Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy												Date: February 2018
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604234N *I Advanced Hawkeye*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	4,598.041	354.390	292.535	223.565	-	223.565	225.063	191.126	230.692	261.682	0.000	6,377.094
3051: *E-2D Adv Hawkeye*	4,589.834	344.718	292.535	223.565	-	223.565	225.063	191.126	230.692	261.682	0.000	6,359.215
9999: *Congressional Adds*	8.207	9.672	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	17.879
Program MDAP/MAIS Code: **Project MDAP/MAIS Code(s):** 364												

A. Mission Description and Budget Item Justification

The E-2D Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components including Cooperative Engagement Capability Pre-Planned Product Improvement and Dual Transmit Satellite Communications that improve the E-2 weapon system to maintain open ocean mission capability while providing the United States Navy with an effective littoral surveillance, battle management, Naval Integrated Fire Control - Counter Air (NIFC-CA) and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are Space-Time Adaptive Processing, Electronically Scanning Array, solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system provides a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements. Mode 5 is an upgrade to the existing IFF System providing the warfighter positive, secure and reliable identification of friendly aircraft, surface and sub-surface platforms. Mode 5 replaces the National Security Administration de-certified Mode 4 IFF capability, which is no longer effective or suitable for modern military operations. Mode 5 will support the Joint Initial Operational Capability (IOC) as defined by the Joint Requirements Oversight Council.

The Navy declared IOC for the E-2D in October 2014 with the first operational deployment in FY15. The System Development and Demonstration contract completed in FY15 as the program transitions into the production, deployment, and sustainment phase. Throughout the development of the E-2D, the threat has continued to evolve increasing in both capability and capacity. The E-2D Research, Development, Test and Evaluation budget after IOC reflects the Navy's further investment into the E-2D to ensure that carrier based command and control continues to pace the FY2020 and beyond threat in support of Navy and Joint operations around the world.

The program will be aligning the capability development in areas where there are interwoven technologies that leverage each other to provide the most efficient and cost effective means of delivering these capabilities to the warfighters. The program will deliver these capabilities to the Fleet users on approximately a 24 month release cycle as part of combined Delta System/Software Configuration (DSSC) builds. The baseline IOC configuration is named DSSC build 1 (DSSC-1). The DSSC build schedule is outlined along with the capabilities that are planned to comprise each DSSC build. If a capability is delayed or accelerated it will move between DSSC builds which will be reflected in updates to this budget.

DSSC-2 Fleet released in August FY16. DSSC-2 incorporates several technologies developed under the System Development and Demonstration phase which include Dual Transmit Satellite Communications and an IFF technology refresh in preparation for Mode 5 and Mode S.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy	Date: February 2018
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604234N *I Advanced Hawkeye*

DSSC-2.1 incorporates IFF Mode 5 capability early release to operational squadrons ahead of formal DSSC 3 release.

DSSC-3 is planned for operational test and Fleet release in FY19. DSSC-3 is comprised of the following capabilities:
E-2D Accelerated Mid-Term Interoperability Improvement Program, NIFC-CA enhancements, Automatic Identification System, Embedded National Tactical Receiver, and Crypto Modernization/Frequency Remapping.

DSSC-3AR is planned for operational test and Fleet release in FY19. DSSC-3AR is comprised of all capabilities listed in DSSC-3 plus Aerial Refueling.

DSSC-4 is planned for operational test in FY21 and Fleet release in FY21. DSSC-4 provides critical capabilities needed to pace the 2020 threat and enabling components of NIFC-CA increment 3. DSSC-4 is comprised of the following capabilities: E-2D Multifunctional Information Distribution System/Joint Tactical Radio System, Tactical Targeting Networking Technology, Secret Internet Protocol Router Chat, Data Fusion (phase 1), Fighter to Fighter Backlink, E-2D Navigation Warfare and E-2D Counter Electronic Attack.

DSSC-5 is planned for operational test in FY23 and Fleet release in FY23. DSSC-5 provides the capabilities necessary for E-2D to meet NIFC-CA increment 3 requirements and is comprised of the following: Sensor Netting, Stores Performance Assessment Requested Quality, Data Fusion (Phase 2) and E-2D AN/ALQ-217 Electronic Support Measures.

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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	363.792	292.535	218.671	-	218.671
Current President's Budget	354.390	292.535	223.565	-	223.565
Total Adjustments	-9.402	0.000	4.894	-	4.894
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-10.779	0.000			
• Program Adjustments	0.000	0.000	7.868	-	7.868
• Rate/Misc Adjustments	0.000	0.000	-2.974	-	-2.974
• Congressional General Reductions Adjustments	-0.009	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy					Date: February 2018
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*		R-1 Program Element (Number/Name) PE 0604234N *I Advanced Hawkeye*			
• Congressional Directed Reductions	-8.614	-	-	-	-
Adjustments					
• Congressional Add Adjustments	10.000	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)

	FY 2017	FY 2018
Project: 9999: *Congressional Adds*		
Congressional Add: *Adv Radar Innovation Fund - Air (Cong)*	9.672	0.000
Congressional Add Subtotals for Project: 9999	9.672	0.000
Congressional Add Totals for all Projects	9.672	0.000

Change Summary Explanation

Technical: N/A

Schedule:

1. Updated Advanced Hawkeye schedule for the Test and Evaluation section to include DSSC 2.1.
2. Updated TTNT High Power Amplifier (HPA) milestones to support PMA/W 101 shift to HPA Variant 7.
3. Updated SIPRChat TRR, HW/SW Dev & Integration due to emergent Cyber Cross Domain Solution (CDS) requirements. Updated Data fusion to reflect Phase 1 and Phase 2.
4. Updated Crypto Modernization /Frequency Remapping milestones and DT due to delays in the PMA/W-101 CMN4 program.
5. Updated Counter Electronic Attack (CEA) schedule to move Critical Design Review from 3Q FY17 to 1Q FY18. Delay due to late start of Data Fusion due to additional mulit-level security capability requirements to CEA. Updated to reflect CEA phase 2 schedule beginning FY19.
6. Updated Fighter to Fighter Backlink schedule to reflect late start of FY17 new start efforts.

The FY 2019 funding request was reduced by $0.632M to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / *Advanced Hawkeye*	Project (Number/Name) 3051 / *E-2D Adv Hawkeye*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
3051: *E-2D Adv Hawkeye*	4,589.834	344.718	292.535	223.565	-	223.565	225.063	191.126	230.692	261.682	0.000	6,359.215
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 364

A. Mission Description and Budget Item Justification

The E-2D Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components including Cooperative Engagement Capability Pre-Planned Product Improvement and Dual Transmit Satellite Communications that improve the E-2 weapon system to maintain open ocean mission capability while providing the United States Navy with an effective littoral surveillance, battle management, Naval Integrated Fire Control - Counter Air (NIFC-CA) and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are Space-Time Adaptive Processing, Electronically Scanning Array, solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system provides a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements. Mode 5 is an upgrade to the existing IFF System providing the warfighter positive, secure and reliable identification of friendly aircraft, surface and sub-surface platforms. Mode 5 replaces the National Security Administration de-certified Mode 4 IFF capability, which is no longer effective or suitable for modern military operations. Mode 5 will support the Joint Initial Operational (IOC) as defined by the Joint Requirements Oversight Council.

The Navy declared IOC for the E-2D in October 2014 with the first operational deployment in FY15. The System Development and Demonstration contract completed in FY15 as the program transitions into the production, deployment, and sustainment phase. Throughout the development of the E-2D, the threat has continued to evolve increasing in both capability and capacity. The E-2D Research, Development, Test and Evaluation budget after IOC reflects the Navy's further investment into the E-2D to ensure that carrier based command and control continues to pace the 2020 and beyond threat in support of Navy and Joint operations around the world.

The program will be aligning the capability development in areas where there are interwoven technologies that leverage each other to provide the most efficient and cost effective means of delivering these capabilities to the warfighters. The program will deliver these capabilities to the Fleet users on an approximately 24 month release cycle as part of combined Delta System/Software Configuration (DSSC) builds. The baseline IOC configuration is named DSSC build 1 (DSSC-1). The DSSC build schedule is outlined below along with the capabilities that are planned to comprise each DSSC build. If a capability is delayed or accelerated it will move between DSSC builds which will be reflected in updates to this budget.

DSSC-2 Fleet released in August FY16. DSSC-2 incorporates several technologies developed under the System Development and Demonstration phase which include Dual Transmit Satellite Communications and an IFF technology refresh in preparation for Mode 5 and Mode S.

DSSC-2.1 incorporates IFF Mode 5 capability early release to operational squadrons ahead of formal DSSC 3 release.

DSSC-3 is planned for operational test and Fleet release in FY19. DSSC-3 is comprised of the following capabilities:

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

1. The E-2D Accelerated Mid-Term Interoperability Improvement Program (AMIIP) will address the most severe Cooperative Engagement Capability and data link related interoperability issues. This capability will significantly improve the quality of the tactical surveillance picture across all participants, reduce the possibility of track mis-identification and mitigate Blue on Blue engagements. AMIIP provides stable sensor fusion foundation to support sensor/weapon coordination requirements.

2. NIFC-CA enhancements will incorporate weapon system software improvements to implement capabilities and performance improvements needed to meet NIFC-CA increment 2 requirements. These capabilities come from software development in both the E-2D Classified and NIFC-CA Enhancement and Testing lines.

3. Crypto Modernization/Frequency Remapping: The E-2D Multifunctional Information Distribution System/Joint Tactical Radio System (MIDS/JTRS) with concurrent Multi-netting will be integrated into the E-2D. This effort includes replacing the Multifunctional Information Distribution System-Low Volume Terminal (MIDS LVT) radio with MIDS/JTRS that has incorporated Link-16 concurrent Multi-netting (CMN-4) and replacing the JTIDS High Power Amplifier Group with a Link-16 High Power Amplifier which will address Crypto Modernization and Frequency Remapping.

DSSC-3AR is planned for operational test and Fleet release in FY19. DSSC-3AR is comprised of all capabilities listed in DSSC-3 plus Aerial Refueling (AR).

1. An AR capability will allow the E-2D AHE to receive fuel from various organic and non-organic tanker aircraft. It provides Expanded Battle Space Surveillance and Targeting through significantly enhanced persistence and increased flexibility (range & endurance). AR will better enable the E-2D AHE to fully support current Carrier Strike Group /Joint 24/7 Theater Operations by providing more versatile stationing and/or forward basing options. Previous domestic E-2 concept demonstration effort successfully established the feasibility of tanking behind the F/A-18E/F and KC-130 aircraft under E-2 Squadrons, PE 0204152N.

DSSC-4 is planned for operational test in FY21 and Fleet release in FY21. DSSC-4 provides critical capabilities needed to pace the 2020 threat and enabling components of NIFC-CA increment 3. DSSC-4 is comprised of the following capabilities:

1. The E-2D Multifunctional Information Distribution System/Joint Tactical Radio System (MIDS/JTRS)Tactical Targeting Networking Technology (TTNT) integrates Advanced Tactical Data Link functionality into the E-2D. This effort includes replacing the MIDS LVT radio with MIDS/JTRS that has incorporated Link-16 Concurrent Multi-Netting and TTNT. MIDS/JTRS TTNT is a key enabler for E-2D sensor netting capability in support of the NIFC-CA mission.

2. The E-2D Secret Internet Protocol Router Chat capability will support integration of current collaboration tools including tactical "chat" (text) communications, real-time tasking, and Air Tasking Order distribution. Recent real world operations have demonstrated a migration of Command and Control communications from voice to Internet protocol based networks.

3. E-2D Data Fusion Phase 1 provides a fusion engine to blend all on-board sensor derived track data (e.g. Electronic Surveillance) with already blended radar, Identify Friend or Foe and Cooperative Engagement Capability track files, enhancing situational awareness and tactical decision making. Successful E-2D NIFC-CA engagements depend on a clear/unambiguous tactical picture and the shortest possible decision pipeline.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

4. E-2D Fighter to Fighter backlink implements Link-16 Network Participation Group 20 messages for Fighter-to-Fighter backlink capability in E-2D. This functionality improves interoperability between E-2D and participating US Navy fighters, including 5th generation aircraft, enhancing combat effectiveness of E-2D, increases situational awareness and shortens kill-chain timelines (including NIFC-CA).

5. E-2D Navigation Warfare (NAVWAR) prevents loss of Global Positioning System (GPS) by using a Controlled Reception Pattern Antenna (CRPA) and antenna electronics (AE) unit which will function to provide GPS access in an Electronic Attack (EA) environment. NAVWAR significantly reduces the likelihood of loss of critical GPS Position, Navigation and Timing functionality that is fundamental to E-2D battlespace awareness and its contributions to multiple link networks.

6. The E-2D Counter Electronic Attack (CEA) capability will allow the E-2D radar system to maintain performance in an advanced hostile intentional electromagnetic interference environment. The E-2D CEA program will ensure E-2D effectiveness is maintained in an Electronic Attack environment supporting the NIFC-CA capability and overall Navy and Joint Integrated Air and Missile Defense strategy.

DSSC-5 is planned for operational test in FY23 and Fleet release in FY23. DSSC-5 provides the capabilities necessary for E-2D to meet NIFC-CA increment 3 requirements and is comprised of the following capabilities:

1. E-2D Sensor Netting provides fusion of data from off-board sources via a high bandwidth network that will allow E-2D to support the second spiral of performance improvement for NIFC-CA capability. Additional details are classified.

2. E-2D Stores Performance Assessment Requested Quality (SPARQ) establishes real-time requirements for E-2D sensor contribution to system of system NIFC-CA solutions. SPARQ expands and optimizes operational employment envelopes, improving Air Wing ability to take advantage of System of System capabilities of NIFC-CA, reducing kill chain timelines.

3. E-2D Data Fusion Phase 2 provides a fusion engine to blend all off-board tactical data (e.g. Satellite Receiver System data) with already fused on-board tracks from the E-2D Data Fusion Phase 1 effort, completing the Data Fusion of all track sources available to E-2D and greatly enhancing situational awareness and tactical decision making. Successful E-2D NIFC-CA engagements depend on a clear/unambiguous tactical picture and the shortest possible decision pipeline.

4. E-2D AN/ALQ-217 Electronic Support Measures (ESM) Combat Identification (CID) upgrades integrates digital receiver and processing technology, enables E-2 multi-ship geo-location and Time Difference Of Arrival with other sensors across L-16 and Tactical Targeting Networking Technology (TTNT), and provides a precision internal clock source to enable netted detection of advanced threat radar systems. Connectivity to Electronic Warfare (EW) netted sensors will provide multiple nodes, real time, enhanced CID capabilities.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Full Scale Fatigue Test	11.490	18.236	10.541	0.000	10.541
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: Full Scale Fatigue Test efforts for the E-2D Advanced Hawkeye Program. The USN requires that a fatigue test be conducted on the E-2D aircraft to determine the design service life of the airframe. Durability testing is being performed on a test article that is representative of production aircraft. The objective of the 20,000 equivalent flight hours fatigue test is to identify fatigue critical locations, substantiate the 10,000 flight hours service life for the E-2D airframe fuselage and horizontal stabilizer, and demonstrate that the E-2D aircraft structure satisfies the program service life requirement. ***FY 2018 Plans:*** Funds provided for continued support of Full Scale Fatigue Tests. The test program will continue towards the final goal of 20,000 test hours. Inspections and analysis will be performed at 500 effective flight hour intervals. Effort to configure and instrument replacement Outer Wing Panels will continue at the 10,000 hour interval. Repairs of the test article will be conducted as required. ***FY 2019 Base Plans:*** Funds provided for continued support of Full Scale Fatigue Tests. The test program will continue towards the final goal of 20,000 test hours. Inspections and analysis will be performed at 500 effective flight hour intervals. Effort to configure and instrument replacement Outer Wing Panels will continue at the 10,000 hour interval. Repairs of the test article will be conducted as required. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreased from FY18 to FY19 due to revised program plan.					
Title: Delta System/Software Configuration (DSSC) Integration and Test	21.254	15.266	15.098	0.000	15.098
Articles:	-	-	-	-	-
Description: Funds integration, engineering, risk reduction efforts, developmental and operational test of E-2D. ***FY 2018 Plans:*** Funding provided for the continuation of DSSC 3 risk reduction integration and engineering test. ***FY 2019 Base Plans:*** Funding provided for DSSC 3 Operational Test and DSSC 3 Fleet Release. ***FY 2019 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** N/A					
Title: E-2D Classified Programs	19.833	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: Provides support for the E-2D Advanced Hawkeye Classified Development efforts. Development and Integration of E-2D specific NIFC-CA Increment 2-3 improvements. ***FY 2018 Plans:*** N/A ***FY 2019 Base Plans:*** N/A ***FY 2019 OCO Plans:*** N/A					
Title: Aerial Refueling	81.486	64.326	21.697	0.000	21.697
Articles:	-	-	-	-	-
Description: Funds the system development and testing to support the incorporation of Aerial Refueling (AR) capability into the E-2D AHE aircraft. Emphasis during system development is on system redesign, air vehicle design, human systems integration and design, including interior/lighting modifications and seat replacement. Flight testing is required to evaluate fuel systems changes, aerial refueling capability, field of view, thermal and aerodynamic loads, kinematic performance, and handling qualities. Planned for DSSC-3AR ***FY 2018 Plans:*** Funding provided for developmental flight test to include hardware functionality, handling qualities evaluation and envelope expansion with five threshold tankers (F/A-18,KC-130,KC-10,KC-135 and OMEGA). Additionally, funding provided for physical configuration audit (PCA). ***FY 2019 Base Plans:*** Funding provided for operational test readiness review and hardware and software development. ***FY 2019 OCO Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreased from FY18 to FY19 due to completion of developmental test & evaluation.					
Title: E-2D Counter Electronic Attack ***Articles:*** ***Description:*** Funds the mission system development and testing of the capability to counter advanced radar electronic attack threats. The E&MD effort will focus on integration of capabilities in the radar and mission computer display systems that include system integration, and laboratory and flight test validation. Planned for DSSC-4. ***FY 2018 Plans:*** Funds provided for the continuation of software development, mission computer and radar system development to provide the Counter Electronic Attack (CEA) solution. Conduct Critical Design Review ***FY 2019 Base Plans:*** Program will conduct Test Readiness Review, Functional Readiness Review and begin developmental test for phase 1. Begin requirement development for phase 2. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding increased from FY18 to FY19 due to requirements development for phase 2.	28.512 -	22.214 -	23.178 -	0.000 -	23.178 -
Title: Multifunctional Information Distribution System/Joint Tactical Radio System (MIDS/JTRS)Tactical Targeting Networking Technology (TTNT) ***Articles:*** ***Description:*** MIDS/JTRS TTNT provides Advanced Tactical Data Link functionality into the E-2D. This effort includes replacing the Multifunctional Information Distribution System - Low Volume Terminal (MIDS LVT) radio with MIDS/JTRS that has incorporated Link-16 concurrent Multi-netting (CMN-4) and TTNT. MIDS/JTRS TTNT is a key enabler for E-2D sensor netting capability in support of the Naval Integrated Fire Control-Counter Air mission. Planned for DSSC-4. ***FY 2018 Plans:***	41.734 -	11.539 -	9.781 -	0.000 -	9.781 -

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Funds provided for continuation of aircraft hardware/software integration development. Conduct Critical Design Review. Start lab testing for preparation for Test Readiness Review. ***FY 2019 Base Plans:*** Funds provided for continuation of capability development and integration. Conduct TTNT High Power Amplifier Development & TTNT integration test readiness review. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreased from FY18 to FY19 due to HW/SW development & design completion					
Title: SIPR Chat	15.000	5.500	2.782	0.000	2.782
Articles:	-	-	-	-	-
Description: The E-2D Secret Internet Protocol Router (SIPR) Chat capability will support integration of current collaboration tools including tactical "chat" (text) communications, real-time tasking, and Air Tasking Order distribution. Recent real world operations have demonstrated a migration of Command and Control communications from voice to Internet protocol based networks. Planned for DSSC-4. ***FY 2018 Plans:*** Funds provided for continued System Development & Design, Critical Design Review, Test Readiness Review and start of Developmental Test to support and enable SIPRChat capability. ***FY 2019 Base Plans:*** Funds provided for continued System Development & Design and Developmental Test. Conduct Functional Readiness Review to support and enable SIPRChat capability. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreased from FY18 to FY19 due to HW/SW development & integration completion (2QFY19).					
Title: Naval Integrated Fire Control - Counter Air Testing (NIFC-CA)	49.773	38.296	25.973	0.000	25.973
Articles:	-	-	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: NIFC-CA requires System of Systems level testing. Assesses and addresses Naval weapon systems' Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance gaps. Planned for DSSC-3. ***FY 2018 Plans:*** Funds provided for continued NIFC-CA flight test. Additionally, continues E-2D participation in NIFC-CA increment 1-3 developmental and operational systems of systems ground, simulation, and flight testing. Continues fleet training development for NIFCCA capabilities. ***FY 2019 Base Plans:*** Funds provided for continued NIFC-CA flight test. Additionally, continues E-2D participation in NIFC-CA increment 1-3 developmental and operational systems of systems ground, simulation, and flight testing. Continues fleet training development for NIFCCA capabilities. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreased from FY18 to FY19 due to FY18 funding satisfying NIFC-CA training requirements.					
Title: Accelerated Mid-Term Interoperability Improvement Program (AMIIP)	11.988	3.779	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: Address the most severe data link related interoperability issues. This capability will significantly improve the quality of the tactical surveillance picture, reduce the possibility of leakers, mitigate Blue on Blue engagements and mid-identification of tracks. Provides stable sensor fusion foundation to support sensor/ weapon coordination requirements. Planned for DSSC-3. ***FY 2018 Plans:*** Funds provided to complete software integration development and flight test. ***FY 2019 Base Plans:*** N/A ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A					
Title: Sensor Netting	9.490	17.380	19.708	0.000	19.708
Articles:	-	-	-	-	-
Description: Provides fusion of data from off-board sources via a high bandwidth network that will allow E-2D to support second spiral of performance improvements for Naval Integrated Fire Control-Counter Air Testing (NIFC-CA) capabilities. Additional details are classified. Planned for DSSC-5. ***FY 2018 Plans:*** Funds provided for continuation of system requirements development. Start of software development & integration of the mission computer and associated systems to provide the Sensor Netting solution. Program will conduct System Requirements Review. ***FY 2019 Base Plans:*** Funds provided for completion of system requirements development. Continuation of software development & integration of the mission computer and associated systems to provide the Sensor Netting solution. Program will conduct Integrated Baseline Review and Preliminary Design Review. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding increased from FY18 to FY19 due to SW development and integration effort. In addition, Integrated Baseline Review & Preliminary Design Review also scheduled in FY19.					
Title: Data Fusion	14.493	18.617	15.279	0.000	15.279
Articles:	-	-	-	-	-
Description: E-2D Data Fusion Phase 1 provides a fusion engine to blend all on-board sensor derived track data (e.g. Electronic Surveillance) with already blended radar, Identify Friend or Foe and Cooperative Engagement Capability track files, enhancing situational awareness and tactical decision making. Successful E-2D NIFC-CA engagements depend on a clear/unambiguous tactical picture and the shortest possible decision pipeline. Planned for DSSC-4. E-2D Data Fusion Phase 2 provides a fusion engine to blend all off-board tactical data (e.g. Satellite Receiver System data) with already fused on-board tracks from the E-2D Data Fusion Phase 1 effort, completing the Data Fusion of all track sources available to E-2D and greatly enhancing situational awareness and tactical decision					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
making. Successful E-2D NIFC-CA engagements depend on a clear/unambiguous tactical picture and the shortest possible decision pipeline. Planned for DSSC 5. ***FY 2018 Plans:*** Funds provided to continue Phase 1 trade studies for the requirement development/system integration development. Program will conduct system requirements review and preliminary design review. ***FY 2019 Base Plans:*** Funds provided for Phase 1 to begin systems Engineering and Integration. Program will conduct Critical Design Review, Test Readiness Review and begin SIL test for Phase 1. Program will conduct a system requirements review and begin Requirements Development for Phase 2. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreased from FY18 to FY19 based on completion of critical requirement development effort in FY18.					
Title: Fighter to Fighter Backlink	6.986	11.789	11.940	0.000	11.940
Articles:	-	-	-	-	-
Description: Fighter to Fighter backlink implements Link-16 Network Participation Group 20 messages for Fighter-to-Fighter backlink capability in E-2D. This functionality improves interoperability between E-2D and participating US Navy fighters, including 5th generation aircraft, enhancing combat effectiveness of E-2D, increases Situational Awareness (SA), and shortens kill-chain timelines (including NIFC-CA). Planned for DSSC-4. ***FY 2018 Plans:*** Funds provided to continue trade studies for the requirement development/system integration development. Program will conduct System Requirements Review and the Preliminary Design Review. ***FY 2019 Base Plans:*** Funds provided to begin Systems Engineering and Integration. Program will conduct a Critical Design Review, Test Readiness Review and begin SIL test. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A					
Title: Navigation Warfare (NAVWAR)	5.748	10.272	16.374	0.000	16.374
Articles:	-	-	-	-	-
Description: E-2D Navigation Warfare (NAVWAR) prevents loss of Global Positioning System (GPS)by using a Controlled Reception Pattern Antenna (CRPA) and Antenna Electronics (AE) unit which will function to provide GPS access in an Electronic Attack (EA) environment. NAVWAR significantly reduces the likelihood of loss of critical GPS Position, Navigation and Timing functionality that is fundamental to E-2D battlespace awareness and its contributions to multiple link networks. Without NAVWAR capability, the E-2D AHE will be unable to provides its services in GPS contested airspace, putting Navy units at unacceptable risk and hindering Joint operational flexibility. NAVWAR capability will allow the E-2D AHE to operate in areas where signal disruption and jamming would prohibit unprotected GPS reception. With this new capability, the E-2D AHE will be able to provide continuous operations in a degraded GPS environment for mission areas that depend on GPS for precise position, navigation, and timing. Planned for DSSC-4. ***FY 2018 Plans:*** Funds provided to continue system engineering and integration development. Program will conduct System Requirements Review/System Functional Review, Preliminary Design Review and Critical Design Review. Begin hardware & software development. ***FY 2019 Base Plans:*** Funds provided to complete system engineering and integration development. Program will conduct Test Readiness Review and Functional Readiness Review. Complete hardware & software development. SIL testing and Developmental Test will also begin. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding increased from FY18 to FY19 due to scheduled SIL test and developmental test.					
Title: Stores Performance Assessment Requested Quality (SPARQ)	6.345	9.799	8.003	0.000	8.003
Articles:	-	-	-	-	-
Description: E-2D Stores Performance Assessment Requested Quality (SPARQ) establishes real-time requirements for E-2D sensor contribution to system of system Naval Integrated Fire Control-Counter Air (NIFC-CA) solutions. SPARQ expands and optimizes operational employment envelopes, improving Air Wing ability					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
to take advantage of System of System capabilities of NIFC-CA, reduces operational workload and latency of execution. Planned for DSSC-5. ***FY 2018 Plans:*** Funds provided for continuation of system requirements development. Start of software development of the mission computer and associated systems to provide the SPARQ solution. Program will conduct System Requirements Review and Integrated Baseline Review. ***FY 2019 Base Plans:*** Funds provided for completion of system requirements development. Continuation of software development of the mission computer and associated systems to provide the SPARQ solution. Program will conduct Preliminary Design Review (PDR). ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreased from FY18 to FY19 due to requirements development completion (2QFY19).					
Title: ALQ-217 Electronic Support Measures Upgrade ***Articles:*** ***Description:*** ALQ-217 digital upgrade greatly enhances Combat Identification (CID), battle space awareness, and effectiveness of blue forces. Combat Identification (#3) requirements and networked sensor systems are specifically called out on COMACCLOGWING's FY15 E-2D Naval Aviation Readiness Group (NARG). Planned for DSSC-5. ***FY 2018 Plans:*** Funds provided for the continuation of system requirement development. Start hardware and software development & integration, providing increase Electronic Support Measures (ESM)capability against advanced enemy threats. Program will conduct System Requirements Review & System Functional Review. Conduct Preliminary Design Review. ***FY 2019 Base Plans:*** Funds provided for the continuation hardware and software development & integration. Conduct Critical Design Review (CDR). ***FY 2019 OCO Plans:***	15.638 -	28.956 -	30.434 -	0.000 -	30.434 -

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding increased from FY18 to FY19 to due to plan workload for HW/SW development & integration in FY19 including CDR.					
Title: Crypto Modernization/Frequency Remapping	4.948	16.566	12.777	0.000	12.777
Articles:	-	-	-	-	-
Description: The E-2D Multifunctional Information Distribution System/Joint Tactical Radio System (MIDS/ JTRS) with concurrent Multi-netting will be integrated into the E-2D. This effort includes replacing the Multifunctional Information Distribution System-Low Volume Terminal (MIDS LVT) radio with MIDS/JTRS that has incorporated Link-16 concurrent Multi-netting (CMN-4) and replacing the JTIDS High Power Amplifier Group with a Link-16 High Power Amplifier which will address Crypto Modernization and Frequency Remapping. Planned for DSSC-4. ***FY 2018 Plans:*** Funds are provided to continue hardware & software development & integration. Conduct Critical Design Review and prepare for Test Readiness Review. ***FY 2019 Base Plans:*** Funds are provided to continue hardware & software development & integration. Conduct Test Readiness Review and Functional Readiness Review. Begin lab testing and start developmental test. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding decreases from FY18 to FY19 due to current program plan.					
Accomplishments/Planned Programs Subtotals	344.718	292.535	223.565	0.000	223.565

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• APN/0195: *E-2D AHE*	1,154.569	1,004.913	844.719	-	844.719	860.120	858.763	1,012.765	1,521.823	197.653	18,381.173
• APN/0605: *Initial Spares - E-2*	20.371	14.325	12.497	-	12.497	22.997	16.428	4.159	4.261	Continuing	Continuing
• APN/0544: *E-2 Series*	26.726	97.563	86.280	-	86.280	112.667	210.933	234.327	238.948	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Milestone C Acquisition Strategy was approved by Milestone Decision Authority, Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L))on 29 Dec 2008. Milestone C approval to proceed into Production and Deployment was given 11 June 2009 by USD (AT&L). Certification for entrance into Initial Operational Test & Evaluation was received on 06 Feb 2012. Full Rate Production Acquisition Strategy approved on 20 August 2012. Initial Operational Test & Evaluation concluded 1 October 2012. Successfully held a Defense Acquisition Board for Full Rate Production. Received a successful decision to enter into Full Rate Production on 01 March 2013. Initial Operational Capability achieved on 10 October 2014.

E. Performance Metrics

Successfully met the Delta System/Software Configuration (DSSC) milestones.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy			Date: February 2018
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware-Fatigue	C/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	18.476	11.176	Dec 2016	17.436	Nov 2017	9.530	Nov 2018	-		9.530	62.921	119.539	119.539
Primary Hardware Dev-AMIIP/SIPRChat & TTNT	C/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	60.630	38.454	Mar 2017	10.271	Dec 2017	9.845	Nov 2018	-		9.845	5.898	125.098	125.098
Primary Hardware Dev-TTNT	SS/FFP	Data Link Solutions : Cedar Rapids, IA	13.356	7.212	Apr 2017	1.619	Dec 2017	0.000		-		0.000	0.000	22.187	22.187
Primary Hardware Dev - TTNT	SS/CPFF	ViaSat : Carlsbad, CA	1.100	4.147	Jun 2017	0.000		0.000		-		0.000	0.000	5.247	5.247
Primary Hardware-Aerial Refueling	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	197.565	56.464	Oct 2016	31.797	Oct 2017	12.662	Oct 2018	-		12.662	0.000	298.488	298.488
Primary Hardware Dev-NAVWAR	SS/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	2.380	Aug 2017	7.807	Dec 2017	4.144	Dec 2018	-		4.144	4.910	19.241	19.241
Primary Hardware Dev - TTNT	SS/CPFF	NorthStar Scientific Corp. : Kapole, HI	4.914	3.720	Aug 2017	0.000		0.000		-		0.000	0.000	8.634	8.634
Primary Hardware Dev - CMFR	C/CPFF	Northrop Grumman Corporation : Melbourne, FL	0.000	3.200	Aug 2017	5.000	Dec 2017	0.000		-		0.000	0.000	8.200	8.200
Primary Hardware Dev - ESM	C/CPFF	Lockheed Martin : New York, NY	0.000	6.043	Sep 2017	6.079	Dec 2017	16.650	Dec 2018	-		16.650	19.761	48.533	48.533
Primary Hardware Dev - CEA	C/CPFF	Navy Syst Mgt Activity : Arlingron, VA	0.000	0.000		0.000		3.055	Dec 2018	-		3.055	138.639	141.694	141.694
Training Development	SS/FFP	Rockwell Collins : Cedar Rapids, IA	2.747	14.877	Feb 2017	17.176	Dec 2017	4.060	Dec 2018	-		4.060	11.416	50.276	50.276
Primary Software Development	Various	Navy Syst Mgt Activity : Arlington, VA	29.477	53.917	Dec 2016	25.215	Dec 2017	22.792	Dec 2018	-		22.792	522.947	654.348	654.346
Primary Software Development	Various	Various : Various	1.961	3.262	Feb 2017	0.000		0.000		-		0.000	0.000	5.223	5.223

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy		Date: February 2018
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development - ESM	C/CPFF	Lockheed Martin : New York, NY	0.000	2.990	Sep 2017	5.836	Dec 2017	9.607	Dec 2018	-		9.607	11.592	30.025	30.025
System Engineering	Various	Various : Various	0.913	0.000		0.000		1.227	Dec 2018	-		1.227	9.069	11.209	11.208
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	3,598.030	0.000		0.000		0.000		-		0.000	0.000	3,598.030	-
		Subtotal	3,929.169	207.842		128.236		93.572		-		93.572	787.153	5,145.972	N/A

Remarks

Totals may not add due to rounding.
Primary Software Development, Navy Syst Mgt Activity cost category increased for PB-18 due to fact of life changes in contract award, funding was planned to be executed from Software Development Support Cost Category.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	Various	Navy Syst Mgt Activity : Arlington, VA	22.920	0.500	Jun 2017	0.200	Dec 2017	0.200	Dec 2018	-		0.200	1.204	25.024	-
Software Development-SN	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	7.735	Jul 2017	14.784	Dec 2017	16.368	Dec 2018	-		16.368	27.601	66.488	-
Software Development-Data Fusion	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	9.913	Jun 2017	14.821	Dec 2017	9.612	Dec 2018	-		9.612	22.699	57.045	-
Software Development-CEA	Various	Navy Syst Mgt Activity : Arlington, VA	1.370	0.652	Dec 2016	1.822	Dec 2017	1.343	Dec 2018	-		1.343	0.500	5.687	-
Software Development-SIPRChat	WR	SPAWAR : San Diego	8.559	2.774	Dec 2016	0.000		0.000		-		0.000	0.000	11.333	11.333
Software Development-TTNT	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.200	0.000		1.583	Dec 2017	0.000		-		0.000	0.000	1.783	1.783

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy			Date: February 2018
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Support ($ in Millions)

				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development-F2F	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	6.427	Jun 2017	9.712	Dec 2017	3.560	Dec 2018	-		3.560	10.146	29.845	29.845
Software Development-NAVWAR	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	2.900	Jul 2017	0.931	Dec 2017	0.418	Dec 2018	-		0.418	0.320	4.569	4.569
Software Development - SPARQ	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	6.017	Jul 2017	8.774	Dec 2017	7.163	Dec 2018	-		7.163	11.583	33.537	33.537
Software Development - ESM	SS/CPIF	Northrop Grumman Corporation : Melbourne, FL	0.000	0.000		2.215	Dec 2017	1.241	Dec 2018	-		1.241	0.000	3.456	3.456
Software Development - CMFR	SS/CPIF	Northrop Grumman Corporation : Melbourne, FL	0.000	1.748	Aug 2017	9.416	Dec 2017	8.197	Dec 2018	-		8.197	9.137	28.498	28.498
Government Engineering Support	WR	Naval Air Warfare Center Aircraft Division (NAWCAD : Pax River, MD	110.352	27.789	Nov 2016	18.619	Nov 2017	19.487	Dec 2018	-		19.487	70.742	246.989	-
Government Engineering Support	WR	Naval Air Warfare Center Training Systems Division : Orlando, FL	12.268	0.277	Nov 2016	0.472	Nov 2017	0.000		-		0.000	0.000	13.017	-
Government Engineering Support	Various	Various : Various	16.141	1.086	Nov 2016	0.497	Nov 2017	0.509	Nov 2018	-		0.509	0.120	18.353	-
Integrated Logistics Support	Various	Various : Various	9.846	0.926	Nov 2016	4.089	Nov 2017	3.035	Nov 2018	-		3.035	18.206	36.102	-
Contractor Engineering Support ETS	C/CPFF	Imagine One : Colonial Beach, VA	7.659	1.766	Dec 2016	0.000		0.000		-		0.000	0.000	9.425	9.425
Contractor Engineering Support ETS	C/CPFF	Precise : Lexington Park, MD	0.000	0.390	Jun 2017	1.258	Jan 2018	2.477	Jan 2019	-		2.477	9.403	13.528	13.528
Technical Data	Various	Various : Various	1.544	0.000		0.000		0.000		-		0.000	0.000	1.544	-
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	100.725	0.000		0.000		0.000		-		0.000	0.000	100.725	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy			Date: February 2018
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	291.584	70.900		89.193		73.610		-		73.610	181.661	706.948	N/A

Remarks

Totals may not add due to rounding.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental T&E	WR	NAWCAD : Pax River, MD	139.584	55.006	Nov 2016	50.376	Nov 2017	40.366	Nov 2018	-		40.366	353.114	638.446	-
Developmental T&E	Various	Various : Various	36.280	0.100	Oct 2016	0.100	Oct 2017	0.100	Nov 2018	-		0.100	0.600	37.180	-
Developmental T&E - ROR	SS/CPFF	Northrop Grumman Corporation(NGC) : Melbourne, FL	3.000	4.272	May 2017	5.980	Nov 2017	4.779	Nov 2018	-		4.779	21.088	39.119	39.119
Developmental T&E ETS	Various	Various : Various	12.554	0.000		0.000		0.000		-		0.000	0.000	12.554	12.554
Developmental T&E ETS	C/CPFF	JFTaylor Inc. : Lexington Park, MD	9.808	1.361	Feb 2017	1.703	Feb 2018	1.618	Feb 2019	-		1.618	14.047	28.537	28.537
Operational T&E	WR	NAWCAD : Pax River, MD	23.849	0.924	Nov 2016	2.801	Nov 2017	1.502	Nov 2018	-		1.502	1.650	30.726	-
Operational T&E	Various	Various : Various	7.775	2.706	Nov 2016	1.013	Nov 2017	6.483	Nov 2018	-		6.483	79.400	97.377	-
Test Assets	Various	Various : Various	5.192	1.409	Nov 2016	12.783	Nov 2017	1.131	Nov 2018	-		1.131	7.257	27.772	-
Prior Year T&E costs no longer funded in FYDP	Various	Various : Various	61.440	0.000		0.000		0.000		-		0.000	0.000	61.440	-
		Subtotal	299.482	65.778		74.756		55.979		-		55.979	477.156	973.151	N/A

Remarks

Totals may not add due to rounding.
Developmental Test & Evaluation (T&E), Developmental T&E (Engineering & Technical Services) and Operational T&E - various contractors and award dates throughout the fiscal year.
Operational T&E requirement increase from FY18 to FY19 due to DSSC 3 OT planned for FY19.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy		Date: February 2018
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	Various : Various	2.891	0.198	Oct 2016	0.350	Oct 2017	0.404	Oct 2018	-		0.404	1.761	5.604	-
Program Mgmt Supt	Various	Vsrious : Various	0.094	0.000		0.000		0.000		-		0.000	0.000	0.094	-
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	66.614	0.000		0.000		0.000		-		0.000	0.000	66.614	-
		Subtotal	69.599	0.198		0.350		0.404		-		0.404	1.761	72.312	N/A

Remarks

Totals may not add due to rounding.
Contractor Engineering Support, Government Engineering Support, Program Support and Travel - various contractors and/or award dates throughout fiscal year.

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4,589.834	344.718		292.535		223.565		-		223.565	1,447.731	6,898.383	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
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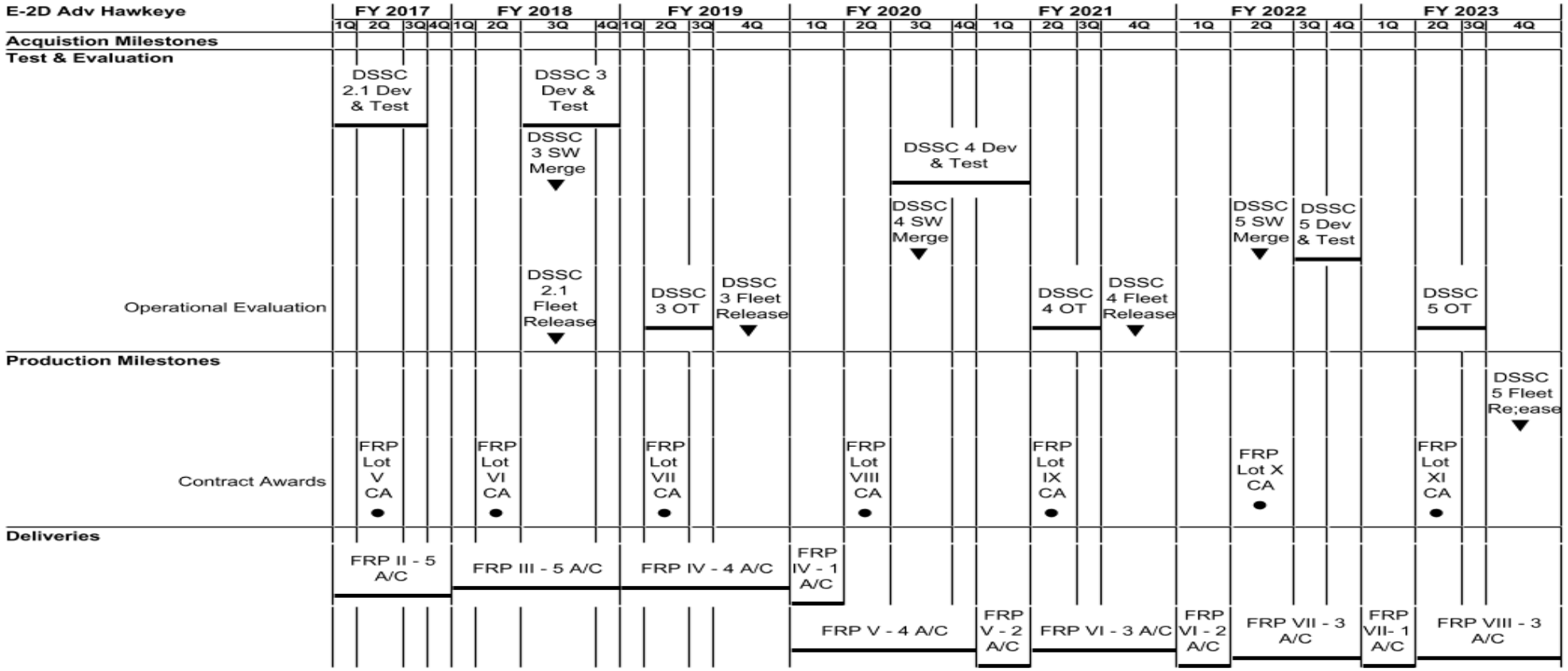

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
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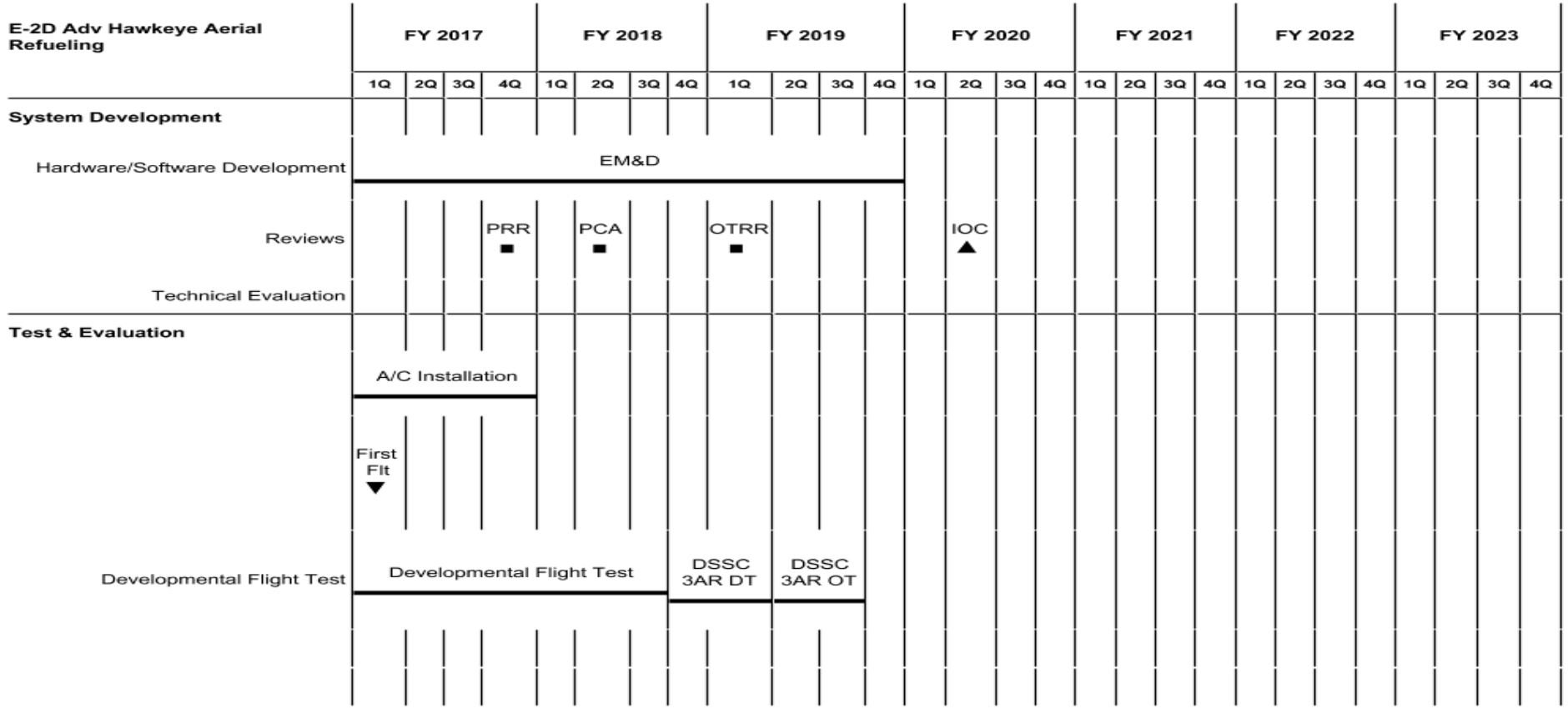

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
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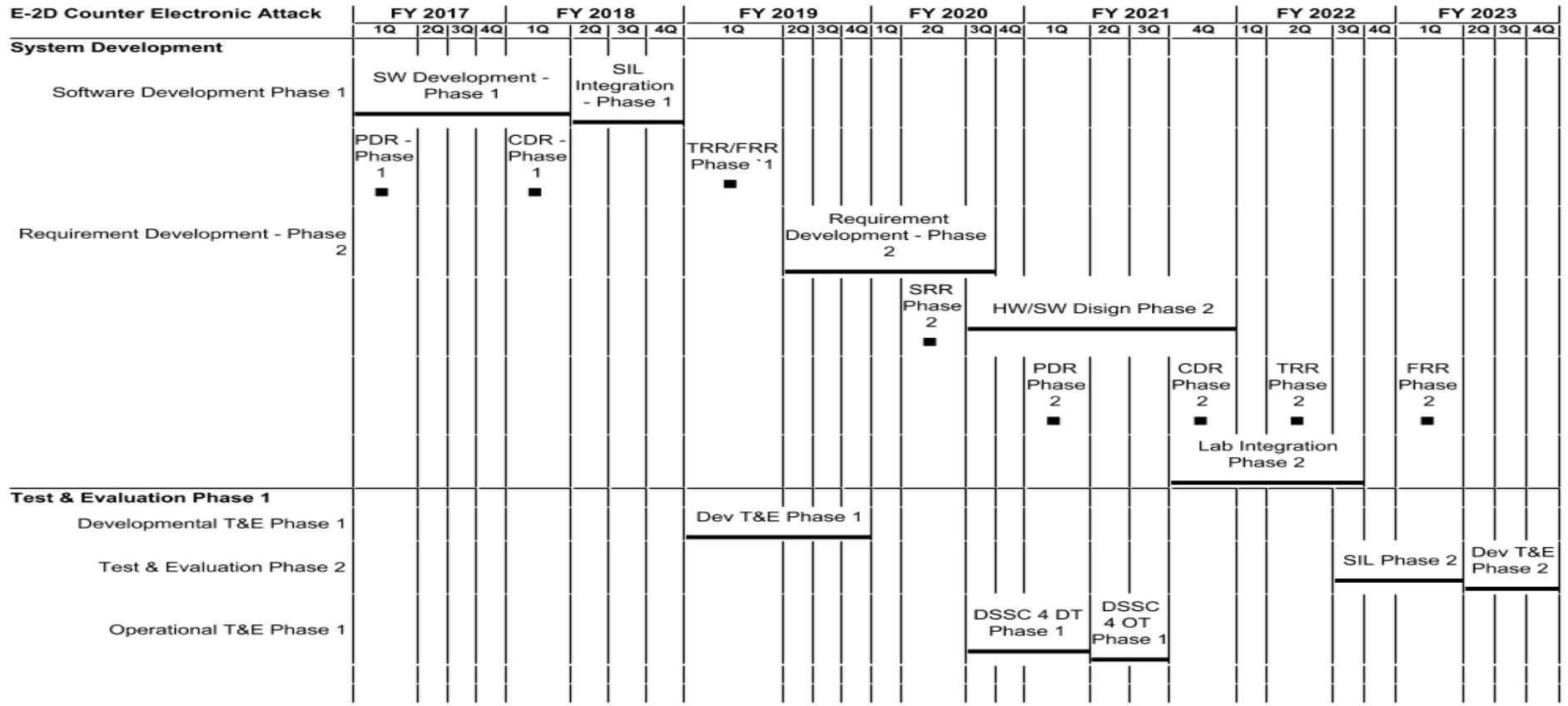

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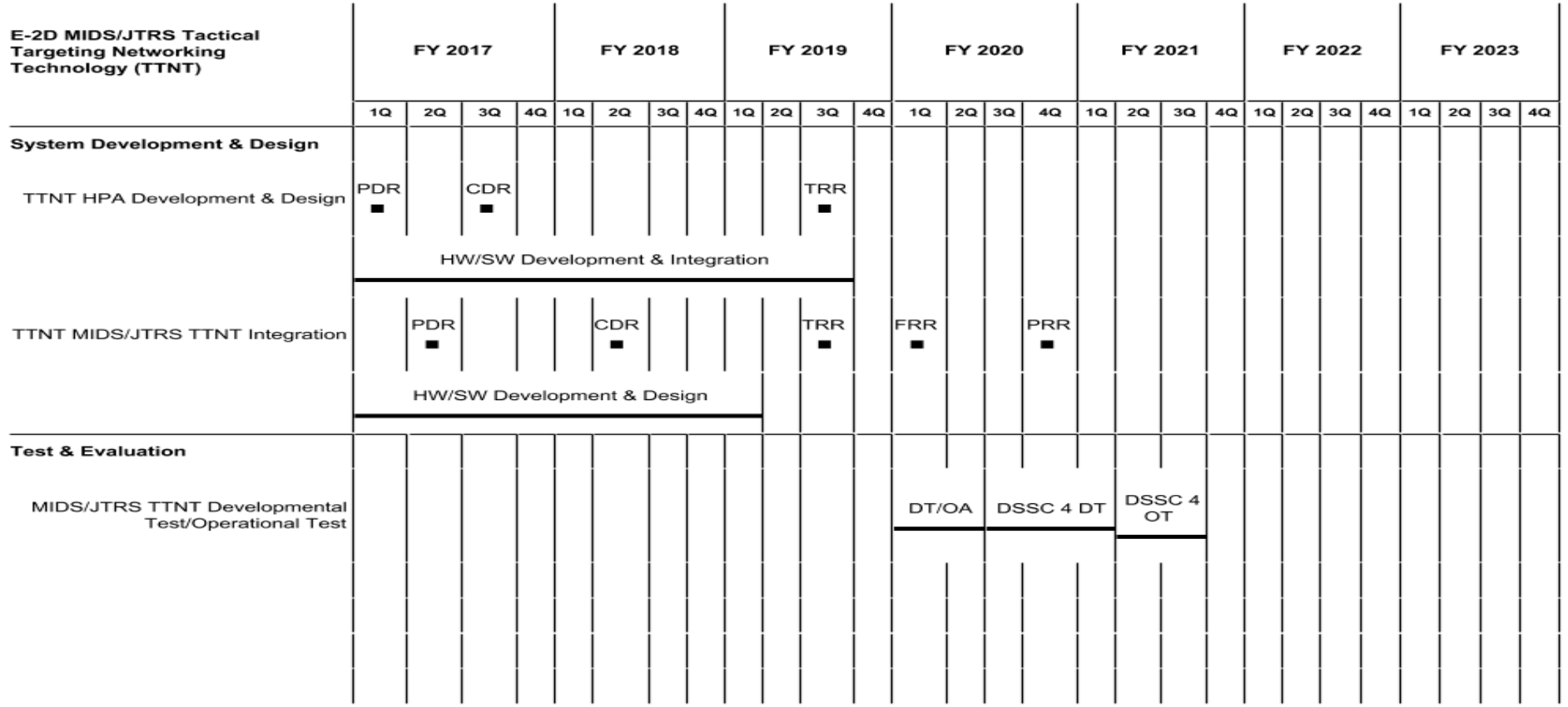
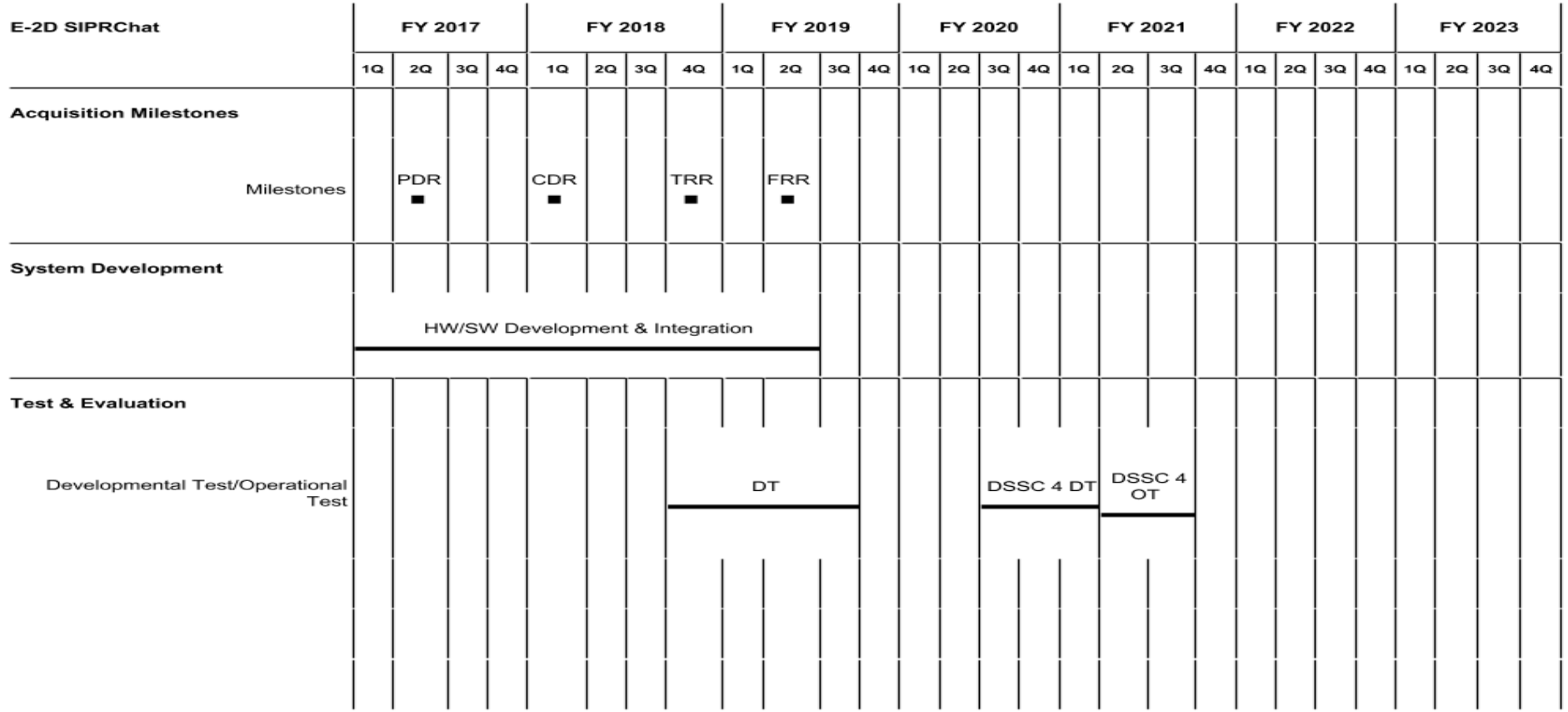
Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



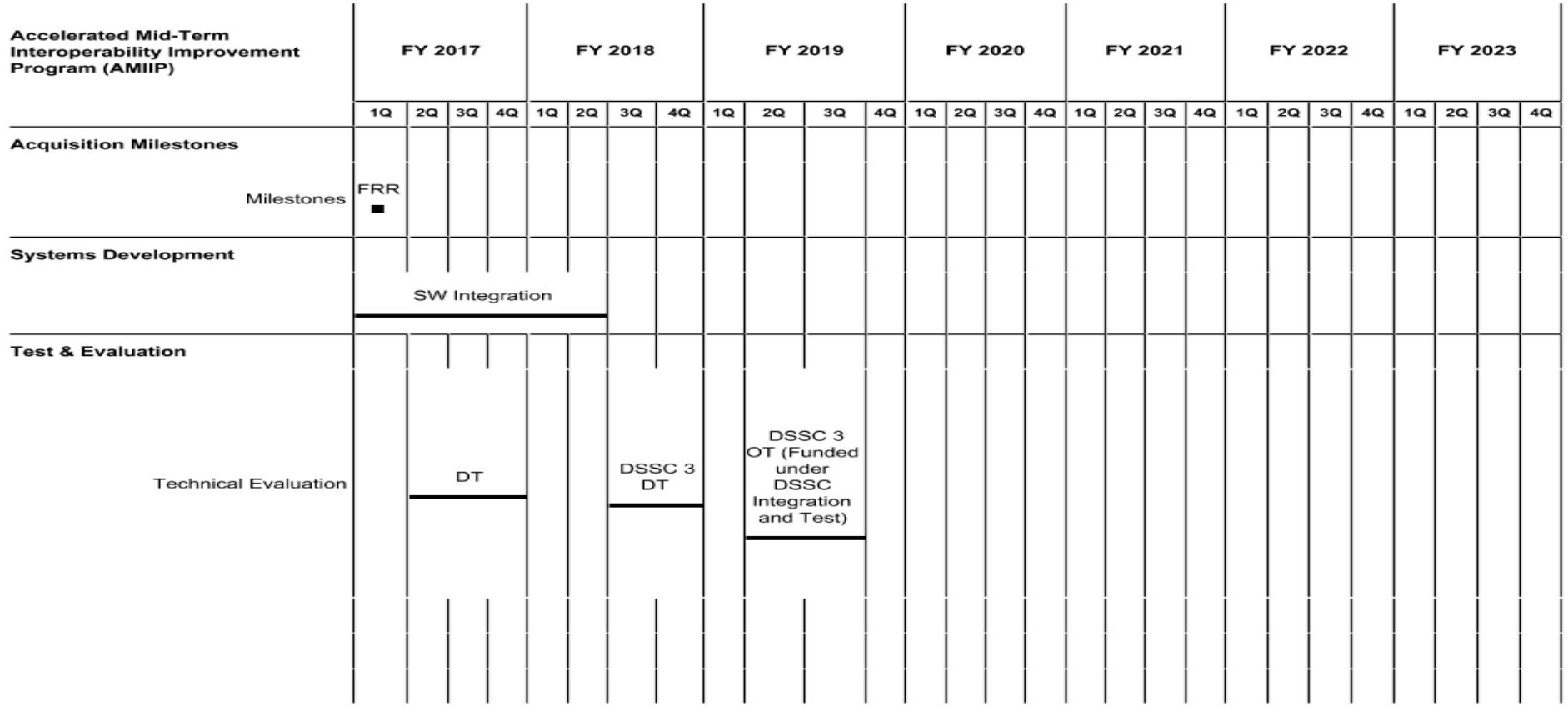
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



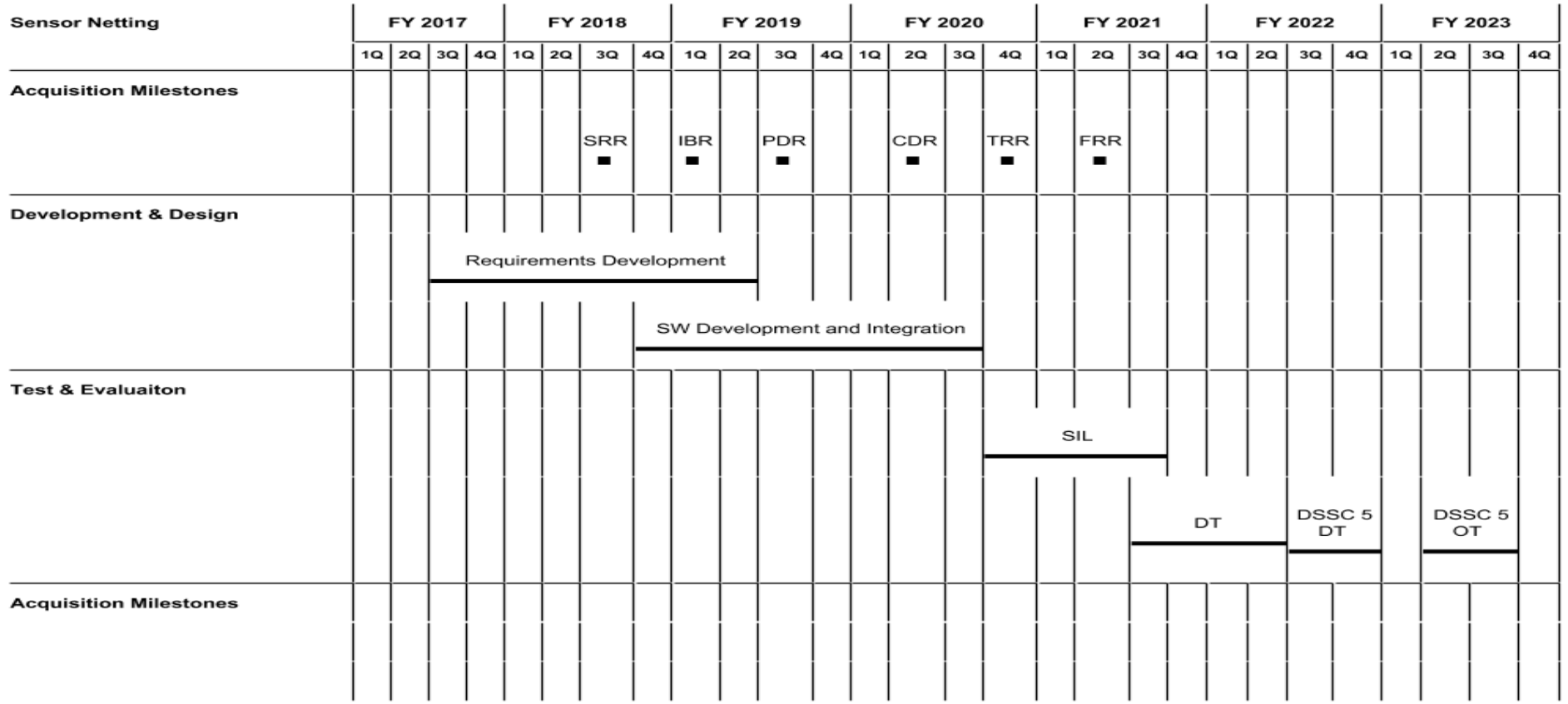
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



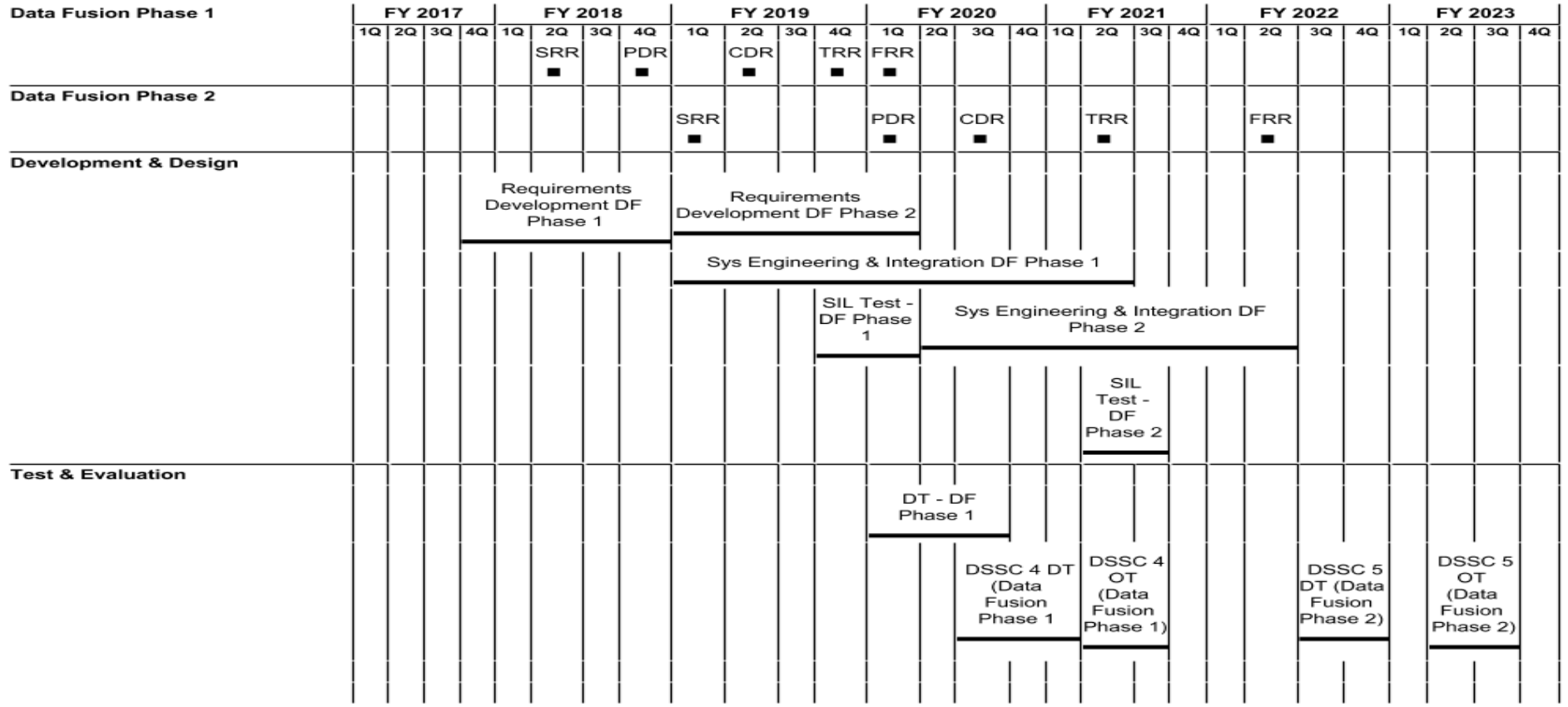
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



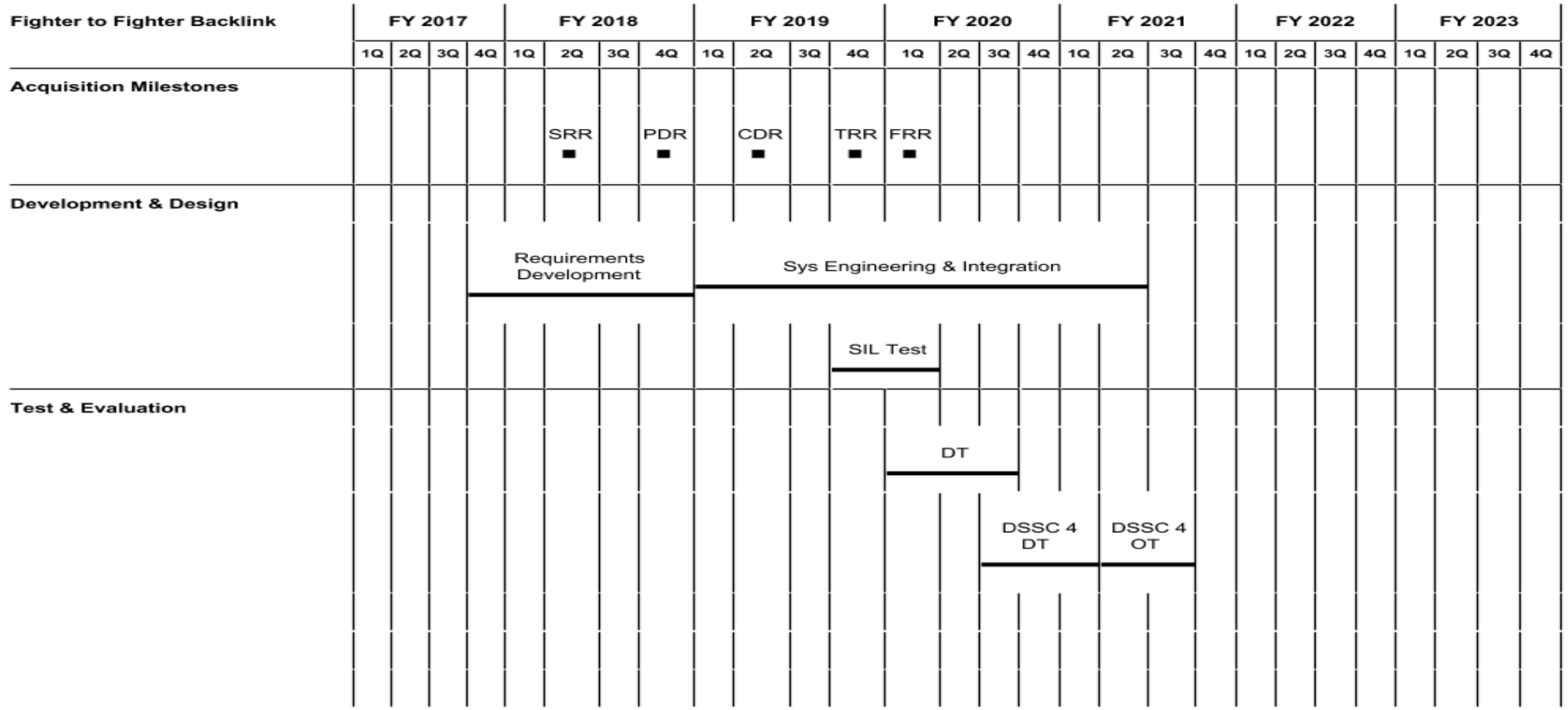
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



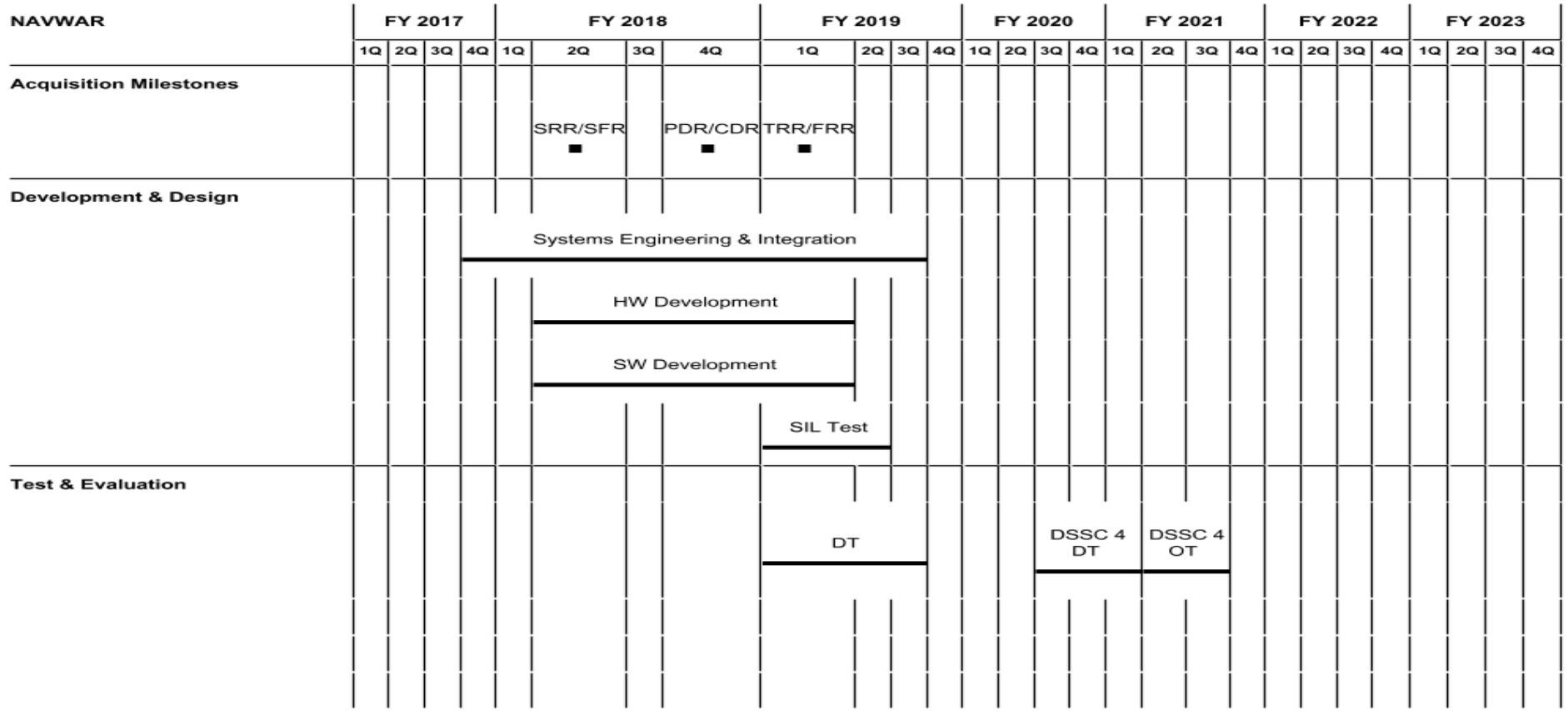
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



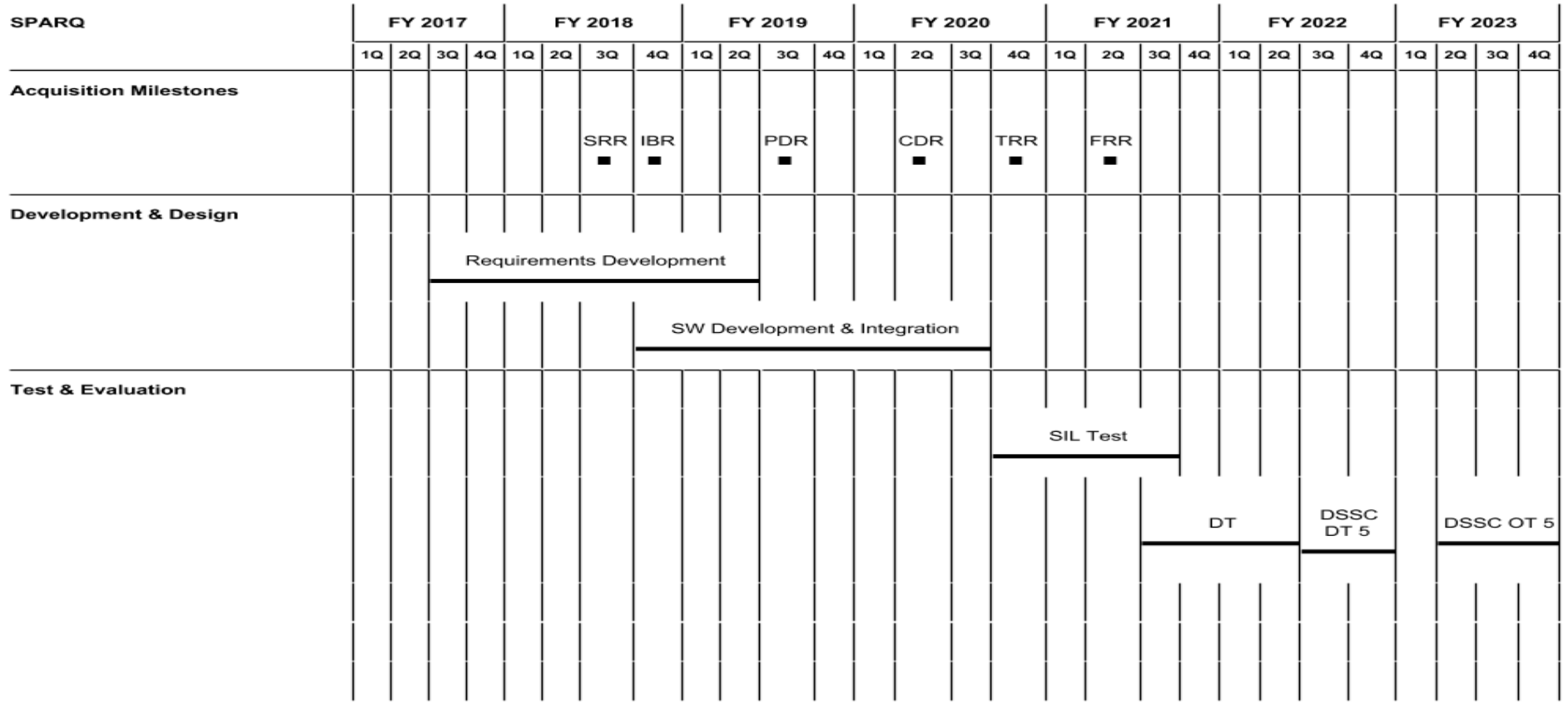
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



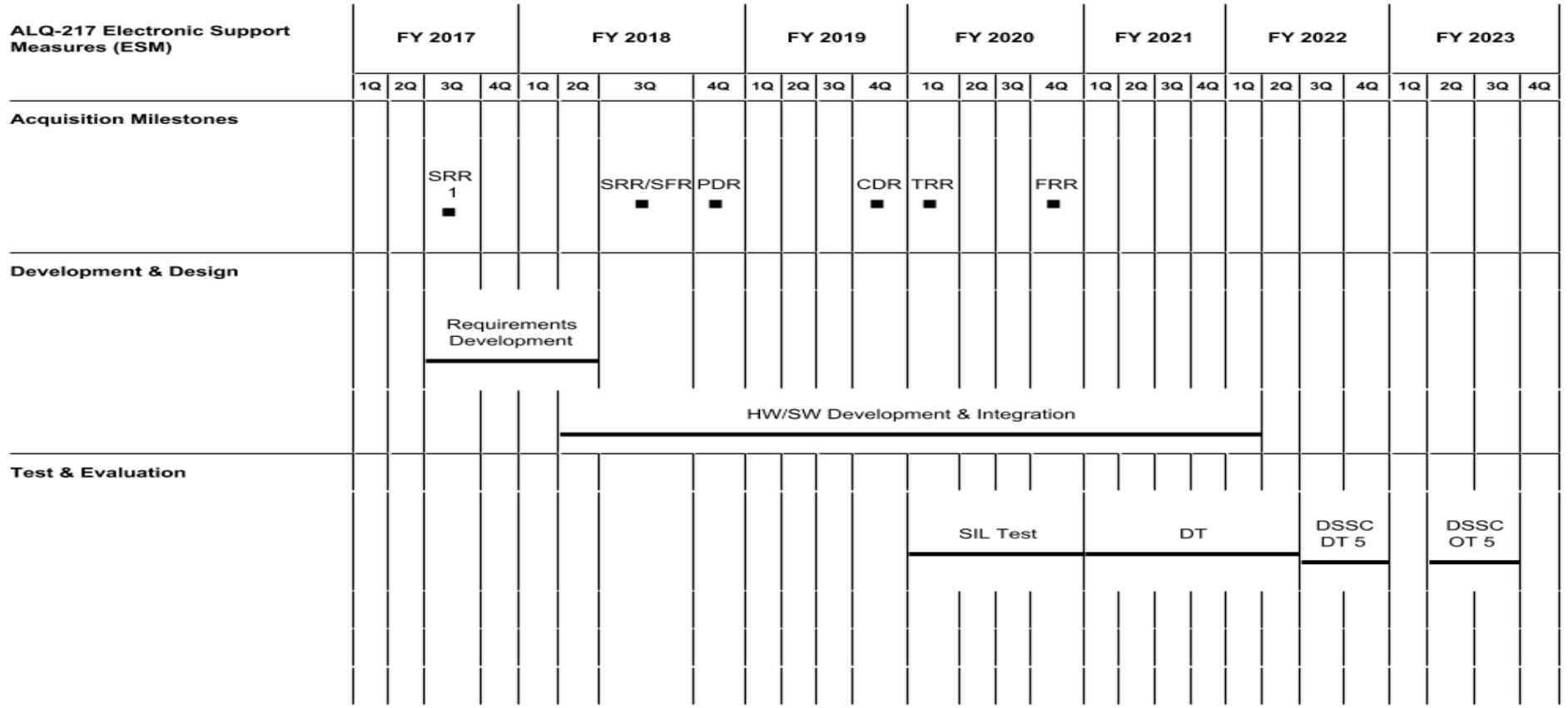
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



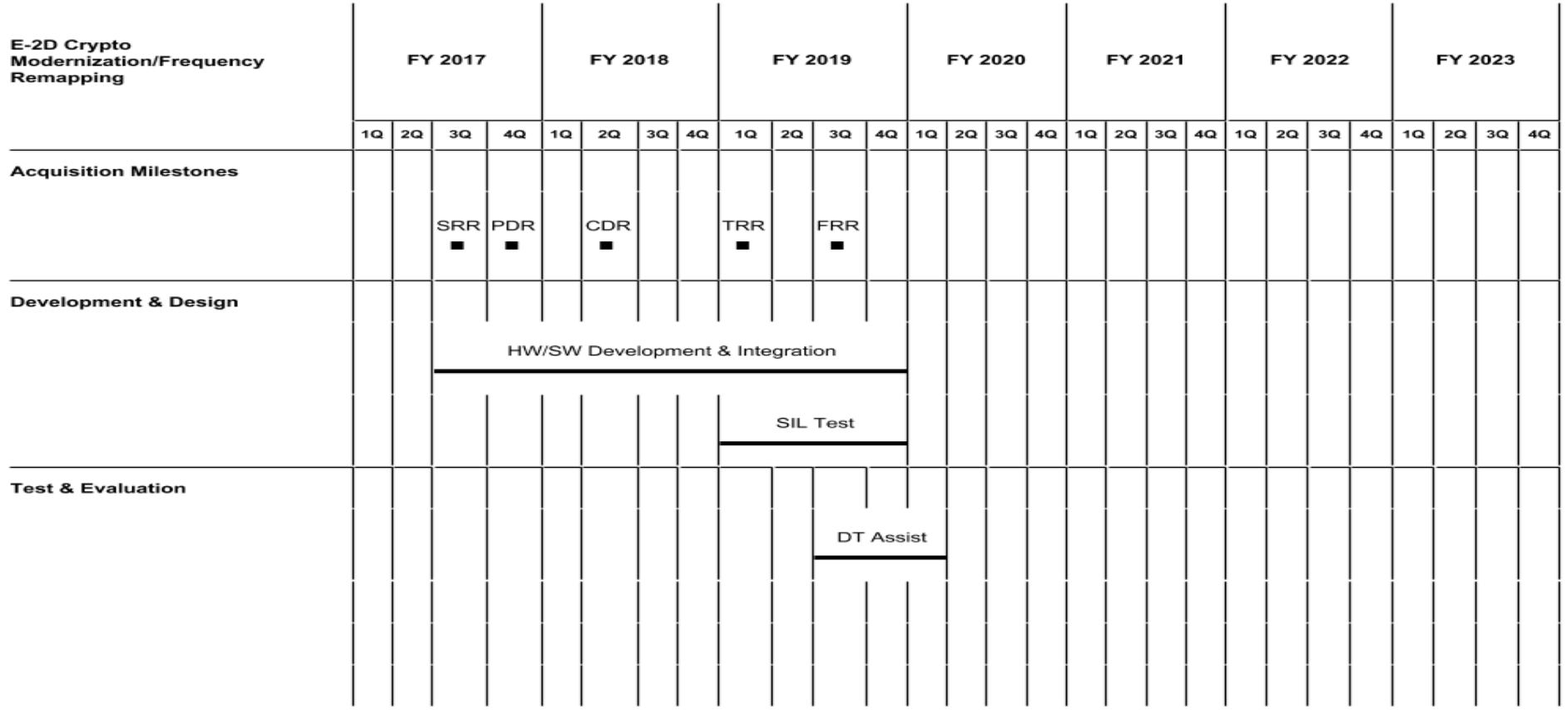
2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



2019PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



2019PB - 0604234N - 3051

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
E-2D Adv Hawkeye				
Test & Evaluation: DSSC 2.1 Capability Dev & Testing	1	2017	3	2017
Test & Evaluation: DSSC 3 Capability Dev & Testing	3	2018	4	2018
Test & Evaluation: Software Merge - DSSC 3	3	2018	3	2018
Test & Evaluation: DSSC 4 Capability Dev & Testing	3	2020	1	2021
Test & Evaluation: Software Merge DSSC 4	3	2020	3	2020
Test & Evaluation: DSSC 5 Capability Dev & Testing	3	2022	4	2022
Test & Evaluation: Software Merge DSSC 5	2	2022	2	2022
Test & Evaluation: Operational Evaluation: DSSC 2.1 Fleet Release	3	2018	3	2018
Test & Evaluation: Operational Evaluation: DSSC 3 Operational Test	2	2019	3	2019
Test & Evaluation: Operational Evaluation: DSSC 3 Fleeet Release	4	2019	4	2019
Test & Evaluation: Operational Evaluation: DSSC 4 Operational Test	2	2021	3	2021
Test & Evaluation: Operational Evaluation: DSSC 4 Fleet Release	4	2021	4	2021
Test & Evaluation: Operational Evaluation: DSSC 5 Operational Test	2	2023	3	2023
Production Milestones: DSSC 5 Fleet Release	4	2023	4	2023
Production Milestones: Contract Awards: Production Milestones - FRP Lot V CA	2	2017	2	2017
Production Milestones: Contract Awards: Production Milestones - FRP Lot VI CA	2	2018	2	2018
Production Milestones: Contract Awards: Production Milestones - FRP Lot VII CA	2	2019	2	2019
Production Milestones: Contract Awards: Production Milestones - FRP Lot VIII CA	2	2020	2	2020
Production Milestones: Contract Awards: Production Milestones - FRP Lot IX CA	2	2021	2	2021
Production Milestones: Contract Awards: Production Milestones - FRP Lot X CA	2	2022	2	2022
Production Milestones: Contract Awards: Production Milestones - FRP Lot XI CA	2	2023	2	2023
Deliveries: Production Deliveries - FRP II (5 A/C)	1	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: Production Deliveries - FRP III (5 A/C)	1	2018	4	2018
Deliveries: Production Deliveries - FRP IV (4 A/C)	1	2019	4	2019
Deliveries: Production Deliveries - FRP IV (1 A/C)	1	2020	1	2020
Deliveries: Production Deliveries - FRP V (4 A/C)	1	2020	4	2020
Deliveries: Production Deliveries - FRP V (2 A/C)	1	2021	1	2021
Deliveries: Production Deliveries - FRP VI (3 A/C)	2	2021	4	2021
Deliveries: Production Deliveries - FRP VI (2 A/C)	1	2022	1	2022
Deliveries: Production Deliveries - FRP VII (3 A/C)	2	2022	4	2022
Deliveries: Production Deliveries - FRP VII (1 A/C)	1	2023	1	2023
Deliveries: Production Deliveries - FRP VIII (3 A/C)	2	2023	4	2023
E-2D Adv Hawkeye Aerial Refueling				
System Development: Hardware/Software Development: Aerial Refueling - Engineering & Manufacturing Development	1	2017	4	2019
System Development: Reviews: Aerial Refueling - Production Readiness Review	4	2017	4	2017
System Development: Reviews: Aerial Refueling - Physical Configuration Audit	2	2018	2	2018
System Development: Reviews: Aerial Refueling - Operational Test Readiness Review	1	2019	1	2019
System Development: Reviews: Aerial Refueling - Initial Operational Capability	2	2020	2	2020
Test & Evaluation: Aerial Refueling - Aircraft Installation	1	2017	4	2017
Test & Evaluation: Aerial Refueling - First Flight	1	2017	1	2017
Test & Evaluation: Developmental Flight Test: Developmental Flight Test	1	2017	3	2018
Test & Evaluation: Developmental Flight Test: Developmental Test	4	2018	1	2019
Test & Evaluation: Developmental Flight Test: Opertational Flight Test	2	2019	3	2019
E-2D Counter Electronic Attack				
System Development: Software Development Phase 1: Counter Electronic Attack - SW Development	1	2017	1	2018
System Development: Software Development Phase 1: Counter Electronic Attack - SIL Integration	2	2018	4	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
System Development: Software Development Phase 1: Counter Electronic Attack - Preliminary Design Review	1	2017	1	2017
System Development: Software Development Phase 1: Counter Electronic Attack - Critcial Design Review	1	2018	1	2018
System Development: Software Development Phase 1: Counter Electronic Attack - TRR/FRR	1	2019	1	2019
System Development: Requirement Development - Phase 2: Counter Electronic Attack - Requirement Development	2	2019	3	2020
System Development: Requirement Development - Phase 2: Counter Electronic Attack - HW/SW Design	3	2020	4	2021
System Development: Requirement Development - Phase 2: Counter Electronic Attack - System Requirement Review	2	2020	2	2020
System Development: Requirement Development - Phase 2: Counter Electronic Attack - Preliminary Review	1	2021	1	2021
System Development: Requirement Development - Phase 2: Counter Electronic Attack - Critical Design Review	4	2021	4	2021
System Development: Requirement Development - Phase 2: Counter Electronic Attack - Test Readiness Review	2	2022	2	2022
System Development: Requirement Development - Phase 2: Counter Electronic Attack - Functional Readiness Review	1	2023	1	2023
System Development: Requirement Development - Phase 2: Counter Electronic Attack - Lab Integration	4	2021	3	2022
Test & Evaluation Phase 1: Developmental T&E Phase 1: Counter Electronic Attack - DT&E	1	2019	4	2019
Test & Evaluation Phase 1: Test & Evaluation Phase 2: Counter Electronic Attack - SIL	3	2022	1	2023
Test & Evaluation Phase 1: Test & Evaluation Phase 2: Counter Electronic Attack - DT&E	2	2023	4	2023
Test & Evaluation Phase 1: Operational T&E Phase 1: Developmental Test	3	2020	1	2021
Test & Evaluation Phase 1: Operational T&E Phase 1: Operational Test	2	2021	3	2021

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
E-2D MIDS/JTRS Tactical Targeting Networking Technology (TTNT)				
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Preliminary Design Review	1	2017	1	2017
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Critical Design Review	3	2017	3	2017
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Test Readiness Review	3	2019	3	2019
System Development & Design: TTNT HPA Development & Design: System Development & Design	1	2017	3	2019
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Preliminary Design Review	2	2017	2	2017
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Critical Design Review	2	2018	2	2018
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT -Test Readiness Review	3	2019	3	2019
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Functional Readiness Review	1	2020	1	2020
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Production Readiness Review	4	2020	4	2020
System Development & Design: TTNT MIDS/JTRS TTNT Integration: System Development & Design	1	2017	1	2019
Test & Evaluation: MIDS/JTRS TTNT Developmental Test/Operational Test: MIDS/ JTRS/TTNT - Developmental Test	1	2020	2	2020
Test & Evaluation: MIDS/JTRS TTNT Developmental Test/Operational Test: MIDS/ JTRS/TTNT - Developmental Test DSSC 4	3	2020	1	2021
Test & Evaluation: MIDS/JTRS TTNT Developmental Test/Operational Test: MIDS/ JTRS/TTNT Operational Test DSSC 4	2	2021	3	2021
E-2D SIPRChat				
Acquisition Milestones: Milestones: SIPRChat - Preliminary Design Review	2	2017	2	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Milestones: SIPRChat - Critical Design Review	1	2018	1	2018
Acquisition Milestones: Milestones: SIPRChat -Test Readiness Review	4	2018	4	2018
Acquisition Milestones: Milestones: SIPRChat - Functional Readiness Review	2	2019	2	2019
System Development: Hardware & Software Integration	1	2017	2	2019
Test & Evaluation: Developmental Test/Operational Test: Developmental Test	4	2018	3	2019
Test & Evaluation: Developmental Test/Operational Test: Developmental Test DSSC 4	3	2020	1	2021
Test & Evaluation: Developmental Test/Operational Test: Operational Test	2	2021	3	2021
Accelerated Mid-Term Interoperability Improvement Program (AMIIP)				
Acquisition Milestones: Milestones: Fleet Readiness Review	1	2017	1	2017
Systems Development: Software Integration	1	2017	2	2018
Test & Evaluation: Technical Evaluation: Developmental Test	2	2017	4	2017
Test & Evaluation: Technical Evaluation: Developmental Test DSSC 3	3	2018	4	2018
Test & Evaluation: Technical Evaluation: Operational Test DSSC 3	2	2019	3	2019
Sensor Netting				
Acquisition Milestones: System Requirements Review	3	2018	3	2018
Acquisition Milestones: Integrated Baseline Review	1	2019	1	2019
Acquisition Milestones: Preliminary Design Review	3	2019	3	2019
Acquisition Milestones: Critical Design Review	2	2020	2	2020
Acquisition Milestones: Test Readiness Review	4	2020	4	2020
Acquisition Milestones: Functional Readiness Review	2	2021	2	2021
Development & Design: Requirement Development	3	2017	2	2019
Development & Design: Software Development and Integration	4	2018	3	2020
Test & Evaluaiton: SIL Test	4	2020	3	2021
Test & Evaluaiton: Development Test	3	2021	2	2022
Test & Evaluaiton: Development Test DSSC 5	3	2022	4	2022
Test & Evaluaiton: Operation Test DSSC 5	2	2023	3	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Data Fusion Phase 1				
System Requirements Review	2	2018	2	2018
Preliminary Design Review	4	2018	4	2018
Critical Design Review	2	2019	2	2019
Test Readiness Review	4	2019	4	2019
Functional Readiness Review	1	2020	1	2020
Data Fusion Phase 2: System Requirement Review	1	2019	1	2019
Data Fusion Phase 2: Preliminary Design Review	1	2020	1	2020
Data Fusion Phase 2: Critical Design Review	3	2020	3	2020
Data Fusion Phase 2: Test Readiness Review	2	2021	2	2021
Data Fusion Phase 2: Functional Readiness Review	2	2022	2	2022
Development & Design: Development & Integration Data Fusion Phase 1	4	2017	4	2018
Development & Design: Development & Integration Data Fusion Phase 2	1	2019	1	2020
Development & Design: Systems Engineering & Integration Data Fusion Phase 1	1	2019	2	2021
Development & Design: System Engineering & Integration Data Fusion Phase 2	2	2020	2	2022
Development & Design: SIL Test Data Fusion Phase 1	4	2019	1	2020
Development & Design: SIL Test Data Fusion Phase 2	2	2021	3	2021
Test & Evaluation: Developmental Test - Data Fusion Phase 1	1	2020	3	2020
Test & Evaluation: Developmental Test - Data Fusion Phase 2	3	2021	1	2022
Test & Evaluation: Developmental Test DSSC 4 (Data Fusion Phase 1)	3	2020	1	2021
Test & Evaluation: Operational Test DSSC 4 (Data Fusion Phase 1)	2	2021	3	2021
Test & Evaluation: Developmental Test DSSC 5 (Data Fusion Phase 2)	3	2022	4	2022
Test & Evaluation: Operational Test DSSC 5 (Data Fusion Phase 2)	2	2023	3	2023
Fighter to Fighter Backlink				
Acquisition Milestones: System Requirements Review	2	2018	2	2018
Acquisition Milestones: Preliminary Design Review	4	2018	4	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Critical Design Review	2	2019	2	2019
Acquisition Milestones: Test Readiness Review	4	2019	4	2019
Acquisition Milestones: Functional Readiness Review	1	2020	1	2020
Development & Design: Development & Integration	4	2017	4	2018
Development & Design: Systems Engineering & Integration	1	2019	2	2021
Development & Design: SIL Test	4	2019	1	2020
Test & Evaluation: Developmental Test	1	2020	3	2020
Test & Evaluation: Developmental Test DSSC 4	3	2020	1	2021
Test & Evaluation: Operational Test DSSC 4	2	2021	3	2021
NAVWAR				
Acquisition Milestones: System Rquirements Review/System Functional Review	2	2018	2	2018
Acquisition Milestones: Preliminary Design Review/Critical Design Review	4	2018	4	2018
Acquisition Milestones: Test Readiness Reivew/Functional Readiness Review	1	2019	1	2019
Development & Design: Systems Engineering & Integration	4	2017	3	2019
Development & Design: Hardware Development	2	2018	1	2019
Development & Design: Software Development	2	2018	1	2019
Development & Design: System Integration Lab Test	1	2019	2	2019
Test & Evaluation: Developmental Test	1	2019	3	2019
Test & Evaluation: Developmental Test DSSC 4	3	2020	1	2021
Test & Evaluation: Operational Testing DSSC 4	2	2021	3	2021
SPARQ				
Acquisition Milestones: System Requirements Review	3	2018	3	2018
Acquisition Milestones: Integrated Baseline Review	4	2018	4	2018
Acquisition Milestones: Preliminary Design Review	3	2019	3	2019
Acquisition Milestones: Critical Design Review	2	2020	2	2020
Acquisition Milestones: Test Readiness Review	4	2020	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Functional Readiness Review	2	2021	2	2021
Development & Design: Requirement Development	3	2017	2	2019
Development & Design: Software Development and Integration	4	2018	3	2020
Test & Evaluation: SIL Test	4	2020	3	2021
Test & Evaluation: Developmental Test	3	2021	2	2022
Test & Evaluation: Developmental Test DSSC 5	3	2022	4	2022
Test & Evaluation: Operational Test DSSC 5	2	2023	4	2023
ALQ-217 Electronic Support Measures (ESM)				
Acquisition Milestones: System Requirements Review 1	3	2017	3	2017
Acquisition Milestones: System Requirements Review 2/System Functional Review	3	2018	3	2018
Acquisition Milestones: Preliminary Design Review	4	2018	4	2018
Acquisition Milestones: Critical Design Review	4	2019	4	2019
Acquisition Milestones: Test Readiness Review	1	2020	1	2020
Acquisition Milestones: Functional Readiness Review	4	2020	4	2020
Development & Design: Requirements Development	3	2017	2	2018
Development & Design: HW/SW Development & Integration	2	2018	1	2022
Test & Evaluation: SIL Test	1	2020	4	2020
Test & Evaluation: Developmental Test	1	2021	2	2022
Test & Evaluation: Developmental Test DSSC 5	3	2022	4	2022
Test & Evaluation: Operational Test DSSC 5	2	2023	3	2023
E-2D Crypto Modernization/Frequency Remapping				
Acquisition Milestones: Critical Design Review	2	2018	2	2018
Acquisition Milestones: System Requirements Review	3	2017	3	2017
Acquisition Milestones: Preliminary Design Review	4	2017	4	2017
Acquisition Milestones: Test Readiness Review	1	2019	1	2019
Acquisition Milestones: Functional Readiness Review	3	2019	3	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Development & Design: Hdw/SW Development & Integration	3	2017	4	2019
Development & Design: SIL Test	1	2019	4	2019
Test & Evaluation: Developmental Test	3	2019	1	2020

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / *Advanced Hawkeye*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
9999: *Congressional Adds*	8.207	9.672	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	17.879
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Congressional Add. Program Increase for E-2D Advanced Hawkeye(AHE) radar development

A. Mission Description and Budget Item Justification

Congressional Add. Program increase for E-2D Advanced Hawkeye (AHE) radar development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018
Congressional Add: Adv Radar Innovation Fund - Air (Cong)	9.672	0.000
FY 2017 Accomplishments: N/A		
FY 2018 Plans: N/A		
Congressional Adds Subtotals	9.672	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not required for Congressional Add.

E. Performance Metrics

Not required for Congressional Add.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / *Advanced Hawkeye*	Project (Number/Name) 9999 / *Congressional Adds*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	C/FFP	Northrop Grumman Corporation (NGC) : Melbourne, FL	7.542	2.300	Oct 2017	0.000		0.000		-		0.000	0.000	9.842	7.542
System Engineering	Various	Various : Various	0.549	6.372	Dec 2017	0.000		0.000		-		0.000	0.000	6.921	0.549
		Subtotal	8.091	8.672		0.000		0.000		-		0.000	0.000	16.763	N/A

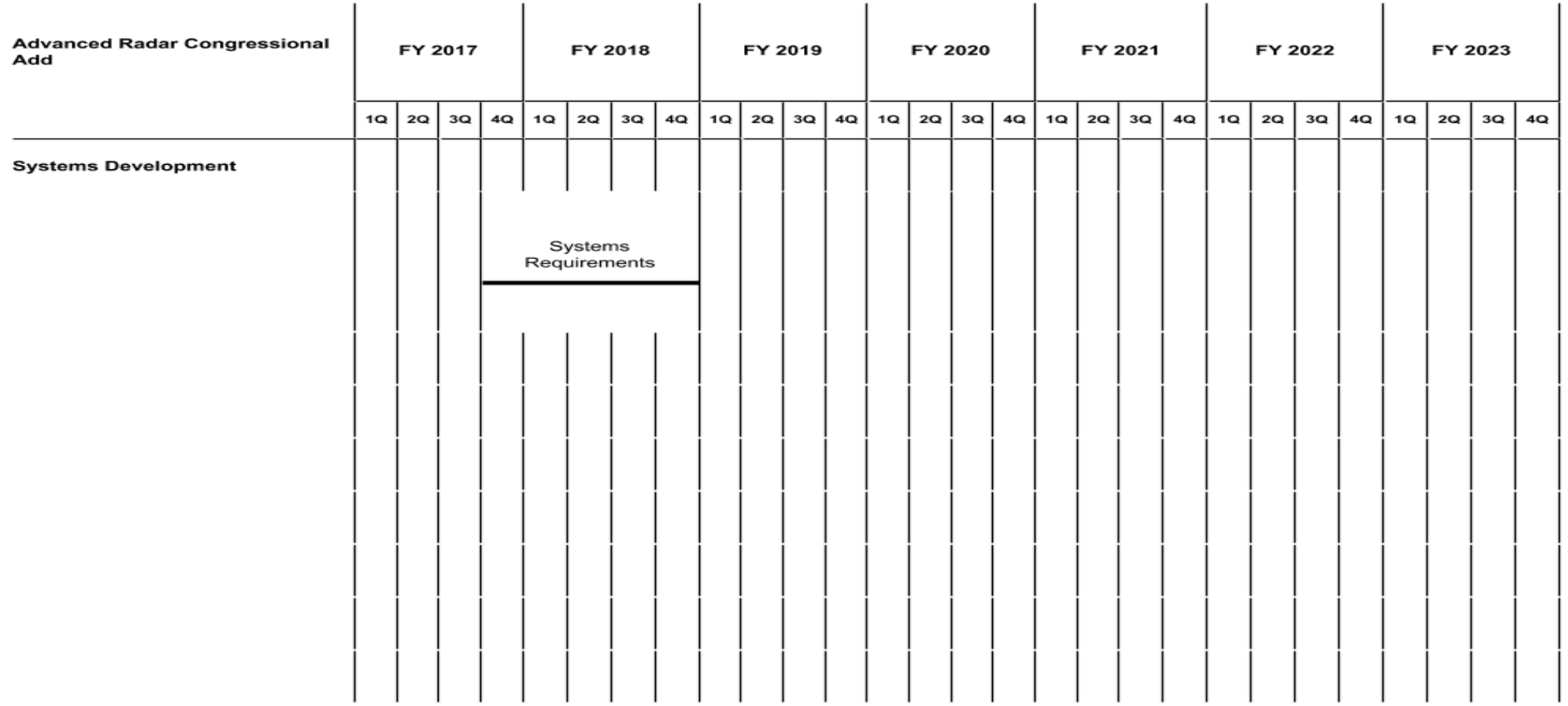
Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering	WR	SPAWAR : San Diego	0.116	0.000		0.000		0.000		-		0.000	0.000	0.116	-
Government Engineering	WR	NAWCAD : Pax River	0.000	1.000	Aug 2017	0.000		0.000		-		0.000	0.000	1.000	-
		Subtotal	0.116	1.000		0.000		0.000		-		0.000	0.000	1.116	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.207	9.672		0.000		0.000		-		0.000	0.000	17.879	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 9999 / *Congressional Adds*



2019PB - 0604234N - 9999

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Advanced Radar Congressional Add				
Systems Development: Systems Requirements	4	2017	4	2018