

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	4,113.054	103.489	176.700	272.149	-	272.149	317.185	250.353	180.581	188.923	200.857	5,803.291
3051: E-2D Adv Hawkeye	4,113.054	103.489	176.700	272.149	-	272.149	317.185	250.353	180.581	188.923	200.857	5,803.291
Program MDAP/MAIS Code: 364												
A. Mission Description and Budget Item Justification												
<p>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 modernize 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 will provide 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/S 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/S replaces the National Security Administration de-certified Mode 4 IFF capability, which is no longer effective or suitable for modern military operations. Mode 5/S will support the Joint Initial Operational Capability (IOC) as defined by the Joint Requirements Oversight Council.</p>												
<p>An Aerial Refueling (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 &amp; 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.</p>												
<p>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.</p>												
<p>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.</p>												
<p>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 Multifunctional Information Distribution System - Low Volume Terminal (MIDS</p>												

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<p>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 NIFC-CA mission.</p> <p>The E-2D Advanced Mid-Term Interoperability Improvement Program (AMIIP) will 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.</p> <p>FY16 starts E-2D Sensor Netting which 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 improvements for NIFCA-CA capability. Additional details are classified.</p> <p>FY16 starts E-2D Data Fusion which provides a fusion engine to blend off-board tactical data (e.g. Electronic Surveillance and Satellite Receiver System (SRS) data) with already blended radar, Identify Friend or Foe (IFF) and Cooperative Engagement Capability (CEC) track-files, 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 timeline.</p> <p>FY16 starts E-2D Fighter to Fighter backlink which 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 ).</p> <p>FY16 starts E-2D Navigation Warfare (NAVWAR) which prevents loss of 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.</p> <p>FY16 starts E-2D J11 Message which incorporates the J11 Message set to the E-2D Link-16 architecture, enabling E-2D support of Net Enabled Air-to-Surface Weapons such as a JSOW C-1 launched from other platforms to improve terminal accuracy and probability of kill. E-2D J11 messages would expand Carrier Strike Group Offensive Anti-Surface Warfare (OASuW) mission and Naval Integrated Fire Control- Counter Surface (NIFC-CS) capability, enabling launch and leave capability for weapon launch platforms, increasing both survivability and lethality of participating aircraft.</p> <p>FY16 starts E-2D Stores Performance Assessment Requested Quality (SPARQ) which 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, reduces operational workload and latency of execution.</p> <p>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.</p>		

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Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye			
B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	107.041	193.200	274.352	-	274.352
Current President's Budget	103.489	176.700	272.149	-	272.149
Total Adjustments	-3.552	-16.500	-2.203	-	-2.203
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-25.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	8.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.552	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	-	-2.203	-	-2.203
Change Summary Explanation					
Technical: N/A					
Schedule: Updated Advanced Hawkeye FRP II contract award and aircraft deliveries for FRP Lot IV and V. Added FRP V-FRP VIII contract awards and Fatigue Test. Updated the IFR title to Aerial Refueling (AR). Updated AR schedule for Preliminary Design Review (PDR), Critical Design Review (CDR), Test Readiness Review (TRR), Production Readiness Review (PRR), Operational Test Readiness Review (OTRR), Fuel Rig Test, Probe Static Test, Developmental Flight Test and added Operational Flight Test. Updated Counter EA milestones, Developmental & Operational test. Updated the TTNT title to MIDS/JTRS TTNT. Added Concurrent Multiple Network (CMN-4) to MIDS/JTRS TTNT title. Updated TTNT HPA milestones and DT/OT. Updated SIPRChat milestones, Developmental Test and added FOT&E. Updated Link-16 Cooperative Engagement Capability Interoperability Program title to Advanced Mid-Term Interoperability Improvement Program. Updated AMIIP milestones and Functional Test. Added schedules for Sensor Netting, Data Fusion, Fighter to Fighter, NAVWAR, J11 Message and SPARQ.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>				Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3051: <i>E-2D Adv Hawkeye</i>	4,113.054	103.489	176.700	272.149	-	272.149	317.185	250.353	180.581	188.923	200.857	5,803.291
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**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 modernize 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 will provide 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/S 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/S replaces the National Security Administration de-certified Mode 4 IFF capability, which is no longer effective or suitable for modern military operations. Mode 5/S will support the Joint Initial Operational Capability (IOC) as defined by the Joint Requirements Oversight Council.

An Aerial Refueling (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.

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.

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.

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 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 NIFC-CA mission.

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Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye	Project (Number/Name) 3051 / E-2D Adv Hawkeye				
The E-2D Advanced Mid-Term Interoperability Improvement Program (AMIIP) will 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.							
FY16 starts E-2D Sensor Netting which 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 NIFCA-CA capability. Additional details are classified.							
FY16 starts E-2D Data Fusion which provides a fusion engine to blend off-board tactical data (e.g. Electronic Surveillance and Satellite Receiver System (SRS) data) with already blended radar, Identify Friend or Foe (IFF) and Cooperative Engagement Capability (CEC) track-files, 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 timeline.							
FY16 starts E-2D Fighter to Fighter backlink which 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 ).							
FY16 starts E-2D Navigation Warfare (NAVWAR) which prevents loss of 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.							
FY16 starts E-2D J11 Message which incorporates the J11 Message set to the E-2D Link-16 architecture, enabling E-2D support of Net Enabled Air-to-Surface Weapons such as a JSOW C-1 launched from other platforms to improve terminal accuracy and probability of kill. E-2D J11 messages would expand Carrier Strike Group Offensive Anti-Surface Warfare (OASuW) mission and Naval Integrated Fire Control- Counter Surface (NIFC-CS) capability, enabling launch and leave capability for weapon launch platforms, increasing both survivability and lethality of participating aircraft.							
FY16 starts E-2D Stores Performance Assessment Requested Quality (SPARQ) which 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, reduces operational workload and latency of execution.							
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: System Development and Demonstration			0.970	1.664	-	-	-
Articles:			-	-	-	-	-
Description: Northrop Grumman Corporation System Development and Demonstration (SDD), Pilot Production efforts for the E-2D Advanced Hawkeye (AHE) Program.							
FY 2014 Accomplishments:							

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funds provided for SDD and costs associated with Initial Operational Capability (IOC) of the first E-2D squadron. <b>FY 2015 Plans:</b> Funds provided to complete deliverables under SDD contract. <b>FY 2016 Base Plans:</b> N/A <b>FY 2016 OCO Plans:</b> N/A						
<b>Title:</b> Fatigue <div><b>Articles:</b></div> <b>Description:</b> Fatigue efforts for the E-2D Advanced Hawkeye (AHE) Program.  <b>FY 2014 Accomplishments:</b> Funds provided for Full Scale Fatigue Tests and costs. Perform inspections at 250/500/1000 hour intervals.  <b>FY 2015 Plans:</b> Funds provided for continued support of Full Scale Fatigue Tests. Perform inspections at 250/500/1000 hour intervals.  <b>FY 2016 Base Plans:</b> Funds provided for continued support of Full Scale Fatigue Tests. Perform inspections at 250/500/1000 hour intervals. Replace the Outer Wing Panels which have reached end of service life.  <b>FY 2016 OCO Plans:</b> N/A		7.759 -	10.168 -	26.056 -	- -	26.056 -
<b>Title:</b> Naval Air Warfare Center Aircraft Division Engineering and Test Support <div><b>Articles:</b></div> <b>Description:</b> Fund Government Engineering, Contractor Engineering, and Classified Engineering Support. Perform Government oversight. Execute test program risk reduction efforts.  <b>FY 2014 Accomplishments:</b>		26.194 -	7.447 -	17.172 -	- -	17.172 -

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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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funds provided for continued support of Follow-On Test & Evaluation and Developmental Testing for Mode 5 and Link-16 Cooperative Engagement Capability Interoperability. Funding levels decrease as this no longer funds OPEVAL or Naval Integrated Fire Control - Counter Air (NIFC-CA) efforts.  <b>FY 2015 Plans:</b> Funds provided for continued support of Follow-On Test & Evaluation and Developmental Testing Support.  <b>FY 2016 Base Plans:</b> Funds provided for continued support of Follow-On Test & Evaluation including Advanced Mid-Term Interoperability Improvement Program and Tactical Targeting Networking Technology.  <b>FY 2016 OCO Plans:</b> N/A						
<b>Title:</b> E-2D Classified Programs  <b>Articles:</b>  <b>Description:</b> Provides support for the E-2D Advanced Hawkeye (AHE) Classified Development efforts.  <b>FY 2014 Accomplishments:</b> Funding is for the continuation of E-2D AHE Classified Development efforts.  <b>FY 2015 Plans:</b> Funding provided for the continuation of E-2D AHE Classified Development efforts.  <b>FY 2016 Base Plans:</b> Funding provides for the continuation of E-2D AHE Classified Development efforts.  <b>FY 2016 OCO Plans:</b> N/A		1.809 -	8.313 -	7.299 -	- -	7.299 -
<b>Title:</b> Mode 5/S  <b>Articles:</b>  <b>Description:</b> Mode 5/S is the replacement/upgrade to the existing Identification Friend or Foe (IFF) system.  <b>FY 2014 Accomplishments:</b> Funding is for continued system development, integration and testing to support the incorporation of IFF Mode 5/ S technology into the E-2D AHE IFF Interrogator mission equipment. Integration testing will include laboratory,		3.920 -	0.225 -	- -	- -	- -

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
ground and flight tests. Funding levels decrease due to reduced efforts for system development, software development and flight test. <b>FY 2015 Plans:</b> Funds provided for APX-122A operational test. <b>FY 2016 Base Plans:</b> N/A <b>FY 2016 OCO Plans:</b> N/A					
<b>Title:</b> Aerial Refueling <div>Articles:</div> <div>Description:</div> <div>FY 2014 Accomplishments:</div> <div>FY 2015 Plans:</div> <div>FY 2016 Base Plans:</div> <div>FY 2016 OCO Plans:</div>	40.900 -	54.950 -	57.069 -	- -	57.069 -
<b>Title:</b> E-2D Counter Electronic Attack	0.224	11.178	20.685	-	20.685



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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<div>Articles:</div> <div>Description: Funds the mission system development and testing of the capability to counter advanced radar electronic attack threats. The E&amp;MD effort will focus on integration of capability in the radar and mission computer display systems that include system integration, and laboratory and flight test validation.</div> <div>FY 2014 Accomplishments: Funds provided for continuation of E&amp;MD for the E-2D Counter Electronic Attack capability. Decrease in FY 2014 is due to a R&amp;D rephase which is corrected in FY 2015 and out.</div> <div>FY 2015 Plans: Funds the software development of the radar and mission computer systems that will provide the capability to counter advanced radar electronic attack threats.</div> <div>FY 2016 Base Plans: Funding provided for continued ramp of software development of the radar and mission computer systems that will provide the capability to counter advanced radar electronic attack threats. Funding provided for SRR and PDR.</div> <div>FY 2016 OCO Plans: N/A</div>		-	-	-	-	-
<div>Title: Multifunctional Information Distribution System/Joint Tactical Radio System (MIDS/JTRS)Tactical Targeting Networking Technology (TTNT)</div> <div>Articles:</div> <div>Description: MIDS/JTRS TTNT provides Advanced Tactical Data Link functionality into the E-2D. This effort includes replacing the MIDS LVT radio with MIDS-JTRS that has incorporated the old 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.</div> <div>FY 2014 Accomplishments: Funding is provided for Development, Design and Support costs. FY14 is requirement definition. Program re-structured.</div> <div>FY 2015 Plans:</div>		9.765 -	42.023 -	43.874 -	- -	43.874 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funding is provided for continued Development, Design and Support costs, hardware and software associated with MIDS/JTRS/TTNT. Concurrent Multiple Network (CMN04)integration and lab testing. Funding is provided for Preliminary Design Review. <b>FY 2016 Base Plans:</b> Funding provides for continued Development, Design and Support costs, hardware, software, Preliminary Design and Critical Design Reviews associated with MIDS/JTRS/TTNT CMN-4 integration and lab testing. Funding is provided for CDR. <b>FY 2016 OCO Plans:</b> N/A						
<b>Title:</b> SIPR Chat  <b>Articles:</b>  <b>Description:</b> 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.  <b>FY 2014 Accomplishments:</b> Funds provided for System Development & Design, Software and Router Integration. <b>FY 2015 Plans:</b> Funds provided for continued System Development & Design, Software and Router Integration, Program Design Review and Critical Design Review. <b>FY 2016 Base Plans:</b> Funds provided for continued System Development & Design, Software and Router Aircraft Integration and Test Readiness Review. <b>FY 2016 OCO Plans:</b> N/A		3.445 -	9.790 -	18.505 -	- -	18.505 -
<b>Title:</b> Naval Integrated Fire Control - Counter Air Testing (NIFC-CA)  <b>Articles:</b>  <b>Description:</b> NIFC-CA requires System of Systems level testing. CNO-mandate to address Naval weapon systems' Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance gaps.		7.750 -	9.425 -	18.376 -	- -	18.376 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<b>FY 2014 Accomplishments:</b> Funds provided for software development support and developmental flight tests.						
<b>FY 2015 Plans:</b> Funds provided for continued software development support and developmental flight tests.						
<b>FY 2016 Base Plans:</b> Funds provided for continued software development support and developmental flight tests. NIFC-CA includes increased flights for E-2D participation NIFC-CA increment 1 developmental and operational systems of systems testing.						
<b>FY 2016 OCO Plans:</b> N/A						
<b>Title:</b> Advanced Mid-Term Interoperability Improvement Program (AMIIP)  <b>Articles:</b>		0.753 -	21.517 -	15.180 -	- -	15.180 -
<b>Description:</b> 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.						
<b>FY 2014 Accomplishments:</b> Funds provided for systems engineering and systems development support.						
<b>FY 2015 Plans:</b> Funds provided for continued systems engineering, systems development support and software integration.						
<b>FY 2016 Base Plans:</b> Funds provided for continued systems engineering, systems development support, software integration, Functional and Flight testing.						
<b>FY 2016 OCO Plans:</b> N/A						
<b>Title:</b> Sensor Netting  <b>Articles:</b>		- -	- -	10.256 -	- -	10.256 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p><b>Description:</b> 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 NIFC-CA capability. Additional details are classified.</p> <p><b>FY 2014 Accomplishments:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p> <p><b>FY 2016 Base Plans:</b> New start - Funds are provided for Software Development &amp; Design and System Requirements Review.</p> <p><b>FY 2016 OCO Plans:</b> N/A</p>						
<p><b>Title:</b> Data Fusion</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> E-2D Data Fusion provides a fusion engine to blend off-board tactical data (e.g. Electronic Surveillance and Satellite Receiver System (SRS) data) with already blended radar, Identify Friend or Foe (IFF) and Cooperative Engagement Capability (CEC) track-files, 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 timeline.</p> <p><b>FY 2014 Accomplishments:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p> <p><b>FY 2016 Base Plans:</b> New start - Funds are provided for System Engineering &amp; Integration, System Requirements and Preliminary Design Reviews.</p> <p><b>FY 2016 OCO Plans:</b> N/A</p>		- -	- -	11.799 -	- -	11.799 -
<p><b>Title:</b> Fighter to Fighter</p> <p style="text-align: right;"><b>Articles:</b></p>		- -	- -	8.457 -	- -	8.457 -

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015			
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye	Project (Number/Name) 3051 / E-2D Adv Hawkeye			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p><b>Description:</b> 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).</p> <p><b>FY 2014 Accomplishments:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p> <p><b>FY 2016 Base Plans:</b> New start - Funds are provided for Software Development and Design.</p> <p><b>FY 2016 OCO Plans:</b> N/A</p>						
<p><b>Title:</b> Navigation Warfare (NAVWAR)</p> <p><b>Articles:</b></p> <p><b>Description:</b> E-2D Navigation Warfare (NAVWAR) prevents loss of 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.</p> <p><b>FY 2014 Accomplishments:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p> <p><b>FY 2016 Base Plans:</b> New start - Funds are provided for System Engineering &amp; Integration, Hardware Development, and System Requirements and Preliminary Design Reviews.</p> <p><b>FY 2016 OCO Plans:</b></p>		- -	- -	5.799 -	- -	5.799 -

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015			
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye		Project (Number/Name) 3051 / E-2D Adv Hawkeye		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A						
<b>Title:</b> J11 Message		-	-	5.051	-	5.051
<b>Articles:</b>		-	-	-	-	-
<b>Description:</b> Incorporates J11 message set to E-2D Link-16 architecture, enabling E-2D support of Net Enabled Air-to-Surface Weapons such as JSOW C-1 launched from other platforms to improve terminal accuracy and probability of kill. E-2D J11 messages would expand Carrier Strike Group Offensive Anti-Surface Warfare (OASuW) mission and Naval Integrated Fire Control- Counter Surface (NIFC-CS) capability, enabling launch and leave capability for weapon launch platforms, increasing both survivability and lethality of participating aircraft.						
<b>FY 2014 Accomplishments:</b> N/A						
<b>FY 2015 Plans:</b> N/A						
<b>FY 2016 Base Plans:</b> New start - Funds are provided for Software Design & Integration and System Requirements Review.						
<b>FY 2016 OCO Plans:</b> N/A						
<b>Title:</b> Stores Performance Assessment Requested Quality (SPARQ)		-	-	6.571	-	6.571
<b>Articles:</b>		-	-	-	-	-
<b>Description:</b> 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 to take advantage of System of System capabilities of NIFC-CA, reduces operational workload and latency of execution.						
<b>FY 2014 Accomplishments:</b> N/A						
<b>FY 2015 Plans:</b> N/A						
<b>FY 2016 Base Plans:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2016 Navy								<b>Date:</b> February 2015				
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>				<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016 Base</b>	<b>FY 2016 OCO</b>	<b>FY 2016 Total</b>
New start - Funds are provided for System Engineering & Integration, Software Integration, and System Requirements Review.												
<b>FY 2016 OCO Plans:</b> N/A												
<b>Accomplishments/Planned Programs Subtotals</b>								103.489	176.700	272.149	-	272.149
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	
• APN/0195: <i>E-2D AHE</i>	1,209.195	1,144.956	1,052.990	-	1,052.990	1,059.550	857.086	984.339	999.222	4,257.820	19,557.417	
• APN/0605: <i>Initial Spares - E-2</i>	7.449	7.582	7.786	-	7.786	7.583	14.224	13.154	16.658	33.752	461.840	
• APN/0544: <i>E-2 Series</i>	6.141	12.776	14.647	-	14.647	16.761	80.153	78.580	79.924	334.772	623.754	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
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 (FRP) on 01 March 2013.												
<b>E. Performance Metrics</b>												
Successfully held a Defense Acquisition Board for Full Rate Production on 31 January 2013 for 55 aircraft.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>				Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Primary Hardware Development	SS/CPAF	Northrop Grumman Corporation (NGC) : Melbourne, FL	2,928.175	0.234	Feb 2014	0.200	Feb 2015	-		-		-	-	2,928.609	2,928.609
Primary Hardware-Fatigue	C/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	7.526	Jun 2014	8.744	Mar 2015	24.716	Mar 2016	-		24.716	78.530	119.516	125.541
Primary Hardware Development-SIPRChat	C/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.392	Apr 2014	3.810	Jan 2015	6.852	Nov 2015	-		6.852	4.560	15.614	15.614
Primary Hardware Development-NIFCA Test	C/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.762	Apr 2014	-		-		-		-	-	0.762	0.762
Primary Hardware Development-TTNT	C/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	7.502	Apr 2014	17.430	Jan 2015	20.577	Nov 2015	-		20.577	14.425	59.934	59.934
Primary Hardware Development-TTNT	SS/FFP	Data Link Solutions : Cedar Rapids, IA	0.000	1.005	Apr 2014	-		-		-		-	-	1.005	1.005
Primary Hardware Development-NAVWAR	SS/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		3.724	Feb 2016	-		3.724	15.078	18.802	18.802
Primary Hardware-Aerial Refueling	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	30.138	39.450	Mar 2014	53.649	Nov 2014	53.799	Nov 2015	-		53.799	165.397	342.433	342.433
Training Development	SS/FFP	Rockwell Collins : Cedar Rapids, IA	0.000	-		2.917	Feb 2015	2.727	Feb 2016	-		2.727	49.677	55.321	55.321
Systems Engineering	PO	Navy Syst Mgt Activity : Arlington, VA	174.988	-		-		-		-		-	-	174.988	-
GFE	Various	Various : Various	31.509	2.217	May 2014	-		1.795	Feb 2016	-		1.795	0.923	36.444	-
Award Fees	SS/CPAF	Northrop Grumman Corporation (NGC) : Melbourne, FL	150.703	0.776	Oct 2014	-		-		-		-	-	151.479	151.479
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	298.079	-		-		-		-		-	-	298.079	-



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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy** **Date:** February 2015

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>
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Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
<b>Subtotal</b>			3,613.592	59.864		86.750		114.190		-		114.190		328.590	4,202.986	-

**Remarks**

Totals may not add due to rounding.  
Award Fee for SDD contract N00019-03-C-0057:  
Period 1 FY04 - 90%    Period 7 FY08 - 94%    Period 13 FY13 - 93%  
Period 2 FY04 - 91%    Period 8 FY09 - 93%    Period 14 FY14 - 97%  
Period 3 FY05 - 80%    Period 9 FY09 - 95%  
Period 4 FY06 - 94%    Period 10 FY10 - 100%  
Period 5 FY06 - 100%    Period 11 FY11 - 95%  
Period 6 FY07 - 95%    Period 12 FY12 - 95%

Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Development Support-AMIIP	Various	Various : Various	0.000	-		5.161	Nov 2014	-		-		-		-	5.161	-
Software Development	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	36.616	2.845	Apr 2014	1.571	Apr 2015	-		-		-		-	41.032	41.032
Software Development	Various	Navy Syst Mgt Activity : Arlington, VA	11.211	1.808	Nov 2013	7.648	Apr 2015	14.059	Nov 2015	-		14.059		25.606	60.332	-
Software Development-SN	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	-		-		7.003	Mar 2016	-		7.003		114.727	121.730	-
Software Development-Data Fusion	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	-		-		9.514	Mar 2016	-		9.514		41.935	51.449	-
Software Development-CEA	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	0.200	Nov 2013	11.054	Apr 2015	18.762	Mar 2016	-		18.762		109.859	139.875	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>				Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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-SIPRChat	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	1.720	Jun 2014	3.689	Jan 2015	8.068	Dec 2015	-		8.068	6.002	19.479	19.479
Software Development-AMIIP	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.493	Dec 2013	11.263	Dec 2014	7.169	Dec 2015	-		7.169	5.648	24.573	24.573
Software Development-TTNT	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		21.034	Jan 2015	13.074	Dec 2015	-		13.074	8.250	42.358	42.358
Software Development-NIFC-CA	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		1.961	Jan 2015	3.501	Dec 2015	-		3.501	10.480	15.942	15.942
Software Development-J11	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		3.385	Mar 2016	-		3.385	22.247	25.632	25.632
Software Development-F2F	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		5.994	Mar 2016	-		5.994	23.458	29.452	29.452
Software Development-NAVWAR	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		0.310	Mar 2016	-		0.310	1.227	1.537	1.537
Government Engineering Support	WR	Naval Air Warfare Center Aircraft Division (NAWCAD) : Pax River, MD	84.659	4.443	Nov 2013	9.293	Nov 2014	21.458	Nov 2015	-		21.458	103.546	223.399	-
Government Engineering Support	WR	Naval Air Warfare Center Training Systems Division : Orlando, FL	11.352	-		-		-		-		-	0.622	11.974	-
Government Engineering Support	Various	Various : Various	12.118	-		0.510	Nov 2014	0.539	Nov 2015	-		0.539	-	13.167	-
Integrated Logistics Support	Various	Various : Various	7.975	0.295	Nov 2013	1.397	Nov 2014	4.049	Nov 2015	-		4.049	14.540	28.256	-
Contractor Engineering Support ETS	C/CPFF	Imagine One : Colonial Beach, VA	1.137	2.239	Jan 2014	2.102	Jan 2015	2.167	Jan 2016	-		2.167	6.618	14.263	14.263

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy** **Date:** February 2015

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>
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Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Technical Data	Various	Various : Various	0.744	0.250	Mar 2014	0.550	Dec 2014	0.560	Dec 2015	-		0.560	1.426	3.530	-
Configuration Management	Various	Various : Various	0.201	0.051	Dec 2013	0.100	Dec 2014	0.102	Dec 2015	-		0.102	0.551	1.005	-
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	55.919	-		-		-		-		-	-	55.919	-
<b>Subtotal</b>			221.932	14.344		77.333		119.714		-		119.714	496.742	930.065	-

**Remarks**

Totals may not add due to rounding.  
Integrated Logistics Support, Government Engineering Support, Contractor Engineering Support, Technical Data and Configuration Management - various contractors and award dates throughout the fiscal year.

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Developmental T&E	WR	NAWCAD : Pax River, MD	86.931	8.509	Nov 2013	5.731	Nov 2014	11.675	Nov 2015	-		11.675	184.328	297.174	-
Developmental T&E	Various	Various : Various	34.253	1.450	Dec 2013	-		8.171	Dec 2015	-		8.171	10.525	54.399	-
Developmental T&E 1	WR	Various : Various	8.469	9.720	Mar 2014	1.632	Mar 2015	9.123	Dec 2015	-		9.123	27.288	56.232	-
Developmental T&E	C/CPFF	Airborne Tactical Advantage Co, LLC : Pax River, MD	0.000	-		-		-		-		-	2.767	2.767	2.767
Developmental T&E	C/CPFF	Wyle Labs - ESTEL : Huntsville, AL	4.060	1.413	Jan 2014	1.000	Jan 2015	1.500	Jan 2016	-		1.500	-	7.973	7.973
Developmental T&E-ROR	SS/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.500	Jul 2014	1.300	Mar 2015	2.252	Mar 2016	-		2.252	24.687	28.739	28.739
Developmental T&E ETS	C/FFP	L-3 Communications : Newport News, VA	14.047	0.191	Dec 2013	0.225	Dec 2014	0.275	Dec 2015	-		0.275	1.669	16.407	16.407
Developmental T&E ETS	Various	Various : Various	6.573	0.593	Jun 2014	-		-		-		-	-	7.166	-
Developmental T&E ETS	C/CPFF	JF Taylor Inc : Lexington Park, MD	0.000	5.693	Jun 2014	1.545	Jun 2015	1.728	Jun 2016	-		1.728	9.563	18.529	17.862

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye				Project (Number/Name) 3051 / E-2D Adv Hawkeye					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Operational T&E	WR	NAWCAD : Pax River, MD	22.183	0.771	Nov 2013	0.895	Nov 2014	0.900	Nov 2015	-		0.900	38.941	63.690	-
Operational T&E	Various	Various : Various	5.032	-		-		0.400	Nov 2015	-		0.400	0.100	5.532	-
Test Assets	Various	Various : Various	3.900	-		-		1.688	Nov 2015	-		1.688	9.199	14.787	14.787
Prior Year T&E costs no longer funded in FYDP	Various	Various : Various	23.540	-		-		-		-		-	-	23.540	-
Subtotal			208.988	28.840		12.328		37.712		-		37.712	309.067	596.935	-
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.															
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Prog Management Supp	Various	Various : Various	2.003	0.367	Nov 2013	0.026	Nov 2014	0.036	Nov 2015	-		0.036	0.163	2.595	-
Travel	Various	Various : Various	2.375	0.074	Oct 2013	0.263	Oct 2014	0.497	Oct 2015	-		0.497	3.337	6.546	-
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	64.164	-		-		-		-		-	-	64.164	-
Subtotal			68.542	0.441		0.289		0.533		-		0.533	3.500	73.305	-
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 the fiscal year.															
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			4,113.054	103.489		176.700		272.149		-		272.149	1,137.899	5,803.291	-
Remarks															
Totals may not add due to rounding.															

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PE 0604234N: *Advanced Hawkeye*  
Navy

R-1 Line #96

R-1 Program Element (Number/Name)	Program Element Description	Program Element Type	Program Element Status	Program Element Location	Program Element Contact	Program Element Date	Program Element Comments

PE 0604234N / *Advanced Hawkeye*

3051 / E-2D Adv Hawkeye

1319 / 5

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity

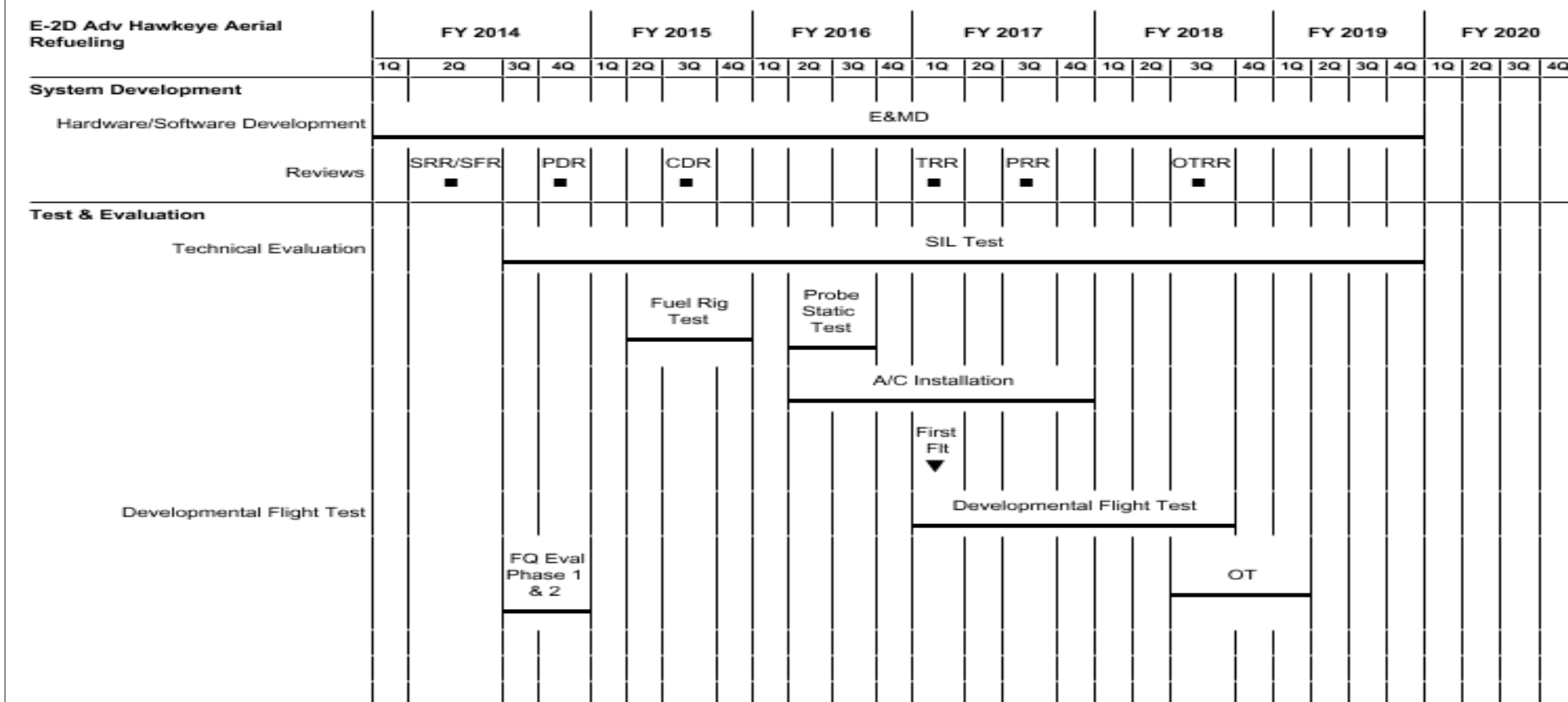
1319 / 5

R-1 Program Element (Number/Name)

PE 0604234N / *Advanced Hawkeye*

Project (Number/Name)

3051 / *E-2D Adv Hawkeye*



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PE 0604234N: *Advanced Hawkeye*  
Navy

R-1 Line #96

**Project (Number/Name)**  
3051 / E-2D Adv Hawkeye

E-2D Counter Electronic Attack	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>System Development</b>																												
Software Development	SW Development												SIL Integration												SW Development Inc 2			
										SRR ■	PDR ■		CDR ■				TRR/FRR ■											
<b>Test &amp; Evaluation</b>																												
Developmental T&E																								Dev T&E				
Operational T&E																											Operational T&E	

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity

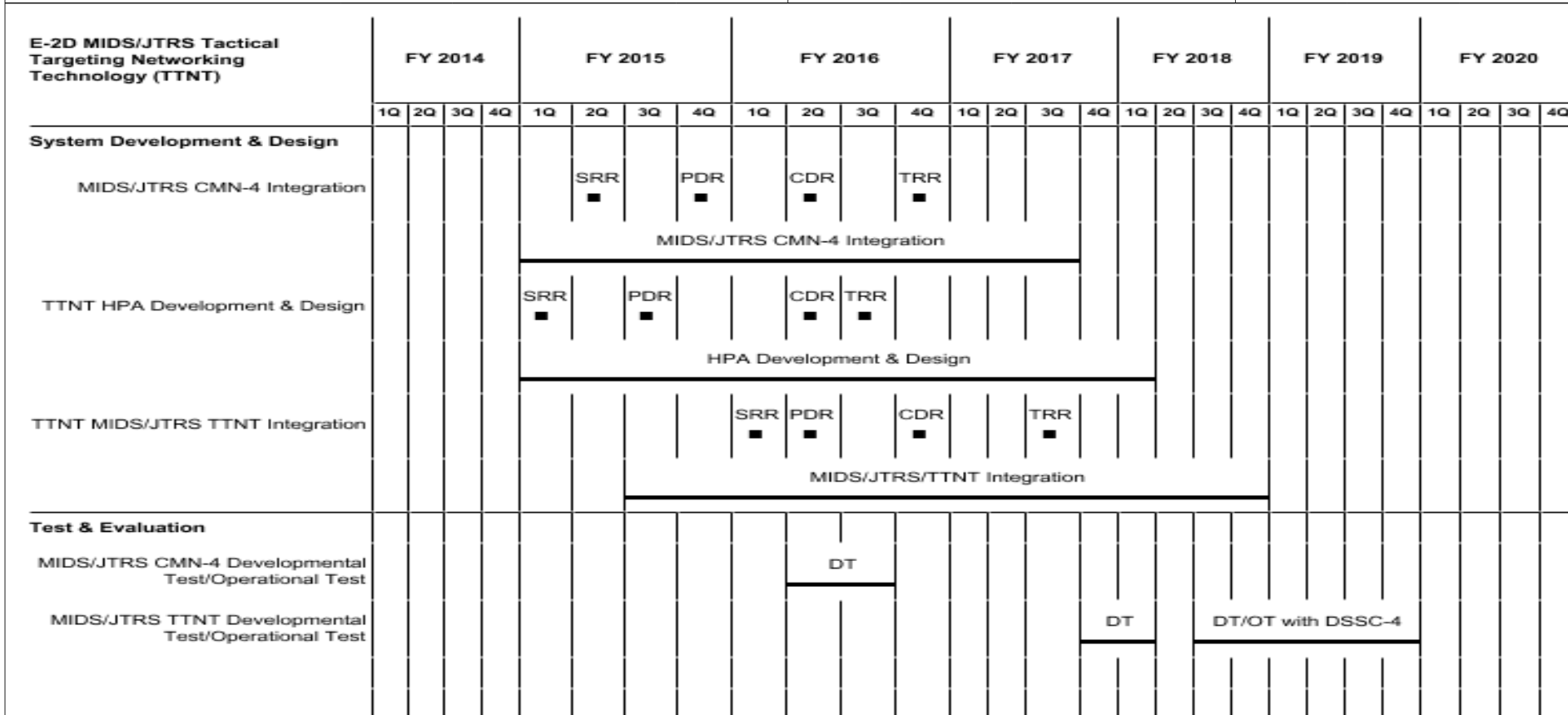
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R-1 Program Element (Number/Name)

PE 0604234N / Advanced Hawkeye

Project (Number/Name)

3051 / E-2D Adv Hawkeye



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PE 0604234N: *Advanced Hawkeye*  
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[illegible]PE 0604234N / *Advanced Hawkeye*

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[illegible]

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R-1 Line #96

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>
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<b>Project (Number/Name)</b>	3051 / E-2D Adv Hawkeye
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Advanced Mid-Term Interoperability Improvement Program (AMIIP)		FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																													
Milestones																													
Systems Development																													
Software Development																													

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PE 0604234N: *Advanced Hawkeye*  
Navy

R-1 Line #96

**Project (Number/Name)**  
3051 / E-2D Adv Hawkeye

PE 0604234N: *Advanced Hawkeye*  
Navy

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PE 0604234N: *Advanced Hawkeye*  
Navy

R-1 Line #96

Appropriation/Budget Activity 1319 / 5														R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye								Project (Number/Name) 3051 / E-2D Adv Hawkeye							
Data Fusion	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Acquisition Milestones																													
Development & Design																													
Test & Evaluation																													

2016PB - 0604234N - 3051

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PE 0604234N: *Advanced Hawkeye*  
Navy

R-1 Line #96

**Project (Number/Name)**  
3051 / E-2D Adv Hawkeye

Fighter to Fighter	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Acquisition Milestones														PDR ■		CDR ■			TRR ■													
Development & Design													Software Development																			
																SIL Testing																
Test & Evaluation																					DT		OT					Software Release ▼				
																						</										

2016PB - 0604234N - 3051

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PE 0604234N: *Advanced Hawkeye*  
Navy

R-1 Line #96

**Project (Number/Name)**  
3051 / E-2D Adv Hawkeye

NAVWAR	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020														
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q											
Acquisition Milestones											SRR ■	PDR ■		CDR ■				TRR ■																					
Development & Design											Systems Engineering & Integration																												
											HW Development																												
											SW Modification																												
												SIL Test																											
Test & Evaluation																		DT		OT																			

2016PB - 0604234N - 3051

**UNCLASSIFIED**

PE 0604234N: *Advanced Hawkeye*  
Navy

R-1 Line #96

**Project (Number/Name)**  
3051 / E-2D Adv Hawkeye

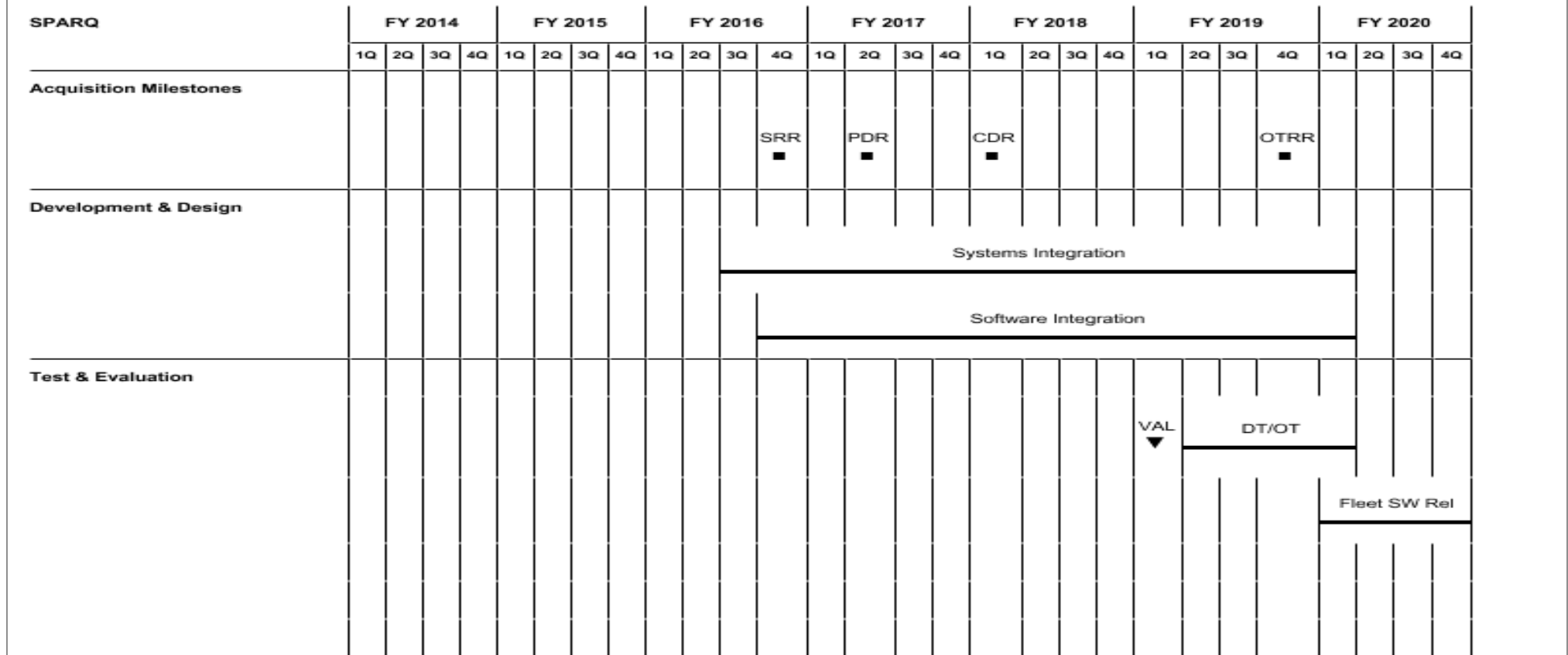
J11 Message	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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2016PB - 0604234N - 3051

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2016 Navy	<b>Date:</b> February 2015
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>
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2016PB - 0604234N - 3051



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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2016 Navy

Date: February 2015

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>E-2D Adv Hawkeye</i></b>				
Acquistion Milestones: Milestones: Acquistion Milestones - Initial Operational Capabilities	1	2015	1	2015
Test & Evaluation: Technical Evaluation: Fatigue Testing	1	2014	4	2020
Test & Evaluation: Operational Evaluation: Verification of Correction of Deficiencies (VCD)	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Integrated Test D2	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Integrated Test D3	2	2014	4	2014
Test & Evaluation: Operational Evaluation: Follow On Test & Evaluation	1	2014	4	2017
Production Milestones: Contract Awards: Production Milestones - FRP Lot II CA	3	2014	3	2014
Production Milestones: Contract Awards: Production Milestones - FRP Lot III CA	2	2015	2	2015
Production Milestones: Contract Awards: Production Milestones - FRP Lot IV CA	2	2016	2	2016
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
Deliveries: Production Deliveries - LRIP III (5 A/C APN)	1	2014	4	2014
Deliveries: Production Deliveries - LRIP IV (5 A/C APN)	1	2015	4	2015
Deliveries: Production Deliveries - FRP I (5 A/C)	1	2016	3	2016
Deliveries: Production Deliveries - FRP II (5 A/C)	4	2016	3	2017
Deliveries: Production Deliveries - FRP III (5 A/C)	4	2017	4	2018
Deliveries: Production Deliveries - FRP IV (5 A/C)	4	2018	4	2019
Deliveries: Production Deliveries - FRP V (6 A/C)	1	2020	4	2020

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015	
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>		Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
<i>E-2D Adv Hawkeye Aerial Refueling</i>				
System Development: Hardware/Software Development: Aerial Refueling - Engineering & Manufacturing Development	1	2014	4	2019
System Development: Reviews: Aerial Refueling - System Requirements Review2/ System Functional Review	2	2014	2	2014
System Development: Reviews: Aerial Refueling - Preliminary Design Review	4	2014	4	2014
System Development: Reviews: Aerial Refueling - Critical Design Review	3	2015	3	2015
System Development: Reviews: Aerial Refueling - Test Readiness Review	1	2017	1	2017
System Development: Reviews: Aerial Refueling - Production Readiness Review	3	2017	3	2017
System Development: Reviews: Aerial Refueling - Operational Test Readiness Review	3	2018	3	2018
Test & Evaluation: Technical Evaluation: Aerial Refueling - SIL Probe Static Test	3	2014	4	2019
Test & Evaluation: Technical Evaluation: Aerial Refueling - Fuel Rig Test	2	2015	4	2015
Test & Evaluation: Technical Evaluation: Aerial Refueling - Probe Static Test	2	2016	3	2016
Test & Evaluation: Technical Evaluation: Aerial Refueling - Aircraft Installation	2	2016	4	2017
Test & Evaluation: Technical 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: Opertational Flight Test	3	2018	1	2019
Test & Evaluation: Developmental Flight Test: Flying Qualities Evaluation Test Phase 1 & 2	3	2014	4	2014
<i>E-2D Counter Electronic Attack</i>				
System Development: Software Development: Counter Electronic Attack - SW Development	1	2014	1	2017
System Development: Software Development: Counter Electronic Attack - SIL Integration	2	2017	3	2018
System Development: Software Development: Counter Electronic Attack Increment 2 - SW Development	1	2020	4	2020
System Development: Software Development: Counter Electronic Attack - System Requirements Review	2	2016	2	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015	
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 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: Counter Electronic Attack - Preliminary Design Review	4	2016	4	2016
System Development: Software Development: Counter Electronic Attack - Critcial Design Review	3	2017	3	2017
System Development: Software Development: Counter Electronic Attack - TRR/FRR	3	2018	3	2018
Test & Evaluation: Developmental T&E: Counter Electronic Attack - DT&E Tech Evaluation	1	2020	2	2020
Test & Evaluation: Operational T&E: Counter Electronic Attack - OT&E	4	2020	4	2020
E-2D MIDS/JTRS Tactical Targeting Networking Technology (TTNT)				
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT - System Readiness Review	2	2015	2	2015
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT - Preliminary Design Review	4	2015	4	2015
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT - Critical Design Review	2	2016	2	2016
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT -Test Readiness Review	4	2016	4	2016
System Development & Design: MIDS/JTRS CMN-4 Integration: E-2D TTNT MIDS/ JTRS Integration	1	2015	3	2017
System Development & Design: TTNT HPA Development & Design: TTNT - System Readiness Review	1	2015	1	2015
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Preliminary Design Review	3	2015	3	2015
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Critical Design Review	2	2016	2	2016
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Test Readiness Review	3	2016	3	2016
System Development & Design: TTNT HPA Development & Design: TTNT Hight Power Amplifier Development & Design	1	2015	1	2018

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015	
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>	Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>		
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - System Readiness Review	1	2016	1	2016
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Preliminary Design Review	2	2016	2	2016
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Critical Design Review	4	2016	4	2016
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT -Test Readiness Review	3	2017	3	2017
System Development & Design: TTNT MIDS/JTRS TTNT Integration: E-2D MIDS/JTRS/TTNT Integration	3	2015	4	2018
Test & Evaluation: MIDS/JTRS CMN-4 Developmental Test/Operational Test: Developmental Test	2	2016	3	2016
Test & Evaluation: MIDS/JTRS TTNT Developmental Test/Operational Test: Developmental Test - Operational Test	3	2018	4	2019
Test & Evaluation: MIDS/JTRS TTNT Developmental Test/Operational Test: MIDS/JTRS/TTNT - Developmental Test	4	2017	1	2018
E-2D SIPRChat				
Acquisition Milestones: Milestones: SIPRChat - Preliminary Design Review	2	2015	2	2015
Acquisition Milestones: Milestones: SIPRChat - Critical Design Review	3	2015	3	2015
Acquisition Milestones: Milestones: SIPRChat -Test Readiness Review	3	2016	3	2016
System Development: Software Development: E-2D SIPRChat Aircraft Integration	2	2015	4	2018
System Development: Software Development: Router Development & Design	3	2014	4	2017
System Development: Software Development: Software Integration	2	2015	4	2018
Test & Evaluation: Developmental Test/Operational Test: Developmental Test	3	2017	1	2018
Test & Evaluation: Developmental Test/Operational Test: DT With DSSC - 4	4	2018	1	2019
Test & Evaluation: Developmental Test/Operational Test: FOT&E With DSSC - 4	3	2019	4	2019
Trainers: Trainer Development: SIPRChat Trainer Design & Developo WST 1	1	2018	1	2020
Advanced Mid-Term Interoperability Improvement Program (AMIIP)				

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015	
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>	Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>		
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Acquisition Milestones: Milestones: System Readiness Review	2	2015	2	2015
Acquisition Milestones: Milestones: Preliminary Design Review	4	2015	4	2015
Acquisition Milestones: Milestones: Critical Design Review	2	2016	2	2016
Systems Development: Software Development: Systems Engineering	3	2014	4	2018
Systems Development: Software Development: Systems Development	3	2014	4	2018
Systems Development: Software Development: Software Integration	2	2015	4	2016
Systems Development: Software Development: System Integration Lab Integration	4	2015	1	2017
Test & Evaluation: Technical Evaluation: Functional Test	3	2016	3	2016
Test & Evaluation: Technical Evaluation: Flight Test	2	2016	3	2017
Test & Evaluation: Technical Evaluation: Performance Evaluation Test II	4	2017	4	2017
Sensor Netting				
Acquisition Milestones: System Readiness Review	4	2016	4	2016
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Test Readiness Review	4	2019	4	2019
Development & Design: Software Development	2	2016	1	2020
Test & Evaluaiton: Developmental Test & Evaluaiton	4	2019	4	2020
Data Fusion				
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Test Readiness Review	3	2018	3	2018
Development & Design: Systems Engineering & Integration	3	2016	2	2019
Development & Design: System Integration Lab Test	1	2018	2	2018
Test & Evaluation: Developmental Testing	4	2018	4	2018
Test & Evaluation: Operational Testing	1	2019	2	2019
Fighter to Fighter				

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015	
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye		Project (Number/Name) 3051 / E-2D Adv Hawkeye	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Acquisition Milestones: Preliminary Design Review	1	2017	1	2017
Acquisition Milestones: Critical Design Review	3	2017	3	2017
Acquisition Milestones: Test Readiness Review	2	2018	2	2018
Development & Design: Software Development	3	2016	3	2019
Development & Design: SIL	3	2017	2	2018
Test & Evaluation: Developmental Test & Evaluation	2	2018	4	2018
Test & Evaluation: Software Release	3	2019	3	2019
Test & Evaluation: Operational Test & Evaluation	1	2019	2	2019
NAVWAR				
Acquisition Milestones: System Readiness Review	3	2016	3	2016
Acquisition Milestones: Preliminary Design Review	4	2016	4	2016
Acquisition Milestones: Critical Design Review	2	2017	2	2017
Acquisition Milestones: Test Readiness Review	2	2018	2	2018
Development & Design: Systems Engineering & Integration	2	2016	2	2019
Development & Design: Hardware Development	4	2016	3	2017
Development & Design: Software Modification	1	2017	3	2017
Development & Design: System Integration Lab Test	3	2017	1	2018
Development & Design: Test & Evaluation: Developmental Test	2	2018	4	2018
Development & Design: Test & Evaluation: Operational Testing	1	2019	1	2019
J11 Message				
Acquisition Milestones: System Readiness Review	4	2016	4	2016
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Operational Test Readiness Review	1	2020	1	2020
Development & Design: E-2D Integration	3	2016	2	2020
Development & Design: Software Integration	4	2016	2	2020

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2016 Navy	<b>Date:</b> February 2015
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation: Validation	2	2019	2	2019
Test & Evaluation: Developmental Test/Operational Test	3	2019	2	2020
<b>SPARQ</b>				
Acquisition Milestones: System Readiness Review	4	2016	4	2016
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Opeational Test Readiness Review	4	2019	4	2019
Development & Design: Systems Integration	3	2016	1	2020
Development & Design: Software Integration	4	2016	1	2020
Test & Evaluation: Validation	1	2019	1	2019
Test & Evaluation: Developmental Test/Operational Test	2	2019	1	2020
Test & Evaluation: DSSC 5 Fleet Software Release	1	2020	4	2020