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**Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff** **Date:** May 2017

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>
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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	343.535	34.139	38.059	36.581	-	36.581	36.469	33.901	33.500	33.500	Continuing	Continuing
P001: <i>Core</i>	119.901	14.339	14.329	9.343	-	9.343	10.271	10.271	10.476	10.476	Continuing	Continuing
P002: <i>Homeland</i>	67.544	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P003: <i>Black Dart</i>	23.039	2.444	3.000	3.000	-	3.000	3.300	3.300	3.366	3.366	Continuing	Continuing
P004: <i>Joint Distributed Engineering Plant</i>	14.248	3.000	2.500	2.738	-	2.738	2.900	2.475	2.533	2.533	Continuing	Continuing
P005: <i>Nimble Fire</i>	61.539	8.000	12.230	16.000	-	16.000	14.500	13.500	12.650	12.650	Continuing	Continuing
P006: <i>Cruise Missile Combat Identification (CID)</i>	57.264	6.356	6.000	5.500	-	5.500	5.498	4.355	4.475	4.475	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff (JS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community's proponent for characteristics, requirements, and capabilities in IAMD, and is the joint IAMD proponent within the DoD's resource allocation structures. JIAMDO also leads IAMD mission and utility analysis, integrates IAMD within the Force Protection joint capability area, and conducts evaluations, demonstrations of joint IAMD architectures, and provides advocacy for innovative, technically mature, and affordable solutions.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM and at the direction of the CJCS, JIAMDO supports USSTRATCOM in the development of the IAMD Prioritized Capabilities List and the Global Integrated IAMD Assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and technical oversight of homeland capability solutions.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: FY 2018 The Joint Staff</b>	<b>Date: May 2017</b>
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<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>
Previous President's Budget	33.983	32.759	32.581	-	32.581
Current President's Budget	34.139	38.059	36.581	-	36.581
Total Adjustments	0.156	5.300	4.000	-	4.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.156	-			
• SBIR/STTR Transfer	-	-			
• Additional Support to P005: Nimble Fire	-	0.000	4.000	-	4.000
• FY17PB Amend: Addition funds for JRICM (JIAMDO-Core)	-	5.300	-	-	-

**Change Summary Explanation**

JIAMDO-Core: JIAMDO moved its offices out of contracted facilities into government-owned facilities and merged its processes with those of the Joint Staff J8, avoiding the need for administrative and security support contracts, rent, and the various support costs associated with rental offices.

JIAMDO-Core (FY17): \$5.3 million is required to address emergency warfighting readiness requirements. Joint Regional IAMD Capability Mix (JRICM) II is a DepSecDef and JROC directed Regional IAMD study, directing the Joint Staff, Joint Integrated Air and Missile Defense Organization (JIAMDO), in coordination with USSTRATCOM, USCYBERCOM, Intelligence Communities, Agencies and Services to assess the impact of emerging non-kinetic capabilities to supplement regional IAMD.

JIAMDO-Homeland: Program development and management were handed off to the Air Force. JIAMDO retains only requirements and integration oversight responsibilities not requiring program funding.

JIAMDO-Nimble Fire: Increased funding for FY 2018 will be used to hold two large Nimble Fire events in support of U.S. Fleet Forces Command, USPACOM, USSTRATCOM and USEUCOM. Additionally, funds will be used to improve Electronic Warfare, Multi-spectral Environment, Advanced Capability Model, and Space Warfare.

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**Exhibit R-2A, RDT&E Project Justification:** FY 2018 The Joint Staff **Date:** May 2017

<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	<b>Project (Number/Name)</b> P001 / Core
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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P001: Core	119.901	14.339	14.329	9.343	-	9.343	10.271	10.271	10.476	10.476	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee joint Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff, JIAMDO supports the Chairman of the Joint Chiefs of Staff in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community's proponent for characteristics, requirements, and capabilities in IAMD, and is the joint IAMD proponent within the DoD's resource allocation structures. JIAMDO also leads IAMD mission area and utility analyses, integrates IAMD within the Force Protection joint capability area, and conducts evaluations and demonstrations of joint IAMD architectures and concepts.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with USSTRATCOM and USNORTHCOM in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM, and at the direction of the CJCS, JIAMDO supports USSTRATCOM in development of the IAMD Prioritized Capability List, the Global Integrated IAMD Assessment, and analysis of the Ballistic Missile Defense System (BMDS). JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2016	FY 2017	FY 2018
<b>Title:</b> Core	14.339	14.329	9.343
<p><b>Description:</b> Provides overall staff support for JIAMDO operations in the area of ballistic missile defense, air and cruise missile defense, homeland defense, requirements management, combat identification, modeling &amp; simulation, all other JIAMDO analytical functions and products, senior level briefings, and all travel costs for government and contractor support personnel (including Combatant Commander liaison personnel). This includes performing analyses, demonstrations, and programmatic assessments of technology, operations, requirements, and weapons systems. In coordination with Services and CCMDs, JIAMDO Core also funds the definition, assessment, development, and approval of Joint IAMD Operational Concepts, Operational Architectures, and capability requirements to guide the Department's joint/interagency/combined fully integrated and net-centric capable IAMD (including defense against cruise missiles, unmanned aerial vehicles, and ballistic missiles). JIAMDO Core also provides funding to:</p> <ul style="list-style-type: none"> <li>• Develop and integrate joint studies, simulations, wargames, force resource allocation, and interoperability initiatives</li> </ul>			

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<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J / <i>Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>	<b>Project (Number/Name)</b> P001 / <i>Core</i>

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<ul style="list-style-type: none"> <li>• Manage relevant Congressional interaction and CCMD interface through a cadre of liaisons collocated with major headquarters</li> <li>• Directly support and sponsor homeland air surveillance related demonstration and analysis activities</li> <li>• Run the IAMD Working Group and co-chair the Protection Functional Capabilities Board focusing CCMD, Joint Staff, and Service collaboration efforts in generation of joint concepts and development of the IAMD architecture and roadmap</li> <li>• Develop U.S. positions for, and provide the U.S. head of delegation to, the NATO Air and Missile Defense Committee</li> </ul> <p>JIAMDO Core further enables strategic planning development, infrastructure, security, travel, and other support activities. Funding pays for: contracted Systems Engineering and Technical Assistance (SETA) support for Air &amp; Cruise Missile Defense (ACMD), Ballistic Missile Defense (BMD), Homeland Air Security (HAS) strategic planning, studies &amp; analysis, combat ID, modeling &amp; simulation, all other JIAMDO analytical functions and products, senior level briefings, and all travel costs for government and contractor support personnel (including Combatant Commander liaison personnel). Additionally, the JIAMDO CORE budget funds daily on-site security management personnel to meet DoD, National Industrial Security Program Operating Manual (NISPOM), and other security regulations, for all administrative and support functions related to higher security classifications, as well as basic office supplies and furniture, and classified/unclassified data connections.</p> <p><b>FY 2016 Accomplishments:</b> Performed Air and Cruise Missile Defense, and Ballistic Missile Defense directed studies in support of the Chairman and related program support activities including: contracting, finance, systems engineering and technical assistance, administration, security, communications, leased space, and supply. Provided contracted expertise in support of studies and analysis directed by Congress, Defense Planning Guidance, Resource Management Decisions, Joint Requirements Oversight Council, and other higher sources. Additional reductions in contract advisory and assistance services are projected. Awarded new SETA contract in Aug 2016.</p> <p><b>FY 2017 Plans:</b> Continue performing Ballistic Missile Defense studies as directed by higher authority and provide contracted expertise in support of all JIAMDO analytical and requirements management activities. Pursue further changes in program support activities as a result of reorganization and office move to the Pentagon. Ancillary support functions such as administrative, security, communications, Information Technology, and finance will no longer require JIAMDO funding as they will be provided by the JS. Systems Engineering and Technical Assistance contract will still be in place to provide necessary mission support.</p> <p><b>FY 2018 Plans:</b> Continue performing Ballistic Missile Defense studies as directed by higher authority and provide contracted expertise in support of all JIAMDO analytical and requirements management activities.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	14.339	14.329	9.343

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<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J / <i>Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>	<b>Project (Number/Name)</b> P001 / <i>Core</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b>		
<p>(1) Support two major Nimble Fire exercises during FY 2018.</p> <p>(2) Conduct two IAMD Working Groups and at least one Functional Capabilities Board per month.</p> <p>(3) Conduct the annual Black Dart Counter-Unmanned Aerial System technology demonstration.</p> <p>(4) Support U.S. Representative to NATO Air Defense Council and Missile Defense Committee including 2 overseas meetings per year and numerous lower-level supporting functions.</p> <p>(5) Develop and maintain operational architecture compliance with DoD Architectural Framework (DODAF) standards.</p> <p>(6) Ensure 100% of all government employee travel is in accordance with the Joint Federal Travel Regulation/Joint Travel Regulation and all contractor travel is in accordance with applicable regulations.</p> <p>(7) Maintain all unclassified/classified LANs on a daily basis in accordance with the Joint Staff's Office of the Chief Information Officer guidance/policy.</p> <p>(8) Ensure all computers, NIPRNET/SIPRNET, are refreshed according to applicable policy/guidance.</p>		

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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P002: <i>Homeland</i>	67.544	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Homeland program transitioned to a USAF-led Program of Record across the Future Year Defense Program in the beginning of FY 2016. JIAMDO will retain operational and requirements oversight.

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COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P003: <i>Black Dart</i>	23.039	2.444	3.000	3.000	-	3.000	3.300	3.300	3.366	3.366	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

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**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2016	FY 2017	FY 2018
<b>Title:</b> Black Dart Counter Unmanned Aircraft Systems Technology Demonstration	2.444	3.000	3.000
<p><b>Description:</b> Provides funding to support administration and execution of Black Dart demonstrations. Black Dart is a unique joint, interagency demonstration focusing on rapid development and implementation of Counter - Unmanned Aircraft Systems (CUAS) technology from readily-available commercial and governmental products. Objectives include:</p> <ul style="list-style-type: none"> <li>• Execute live-fly, live-fire CUAS technology demonstration to assess and validate existing and emerging Integrated Air and Missile Defense (IAMD) capabilities</li> <li>• Present emerging solutions to inform requirements decision-making</li> <li>• Identify and develop IAMD operational concepts, system interoperability, and operational architectures for the CUAS mission set</li> <li>• Advocate for Warfighters' desired CUAS capabilities and affordable, integrated solutions</li> </ul>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<p><b><i>FY 2016 Accomplishments:</i></b>                      Most tactically relevant BLACK DART to date:</p> <ul style="list-style-type: none"> <li>• Flew 355 sorties from 25 different UAS variants</li> <li>• Flew tactical ISR and Attack flight profiles from 16 geographically dispersed launch locations</li> <li>• Developed detailed threat scenarios based on direct input from Combatant Commanders to provide specific recommendations on materiel and non-materiel requirements to the warfighter</li> <li>• Created a contested electromagnetic spectrum for CUAS sensors</li> </ul> <p>Provided a venue for rapid capability delivery to the Warfighter:</p> <ul style="list-style-type: none"> <li>• Developed innovative materiel and non-materiel solutions that enhance all phases of the Joint Engagement Sequence versus the UAS threat</li> <li>• Refined non-kinetic negation system techniques and capabilities through 89 separate negation events</li> </ul> <p>Provided a venue for innovation and collaboration:</p> <ul style="list-style-type: none"> <li>• Expanded interagency participation to demonstrate C-UAS options in both Title 10 and Title 50 operational environments</li> <li>• Multiple cross-governmental development programs were exercised to include DoD/DoE and DoD/DHS</li> <li>• Increased observation from coalition partners from the Pacific operational theater</li> </ul> <p><b><i>FY 2017 Plans:</i></b>                      Continue FY 2016 plans including: Demonstrate UAS capabilities to employ within visual range (WVR) and beyond visual range (BVR) weapons in a counter-UAS role. Explore 'On-the-Move' capabilities. Expand the breadth, complexity, and integration of cyber capabilities. Expand scenarios to include dynamic and contested electromagnetic spectrum.</p> <p><b><i>FY 2018 Plans:</i></b>                      Continue FY 2017 Plans including: Expand coalition partner participation. Develop scenarios integrating systems across land, littoral, and maritime domains.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	2.444	3.000	3.000

<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A
<b>Remarks</b>
<b>D. Acquisition Strategy</b> N/A

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**E. Performance Metrics**

- (1) Complete events within schedule and budget. Events provide useful data to improve C-UAS capability.
- (2) Document gaps, develop and substantiate hardware, software, and employment concepts.
- (3) Field C-UAS capability.

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<b>Appropriation/Budget Activity</b> 0400 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)				<b>Project (Number/Name)</b> P004 / Joint Distributed Engineering Plant			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P004: Joint Distributed Engineering Plant	14.248	3.000	2.500	2.738	-	2.738	2.900	2.475	2.533	2.533	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

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**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<b>Title:</b> Joint Distributed Engineering Plant (JDEP)	3.000	2.500	2.738
<b>Description:</b> Conducted a joint test event to assess the interoperability of joint, IAMD weapon systems that leveraged commercial-off-the-shelf (COTS) Networks to perform Joint Integrated Fire Control. This effort provided users the means to create family-of-system (FoS) environments by linking existing capabilities using hardware, software, and operators in a live-fly environment.			
<b>FY 2016 Accomplishments:</b> Fund an appropriate joint distributed test event to assess the interoperability of joint, IAMD weapons systems. Provide users the means to create FoS environments by linking existing capabilities using hardware, software, and operator-in-the-loop. Link			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<p>existing Service and Joint combat system engineering and test sites via distributed communications. Conducted a high-fidelity weapons system hardware-in-the-loop Coalition Correlation/Decorrelation Interoperability Test (C/DIT) which identified and accelerated change to the Military Standard 6016 default parameter values, promoting increased IAMD interoperability across the joint and Allied link networks.</p> <p><b>FY 2017 Plans:</b> Fund an appropriate joint/coalition IAMD interoperability program and test event to link Service and Agency systems, providing test and evaluations to improve the Joint Common Tactical Airspace Picture (CTAP). Supervise and conduct a live, virtual and constructive test event utilizing real-world C-UAS data within a hardware-in-the-loop model to improve L16 network IAMD communications; determine IAMD capability requirements and verify architectures; improve interoperability and ensure IAMD of current weapon systems; and evaluate concepts of operations and tactics, techniques, and procedures.</p> <p><b>FY 2018 Plans:</b> Fund an appropriate joint distributed test event to assess the interoperability of joint, IAMD weapons systems. Provide users the means to create FoS environments by linking existing capabilities using hardware, software, and operator-in-the-loop. Link existing Service and Joint combat system engineering and test sites via distributed communications. Reduce developmental cycle times by leveraging existing facilities.</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		3.000	2.500	2.738
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
<p>(1) Each JDEP event develops measures of effectiveness (MOE) &amp; measures of performance (MOP) based on an eighteen month test planning and event process.</p> <p>(2) Complete events within schedule and budget.</p> <p>(3) Events provide useful data to improve Air Missile Defense interoperability, with implemented and recommended corrective changes.</p> <p>(4) Events must be linked to the current approved IAMD Architecture, provide joint benefit, contribute to Joint Interoperability, and address IAMD ICD capability gaps.</p>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification: FY 2018 The Joint Staff</b>										<b>Date: May 2017</b>		
<b>Appropriation/Budget Activity</b> 0400 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)				<b>Project (Number/Name)</b> P005 / Nimble Fire			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P005: <i>Nimble Fire</i>	61.539	8.000	12.230	16.000	-	16.000	14.500	13.500	12.650	12.650	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff, JIAMDO supports the Chairman of the Joint Chiefs of Staff in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community's proponent for characteristics, requirements, and capabilities in IAMD, and is the joint IAMD proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission area and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations and demonstrations of joint IAMD architectures and concepts.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM and at the direction of the CJCS, JIAMDO supports USSTRATCOM in development of the IAMD Prioritized Capability List, the Global Integrated Air and Missile Defense Assessment, and analysis of the Ballistic Missile Defense System (BMDS). JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<b>Title:</b> JIAMDO Nimble Fire	8.000	12.230	16.000
<b>Description:</b> The Deputy Secretary of Defense assigned responsibility for IAMD development at the Virtual Warfare Center to JIAMDO. Nimble Fire is the Department's only joint IAMD operator-in-the-loop modeling and simulation capability exploring the Chairman of the Joint Chiefs of Staff's top 5 most critical Joint IAMD capabilities: wide-area surveillance and engagement quality tracking, pre-launch interdiction, non-kinetic post-launch capabilities, ballistic missile discrimination, and increased weapons ranges and lethality. Nimble Fire events explore joint IAMD capabilities and concepts in the FYDP (+2) timeframe combining experienced operators from the tactical communities, virtual simulations accredited by the program offices, current and future advanced capabilities, an integrated air, ballistic and cruise missile threat, and informed scenarios from the Department's analytical agenda and CCMD operational plans. JIAMDO brings together stakeholders across the engineering, analytical, and tactical communities to conduct multiple events to assess Joint interoperability of Service and MDA programs of record, explore			

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<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J / <i>Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>	<b>Project (Number/Name)</b> P005 / <i>Nimble Fire</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<p>concepts of employment, inform tactics, techniques and procedures and concepts of operation, provide insights that help shape CCMD integrated priorities and future operational plans, and inform senior leader acquisition and requirements decisions.</p> <p><b>FY 2016 Accomplishments:</b>                      In response to JROC tasking, JIAMDO built upon FY 2015 accomplishments executing two Nimble Fire events in FY 2016 in support of the Services, MDA, USEUCOM, USPACOM, and USSTRATCOM and providing funding and personnel that were instrumental in successfully executing two additional events in support of the Joint Strike Fighter Joint Project Office (JSF JPO) and the Navy respectively. Across all four events executed in FY 2016, Nimble Fire project resulted in significant cost-avoidance for the Department and Services through identifying real-world system issues, supporting live venues, and providing the backbone simulation environment for other users. Major accomplishments include:</p> <ul style="list-style-type: none"> <li>• Identifying real-world issues on multiple systems including E-2, E-3, Integrated Air and Missile Defense Battle Command System (IBCS), and F-15. Issues fed back to program offices to take corrective action</li> <li>• Impact of advanced capabilities on tactical fight (details classified)</li> <li>• Human-machine and Link-16 network challenges associated with executing integrated fire control kill chains</li> <li>• Potential benefits of future sensors, weapons and capabilities (e.g., next generation jammer (NGJ), airborne early warning)</li> <li>• Concepts of employment (CONEMPS) for 4th and 5th generation fighters employing with F-35 Joint Strike Fighter to inform Service tactics, techniques and procedures (e.g., Air Force 3-1)</li> <li>• USMC operator feedback on CAC2S tactical display and CTN interface identified key limitations with respect to track functionality</li> <li>• Continued exploration of Naval Integrated Fire Control – Counter Air (NIFC-CA) related kill chains (details classified)</li> </ul> <p><b>FY 2017 Plans:</b>                      Execute two Nimble Fire events in support of U.S. Fleet Forces Command, USPACOM, USSTRATCOM and USEUCOM. Provide material support for two additional Service and/or program office events. Additionally, accomplish significant upgrades to the VWC environment and IAMD systems and capabilities:</p> <ul style="list-style-type: none"> <li>• Electronic Warfare improvements in coordination with USSTRATCOM, Joint Electromagnetic Preparedness for Advanced Combat (JEPAC), the Services and MDA to better model red and blue electronic attack and electronic protection, visualize impacts, and conduct analysis of its impact on the tactical fight. E.g., Eagle Passive-Active Warning Survivability Systems (EPAWSS) for F-15, Integrated Defensive Electronic Countermeasures (IDECM) for F/A-18E, Surface Electronic Warfare Improvement Program (SEWIP) for Aegis, basic electromagnetic interference effects, and foundation for representing GPS modeling</li> <li>• Multi-spectral Environment improvements include upgrading the simulation backbone and service models to better handle capabilities such as Infrared Search and Track (IRST) sensors and kill chains, environmental effects such as rain and clouds, and higher-fidelity threat signatures</li> </ul>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 The Joint Staff		<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J / <i>Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>	<b>Project (Number/Name)</b> P005 / <i>Nimble Fire</i>

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<ul style="list-style-type: none"> <li>• Advanced Capability Model improvements include expanded integrated fire control concepts involving capabilities such as Naval Integrated Fire Control – Counter Air (NIFC-CA) and fighter-centric kill chains, incorporation of advanced sensor capabilities such as the new IAMD Radar (AMDR) for Aegis, Link-16 network enhancements, future threat kill chains and capabilities, and directed energy. Additionally, integrate an Advanced Gun Weapon System model into the environment to explore tactical command and control challenges and contributions to the overall defense of critical assets</li> <li>• Space Warfare – integrate higher fidelity representations of Overhead Persistent Infrared (OPIR) assets and national to tactical (N2T) contributions to the tactical fight</li> <li>• Non-Program of Record Experimentation of innovative uses of existing sensors and weapons across traditional IAMD assets. E.g., ground-based sensors providing fire-control quality tracking to tactical air assets, contributions of unmanned assets to the air picture and joint engagement sequence</li> <li>• Explore integration of offensive and defensive capabilities (kinetic and non-kinetic) in protection of select critical assets in USEUCOM</li> </ul> <p><b>FY 2018 Plans:</b> Execute two large Nimble Fire events in support of U.S. Fleet Forces Command, USPACOM, USSTRATCOM and USEUCOM. Provide material support for two additional Service and/or program office events. Additionally, accomplish significant upgrades to the VWC environment and IAMD systems and capabilities:</p> <ul style="list-style-type: none"> <li>• Electronic Warfare improvements in coordination with USSTRATCOM, JEPAC, the Services and MDA to better model red and blue electronic attack and electronic protection, visualize impacts, and conduct analysis of its impact on the tactical fight E.g., Eagle Passive-Active Warning Survivability Systems (EPAWSS) for F-15, Integrated Defensive Electronic Countermeasures (IDECM) for F/A-18E, Surface Electronic Warfare Improvement Program (SEWIP) for Aegis, basic electromagnetic interference effects, and foundation for representing GPS modeling</li> <li>• Multi-spectral Environment improvements include upgrading the simulation backbone and service models to better handle capabilities such as Infrared Search and Track (IRST) sensors and kill chains, environmental effects such as rain and clouds, and higher-fidelity threat signatures</li> <li>• Advanced Capability Model improvements include expanded integrated fire control concepts involving capabilities such as Naval Integrated Fire Control – Counter Air (NIFC-CA) and fighter-centric kill chains, incorporation of advanced sensor capabilities such as the new IAMD Radar (AMDR) for Aegis, Link-16 network enhancements, future threat kill chains and capabilities, and directed energy. Additionally, integrate an Advanced Gun Weapon System model into the environment to explore tactical command and control challenges and contributions to the overall defense of critical assets</li> <li>• Space Warfare – integrate higher fidelity representations of Overhead Persistent Infrared (OPIR) assets and national to tactical (N2T) contributions to the tactical fight</li> </ul>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 The Joint Staff		<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J / <i>Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>	<b>Project (Number/Name)</b> P005 / <i>Nimble Fire</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<ul style="list-style-type: none"> <li>• Non-Program of Record Experimentation of innovative uses of existing sensors and weapons across traditional IAMD assets. E.g., ground-based sensors providing fire-control quality tracking to tactical air assets, contributions of unmanned assets to the air picture and joint engagement sequence</li> <li>• Explore integration of offensive and defensive capabilities (kinetic and non-kinetic) in protection of select critical assets in USEUCOM</li> </ul>			
<b>Accomplishments/Planned Programs Subtotals</b>	8.000	12.230	16.000

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

- (1) Complete events within schedule and budget.
- (2) Document gaps and shortfalls.
- (3) Inform the Joint Capabilities Board (JCB) on results and findings.
- (4) Specific details are classified.

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<b>Exhibit R-2A, RDT&amp;E Project Justification: FY 2018 The Joint Staff</b>										<b>Date: May 2017</b>		
<b>Appropriation/Budget Activity</b> 0400 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)				<b>Project (Number/Name)</b> P006 / Cruise Missile Combat Identification (CID)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
P006: Cruise Missile Combat Identification (CID)	57.264	6.356	6.000	5.500	-	5.500	5.498	4.355	4.475	4.475	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff, JIAMDO supports the Chairman of the Joint Chiefs of Staff in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community's proponent for characteristics, requirements, and capabilities in IAMD, and is the joint IAMD proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission area and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations and demonstrations of joint IAMD architectures and concepts.

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**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<b>Title:</b> Cruise Missile Combat Identification (CID)	6.356	6.000	5.500
<b>Description:</b> Establishes joint requirements for emerging national and tactical combat identification technology and positions it for fielding to frontline weapon systems and the warfighter. Monitors, assesses, and enhances current joint Air and Cruise Missile Defense Combat ID programs.			
<b>FY 2016 Accomplishments:</b> Details of this program are classified.			
<b>FY 2017 Plans:</b>			

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<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J / <i>Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>	<b>Project (Number/Name)</b> P006 / <i>Cruise Missile Combat Identification (CID)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
Details of this program are classified.				
<b>FY 2018 Plans:</b> Details of this program are classified.				
<b>Accomplishments/Planned Programs Subtotals</b>		6.356	6.000	5.500
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
Not required for Budget Activities 1, 2, 3 and 6.				
<b>E. Performance Metrics</b>				
Details of this program are classified.				