Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604245N *I H-1 Upgrades*							
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
Total Program Element	48.994	43.469	27.235	27.441	-	27.441	32.625	33.339	34.261	37.359	Continuing	Continuing
3359: *H-1 Improvements*	48.994	43.469	27.235	27.441	-	27.441	32.625	33.339	34.261	37.359	Continuing	Continuing

A. Mission Description and Budget Item Justification

The mission of the AH-1 attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance, survivability enhancements, and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1 utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft include 37 AH-1Ws converted to AH-1Zs, build 152 new AH-1Zs, remanufacture ten (10) H-1N helicopters and build 150 new UH-1Y models. AH-1Z and UH-1Y models include a 4-bladed, composite rotor system with semi-automatic bladefold, performance-matched transmissions, T700 Engine Digital Electronic Control Units, 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, and common, fully integrated cockpits and avionics systems. These upgrades will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, air-to-ground missile and air-launched intercept missile weapon systems management in nearly identical crew stations, which significantly reduces training requirements. These upgrades maximize commonality between the two aircraft and provide needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

This budget is required for follow-on improvements to H-1 aircraft via integration of sensors and weapons, avionics, and air vehicle components that will address deficiencies, systems safety, obsolescence, reliability, supportability, relevance in the battlespace, and cost growth issues. Improvements will include all associated System Configuration Set (SCS) updates as well as integration and testing related to the aircraft platforms.

B. Program Change Summary ($ in Millions)	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**
Previous President's Budget	44.115	27.235	27.020	-	27.020
Current President's Budget	43.469	27.235	27.441	-	27.441
Total Adjustments	-0.646	0.000	0.421	-	0.421
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.646	0.000			
• Program Adjustments	0.000	0.000	3.012	-	3.012

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy					Date: February 2016
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*		R-1 Program Element (Number/Name) PE 0604245N *I H-1 Upgrades*			
• Rate/Misc Adjustments	0.000	0.000	-2.591	-	-2.591

Change Summary Explanation

The FY 2017 funding request was reduced by $2.719M to account for the availability of prior year execution balances.

Technical & Schedule: In order to maintain fleet fielding schedule, SCS 8.2 functionality has been further parsed out into smaller delivery packages, SCS 8.3, 8.4, and 8.5.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604245N / *H-1 Upgrades*	Project (Number/Name) 3359 / *H-1 Improvements*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3359: *H-1 Improvements*	48.994	43.469	27.235	27.441	-	27.441	32.625	33.339	34.261	37.359	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The objective of H-1 Improvements is to provide follow-on Research, Development, Test and Evaluation efforts in support of all H-1 aircraft.

H-1 Improvements include System Configuration Set (SCS) development and testing. SCS involves the integration of the entire set of airborne electronics connected via the 1553 data bus and includes much of the electronic hardware and software described in air vehicle, avionics, and sensors and weapons below. This includes correction of hardware and software deficiencies as identified through test and/or due to obsolescence issues.

Air Vehicle and Engine improvements include analysis of structural data to formulate Damage Limits and Tolerances for structural components to reduce life cycle costs and maintenance workload; and redesign of structural components and drive system components to minimize excessive and premature wear, increase reliability, and improve existing design deficiencies. Additional air vehicle upgrades include: redesign of the aircraft power-generating components (generators, inverters, wiring) to support power requirements for existing and future systems (avionics, sensors, and weapons) and to reduce aircraft weight, redesign of the Environmental Control System /Thermal Redesign to support cooling of Technology Refresh Mission Computer and other avionics, and redesign to add an aerial refueling capability.

Avionics improvements target digital inter-operability, integrated avionics, safety & survivability, and situational awareness for both the pilot and aircrew safety. This includes integrating Blue Force Tracking, Joint Battle Command-Platform (JBC-P), Full Motion Video (FMV), Degraded Visual Environment (DVE), Helmet Mounted Display improvements, cockpit displays, precision and GPS non-precision landing capability, Crash Survivable Flight Incident Recorder, collision avoidance, improved Embedded Global Positioning System (EGI), Inertial Navigation System (INS), targeting sensor systems and mission computer. H-1 capability improvements include improved Aircraft Survivability Equipment (ASE), digital operations & transfer of data, digital interoperability, digital video recording, video and data networking, and information integration with aviation combat elements and Marine Air Ground Task Force elements. Mandated capability efforts include CNS/ATM, Required Navigation Performance/Area Navigation (RNP/RNAV), GPS Selective Availability Anti-Spoofing Module (SAASM), Automatic Dependent Surveillance - Broadcast (ADS-B), Crash Survivable Flight Incident Recorder, development efforts required for Depot standup and incorporation of technology and information protection/Information Assurance in critical avionics and sensor systems. In addition, the goal is to reduce total ownership cost for H-1 aircraft and related support systems by improving reliability and maintainability of critical flight and avionics systems along with associated peculiar avionics support equipment and incorporating fact-of-life obsolescence solutions.

Sensors and Weapons improvements include upgrades and reliability initiatives, hardware and infrared improvements for the Targeting Sight System and BRITE Star Sensors. These enhancements will provide upgraded performance, improve overall design, producibility and maintainability. In addition, several aircraft stores integration efforts are being performed. The AN/ALQ-231 (V) Intrepid Tiger II Electronic Warfare Pod will be integrated to provide a new Electronic Warfare capability. The Joint Air-to-Ground Missile (JAGM) and AGM-114 Romeo Hellfire missiles began integration efforts starting in FY14. These missiles will provide new interfaces to the aircraft that allow for better targeting capabilities with a new millimeter wave sensor (JAGM), provide enhanced lethality with greater fuze functionality and incorporate a new multi-effects warhead. Continued improvements to aircraft armament systems and ordnance systems will continue with additional operational testing of Advanced Precision Kill Weapons (APKWS), and M299 Launcher improvements.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

These improvements will provide considerable growth potential for future weapon systems, air vehicle improvements, software improvements, and avionics upgrades, which will significantly increase mission effectiveness & survivability, while potentially reducing life cycle costs. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, precision guided munitions, and air-launched intercept missile weapon systems management in nearly identical crew stations, which significantly reduce training requirements. These upgrades maximize commonality between all H-1 Type/Model/Series aircraft and provide needed improvements in crew and passenger reliability, survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: System Configuration Set Development	19.192	17.371	13.486	0.000	13.486
Articles:	-	-	-	-	-
FY 2015 Accomplishments: FY 2015 plans - SCS 8.0 - Correction of hardware and software deficiencies as identified through test and/or due to obsolescence issues. SCS 8.0 is planned in two increments, SCS 8.1 and SCS 8.2, and will address key avionics and sensors obsolescence issues that affect Aircraft Production Lots. SCS 8.1 will continue development and flight test of Tech Refresh Mission Computer (avionics obsolescence issue required to support delivery of production aircraft beginning with Lot 11/FY 2014), Target Sight System (TSS) Turret Electronics Unit (TEU) (electro-optical sensor obsolescence issue required to support production aircraft beginning with Lot 13/ FY 2016), and the associated System Security Engineering (SSE) improvements required as DoD mandates for both updated avionics and updated sensor electronics. SCS 8.2 will continue the design and development of Radar Warning Set AN/APR-39 D(V)2 (sensor/avionics obsolescence issue required to support Lot 14/FY 2017), the Advanced Data Transfer System (ADTS) needed for digital map data to meet Terrain Awareness Warning System (TAWS) mandate, and Airborne Network Switch (ANS) needed to switch multiple devices to communicate with the TRMC via ethernet.					
FY 2016 Plans: SCS 8.1 development completion. Continue SCS 8.2 with the design and development of Radar Warning Set AN/APR-39 D(V)2 (sensor/avionics) to correct obsolescence issue required to support Lot 14/FY 2017. Integrate the Advanced Data Transfer System (ADTS) needed for digital map data to meet Terrain Awareness Warning System (TAWS) mandate, and Airborne Network Switch (ANS) needed to switch multiple devices to communicate with the Tech Refresh Mission Computer (TRMC) via Ethernet. Integrate and test AN/ALE-47 Dispensing System software upgrades to increase the survivability of platforms against Infrared (IR) threats. Integrate Target Sight System (TSS) Laser Spot Tracker (LST) to increase platform target acquisition capability.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Complete Developmental Test (DT) and Operation Testing (OT) for SCS 8.2. Commence SCS 8.3 ANS/ADTS software design, development, and integration. ***FY 2017 Base Plans:*** Continue SCS 8.3 ANS/ADTS software design, development, and integration. SCS 8.3 is completed with DT and OT planned for end of FY17 for digital map data to support follow on TAWS integration and multiple device communication within the platform to the TRMC. Commence SCS 8.4 software development for integration of JAGM and establish requirements for SCS 8.5 TAWS software development and integrations. ***FY 2017 OCO Plans:*** N/A					
Title: Weapons and Sensors Testing and Integration	6.105	0.986	1.046	0.000	1.046
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Develop, test and integrate hardware, software changes to address parts obsolescence and deficiencies identified in test for aircraft sensors; Target Sight Systems (TSS) and the BRITE Star II. Begin software integration of Joint Air to Ground Missile and AGM-114 Romeo Missile to test functionality and compatibility with aircraft software. Collect flight test data, to include captive carriage noise and vibration as well conduct safe separation analysis. Continue to refine rocket boresight and launch profiles to improve effectively of the Advanced Precision Kill System (APKWS). Conduct captive carriage and development/operational testing of the AN/ALQ-231 Intrepid Tiger, to include conducting feasibility studies as well as operational evaluations. ***FY 2016 Plans:*** Flight testing of TSS Laser Spot Tracker/HDTV/1K Forward Looking Infra Red (FLIR) Software and Hardware improvements as well as begin conducting captive carriage and development testing of the Joint Air-to-Ground Missile as part of SCS 8.2 or later version. ***FY 2017 Base Plans:*** FY17 - Continue flight testing of TSS Laser Spot Tracker/HDTV/1K FLIR software and hardware improvements (including -80 turret) as well as TSS TEU re-design testing. Continue captive carriage testing of the JAGM. ***FY 2017 OCO Plans:*** N/A					
Title: Air Vehicle and Engines Improvements	15.455	5.426	9.250	0.000	9.250
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
FY 2015 Accomplishments: Complete aircraft flight load survey and conduct analysis of structural data to formulate Damage Limits and Tolerances for rotor components to reduce life cycle costs, and maintenance workload; continue redesign of structural components to minimize excessive and premature wear, increase reliability, and improve existing design deficiencies. Initiate redesign of the auxiliary fuel system, and initiate aerial refueling capability. Initiate component fatigue testing to increase component life limits (Tailboom, rotor system components). Continue air vehicle and engine improvements upgrades to include redesign of the aircraft power-generating components (generator, inverters, wiring) to support power requirements for existing and future systems (avionics, sensors and weapons) and to reduce aircraft weight. Continue redesign of structural components including UH-1Y floor boards, attach beams/belly access panels, the elevator, the landing gear skid tubes, UH-1Y cargo doors, and the Improved Defensive Armament System; continue Environmental Control System/Thermal Redesign to support cooling of Tech Refresh Mission Computer/Mission Computer and other avionics. Continue redesign of the drive system components (rotor brake/slip ring/standpipe/gearboxes/drive shaft & couplers/chip detectors) to increase reliability and reduce high cost and/or failure deficiencies. ***FY 2016 Plans:*** Continue redesign of structural components to minimize excessive and premature wear, increase reliability, and improve existing design deficiencies. Initiate redesign of the auxiliary fuel system, and initiate aerial refueling capability. Continue air vehicle and engine improvements upgrades to include redesign of the aircraft power-generating components (generator, inverters, wiring) to support power requirements for existing and future systems (avionics, sensors and weapons) and to reduce aircraft weight. Continue Environmental Control System/Thermal Redesign to support other avionics on the UH-1Y/AH-1Z. ***FY 2017 Base Plans:*** Continue redesign of structural components to minimize excessive and premature wear, increase reliability, and improve existing design deficiencies. Continue redesign of the auxiliary fuel system. Continue air vehicle and engine improvements upgrades to include redesign of the aircraft power-generating components (generator, inverters, wiring) to support power requirements for existing and future systems (avionics, sensors and weapons) and to reduce aircraft weight. Continue Environmental Control System/Thermal Redesign to support other avionics on the UH-1Y/AH-1Z. Initiate survivability upgrades (canted forward chaff buckets, blast frag canopy, opaque armor, self-sealing fuel tanks, sump and backing board.) ***FY 2017 OCO Plans:*** N/A					
Title: Avionics Improvements	2.717	3.452	3.659	0.000	3.659

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Articles:	-	-	-	-	-
FY 2015 Accomplishments: Continue avionics development & testing on Digital Map and data storage capability, digital video recording, digital systems upgrades, avionics components obsolescence and regression testing; continue development efforts on Terrain Awareness Warning System. Continue enhanced digital capability efforts, Aircraft Survivability Equipment improvements, Helmet Mounted Display improvements, avionics systems obsolescence mitigation efforts, development of peculiar avionics support equipment, and development of automatic test equipment. Continue Full Motion Video design/development and digital interoperability efforts to receive and send video imagery for situational awareness and to reduce the kill chain while complying with rules of engagement for targeting accuracy, maintaining positive ID, and for timely Battle Damage Assessment.					
FY 2016 Plans: Continue avionics development & testing on Digital Map and data storage capabilities, digital video recording, avionics components obsolescence and regression testing; continue development efforts on Terrain Awareness Warning System (TAWS). Continue enhanced digital capability efforts, Aircraft Survivability Equipment (ASE) improvements, Helmet Mounted Display improvements, avionics systems obsolescence mitigation efforts, development of peculiar avionics support equipment, and development of automatic test equipment. Continue Full Motion Video (FMV) design/development and digital interoperability efforts. Initiate development efforts on Wireless Intercommunication Systems (WICS), Joint Battlefield Command - Platform (JBC-P), Mobile User Objective System (MUOS) for over the horizon communication, Degraded Visual Environment and collision avoidance capability. Initiate Embedded Global Positioning System/Inertial Navigation System (EGI) upgrade for Aircraft Dependent Surveillance Broadcast (ADS-B), Selective Availability Anti-Spoofing Module (SAASM), GPS non-precision approach capability and Navigation Warfare (NAVWAR) GPS signal protection efforts. Also initiate UH-1Y aft cabin display for situational awareness and portable tablet Marine Air-Ground Task Force (MAGTF) digital interoperability coordination capability along with digital helmet mounted display capabilities. Initiate integration of Crash Survivable Flight Incident Recorder and Improved Vehicle Health and Monitoring System.					
FY 2017 Base Plans: Initiate avionics development & testing on ASE ALE-47 Electronic Warfare and APR-39D(V)2; Aircraft Network Switch (ANS)/Advanced Data Transfer System and Satellite Communications. Continue avionics development & testing on Digital Map and data storage capabilities, digital video recording, avionics components obsolescence and regression testing; continue development efforts on TAWS; enhanced digital capability efforts, other ASE improvements, Helmet Mounted Display improvements, avionics systems obsolescence mitigation efforts,					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
development of peculiar avionics support equipment, and development of automatic test equipment; digital interoperability efforts, development efforts on WICS, JBC-P, MUOS for over the horizon communication, Degraded Visual Environment and collision avoidance capability, EGI upgrade for ADS-B, SAASM, GPS non-precision approach capability and NAVWAR GPS signal protection efforts; UH-1Y aft cabin display for situational awareness and portable tablet MAGTF digital interoperability coordination capability; additional waveform functionality; along with digital helmet mounted display capabilities, and integration of Crash Survivable Flight Incident Recorder and Improved Vehicle Health and Monitoring System. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	43.469	27.235	27.441	0.000	27.441

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• APN/0178: *UH-1Y/AH-1Z APN1*	835.141	783.954	759.778	-	759.778	829.415	908.711	5.966	6.038	17.574	10,107.473
• APN/0178C: *UH-1Y/AH-1Z APN1 Advance Procurement*	63.354	56.168	57.232	-	57.232	58.324	0.000	0.000	0.000	0.000	524.758

Remarks

D. Acquisition Strategy

Both UH-1Y and AH-1Z are currently in the follow-on test and evaluation period. Planning and testing has begun to evaluate enhancements such as incorporating improvements to address critical reliability deficiencies, avionics upgrades to improve existing capability including sending/receiving data in battlefield conditions, additional weapons and sensor capabilities, and Engineering Change Proposals as they are funded and approved. Test and Evaluation Master Plan revisions will be developed in support of testing for future enhancements. Future engineering changes will be funded to correct deficiencies as identified by test and fleet usage. Additional upgrades to the aircraft will be completed incrementally as requirements are defined and funded.

E. Performance Metrics

System Configuration Set (SCS) 7.0 software delivery 3Q FY 2015. SCS 8.1 software delivery 4Q FY 2016. SCS 8.2 software delivery 1Q FY 2018. SCS 8.3 software delivery 1Q FY 2019. SCS 8.4 software delivery 1Q FY 2020. SCS 8.5 software delivery 1Q FY 2021. Successfully complete Developmental Test and Operational Test for H-1 Improvements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	BHTI : Amarillo, TX	8.866	6.906	Jan 2015	1.237	Jan 2016	5.140	Jan 2017	-		5.140	30.235	52.384	52.384
Primary Hardware Development	SS/CPFF	Northrup Grumman : Woodland Hills, CA	0.000	2.066	Nov 2014	0.648	Nov 2015	0.000		-		0.000	0.000	2.714	2.714
Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.951	0.962	Nov 2014	0.519	Nov 2015	0.525	Nov 2016	-		0.525	2.160	5.117	-
		Subtotal	9.817	9.934		2.404		5.665		-		5.665	32.395	60.215	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	SS/CPFF	BHTI : Amarillo, TX	13.941	6.257	Feb 2015	8.198	Feb 2016	5.061	Feb 2017	-		5.061	33.880	67.337	67.337
Software Development	SS/FP	Northrup Grumman : Woodland Hills, CA	0.000	3.201	Nov 2014	1.814	Nov 2015	1.664	Nov 2016	-		1.664	6.948	13.627	13.627
Software Development	WR	NAWCWD : China Lake, CA	11.885	9.760	Nov 2014	7.359	Nov 2015	6.761	Nov 2016	-		6.761	28.780	64.545	-
		Subtotal	25.826	19.218		17.371		13.486		-		13.486	69.608	145.509	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test and Evaluation	WR	COMOPTEVFOR : Norfolk, VA	2.163	2.189	Nov 2014	0.802	Nov 2015	0.810	Nov 2016	-		0.810	3.297	9.261	-
Development Test and Evaluation	WR	NAWCAD : Patuxent River, MD	9.990	10.712	Nov 2014	5.418	Nov 2015	6.225	Nov 2016	-		6.225	27.405	59.750	-
		Subtotal	12.153	12.901		6.220		7.035		-		7.035	30.702	69.011	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	0.318	0.322	Nov 2014	0.326	Nov 2015	0.330	Nov 2016	-		0.330	1.355	2.651	2.651
Program Management Support	Various	Various : Various	0.671	0.894	Nov 2014	0.679	Nov 2015	0.687	Nov 2016	-		0.687	2.824	5.755	5.755
Travel	WR	NAVAIR : Patuxent River, MD	0.209	0.200	Oct 2014	0.235	Oct 2015	0.238	Oct 2016	-		0.238	Continuing	Continuing	Continuing
		Subtotal	1.198	1.416		1.240		1.255		-		1.255	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	48.994	43.469		27.235		27.441		-		27.441	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

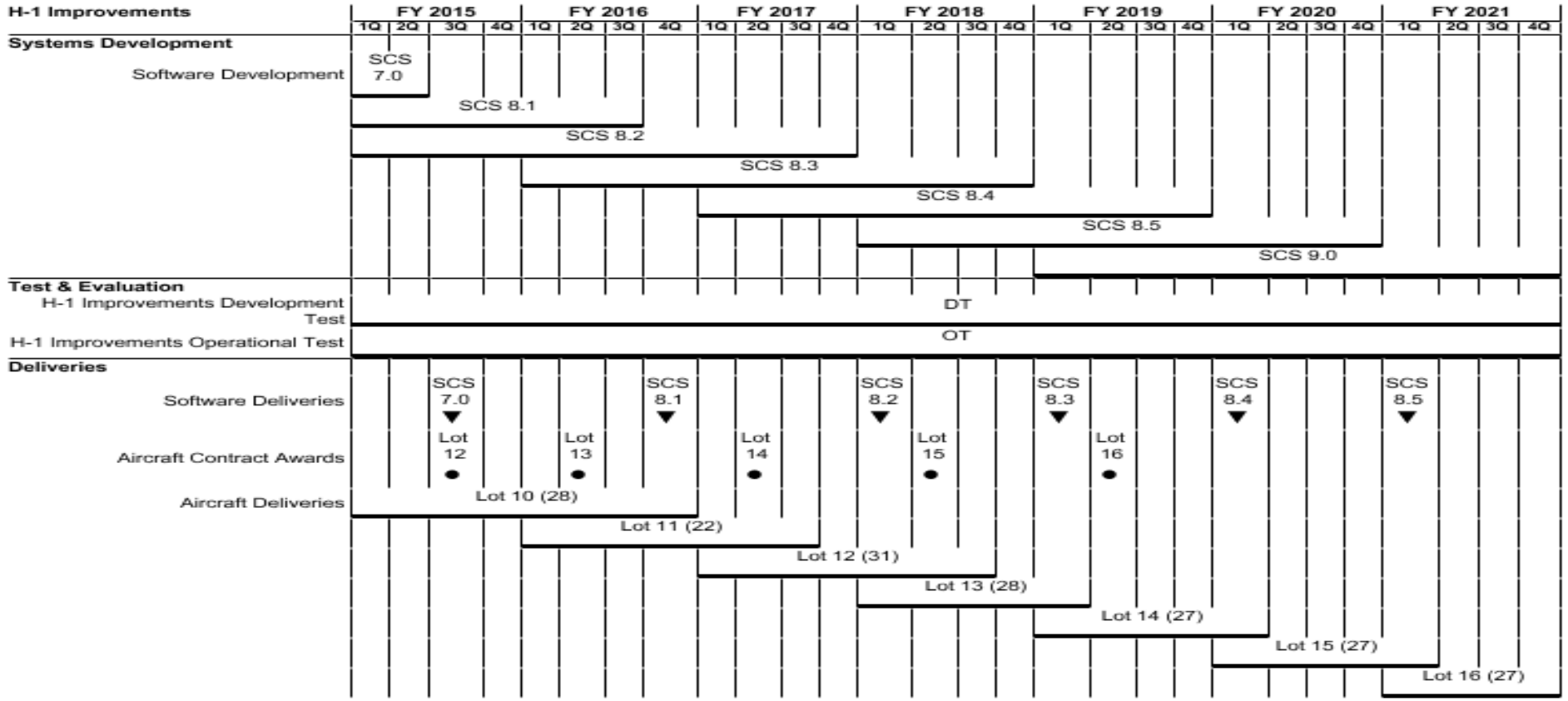

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
H-1 Improvements				
Systems Development: Software Development: SCS 7.0 Software Development	1	2015	2	2015
Systems Development: Software Development: SCS 8.1 Software Development	1	2015	3	2016
Systems Development: Software Development: SCS 8.2 Software Development	1	2015	4	2017
Systems Development: Software Development: SCS 8.3 Software Development	1	2016	4	2018
Systems Development: Software Development: SCS 8.4 Software Development	1	2017	4	2019
Systems Development: Software Development: SCS 8.5 Software Development	1	2018	4	2020
Systems Development: Software Development: SCS 9.0 Software Development	1	2019	4	2021
Test & Evaluation: H-1 Improvements Development Test: H-1 Improvements Development Test	1	2015	4	2021
Test & Evaluation: H-1 Improvements Operational Test: H-1 Improvements Operational Test	1	2015	4	2021
Deliveries: Software Deliveries: SCS 7.0	3	2015	3	2015
Deliveries: Software Deliveries: SCS 8.1	4	2016	4	2016
Deliveries: Software Deliveries: SCS 8.2	1	2018	1	2018
Deliveries: Software Deliveries: SCS 8.3	1	2019	1	2019
Deliveries: Software Deliveries: SCS 8.4	1	2020	1	2020
Deliveries: Software Deliveries: SCS 8.5	1	2021	1	2021
Deliveries: Aircraft Contract Awards: Lot 12	3	2015	3	2015
Deliveries: Aircraft Contract Awards: Lot 13	2	2016	2	2016
Deliveries: Aircraft Contract Awards: Lot 14	2	2017	2	2017
Deliveries: Aircraft Contract Awards: Lot 15	2	2018	2	2018
Deliveries: Aircraft Contract Awards: Lot 16	2	2019	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: Aircraft Deliveries: Lot 10 FRP Y + Z	1	2015	4	2016
Deliveries: Aircraft Deliveries: Lot 11 FRP Y + Z	1	2016	3	2017
Deliveries: Aircraft Deliveries: Lot 12 FRP Y + Z	1	2017	3	2018
Deliveries: Aircraft Deliveries: Lot 13 FRP Y + Z	1	2018	1	2019
Deliveries: Aircraft Deliveries: Lot 14 FRP Y + Z	1	2019	1	2020
Deliveries: Aircraft Deliveries: Lot 15 FRP Y + Z	1	2020	1	2021
Deliveries: Aircraft Deliveries: Lot 16 FRP Y + Z	1	2021	4	2021

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