Review (TRR)	4	2014	4	2014
Test & Evaluation: Technical Evaluation: Ship Integration Test	1	2015	1	2015
Test & Evaluation: Technical Evaluation: Initial Operational Test and Evaluation (IOT&E)	2	2015	2	2015
COMPACT SWAGING MACHINE (CSM)				
Test and Evaluation: Technical Evaluation: Shipboard Test & Eval	1	2014	4	2014
ALRE MODERNIZATION				
Systems Development: Hardware/Software Development: Design and Development	1	2015	4	2017
Systems Development: Hardware/Software Development: System Readiness Review	3	2015	3	2015
Systems Development: Hardware/Software Development: Obsolescence Redesign Development and Testing	1	2017	4	2020
Systems Development: Reviews: Preliminary Design Review (PDR)	4	2015	4	2015
Systems Development: Reviews: Critical Design Review (CDR)	2	2016	2	2016
Systems Development: Reviews: Test Readiness Review (TRR)	4	2016	4	2016
Test and Evaluation: Technical Evaluation: Integrated Test	1	2017	4	2017
ALRE SERVICE LIFE MANAGEMENT PROGRAM (SLMP)				
Systems Development: Hardware/Software Development: Engineering Analysis	1	2014	4	2020
Systems Development: Hardware/Software Development: System Design and Development	1	2014	4	2020
Test & Evaluation: Technical Evaluation: Material and Validation Testing	1	2014	4	2020