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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2017 Air Force **Date:** February 2016

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	3.079	8.090	8.674	0.000	8.674	9.414	9.463	10.309	10.484	Continuing	Continuing
670373: <i>DCIP</i>	-	0.000	0.497	0.491	0.000	0.491	0.491	0.491	0.492	0.500	Continuing	Continuing
672486: <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>	-	3.079	2.527	2.693	0.000	2.693	2.631	2.680	2.721	2.770	Continuing	Continuing
67A011: <i>Space Analysis and Application Development</i>	-	0.000	5.066	5.490	0.000	5.490	6.292	6.292	7.096	7.214	Continuing	Continuing

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

The Defense Critical Infrastructure Program (DCIP) is a Department of Defense (DoD) risk management program that seeks to ensure the availability of networked assets critical to DoD missions. An October 2014 memorandum of agreement between USSTRATCOM and Deputy Assistant Secretary of Defense for Defense Continuity and Mission Assurance transferred budget authority for SPACE SECTOR DCIP to USSTRATCOM to streamline the execution of funding. Critical infrastructure assets can include installations, facilities, antennas, vehicles, computing systems, and communications links. DCIP manages the identification, prioritization, assessment, and assurance of Defense Critical Infrastructure as a comprehensive program. The program includes the development of adaptive plans and procedures to mitigate risk.

Navigation Warfare (Navwar) is deliberate defensive and offensive action to assure positioning, navigation, and timing (PNT) information through coordinated employment of space, cyberspace, and electronic warfare (EW) operations. The JNWC develops and maintains the Department's premier collection of Navwar knowledge, and provides subject matter expertise support to warfighters, Department decision makers, the Federal Interagency (the Department of Homeland Security and other civil agencies concerned with the Critical National Infrastructure), and the Coalition. Navwar expertise is developed in part by execution of PNT Operational Field Assessments (POFAs), modeling and simulation, analysis, and exercise and training support. JNWC-conducted POFAs are a key element in evaluating US and Coalition Navwar capabilities and vulnerabilities and adversary capabilities and vulnerabilities, both crucial to executing PNT superiority mission sets in potentially denied / degraded PNT environments. JNWC helps develop defensive and offensive PNT capabilities by focusing on three Lines of Effort (LOE) to fulfill the mission tasks:

1. Create NAVWAR Knowledge – Conduct PNT operational field assessments, studies and analyses, analyze and disseminate NAVWAR intelligence, and maintain a NAVWAR armory
2. Operationalize PNT Superiority – Enable NAVWAR operations and provide planning subject matter expertise to Combatant Commands, Services, interagency partners and the coalition
3. Institutionalize PNT Superiority– Advocate DoD-wide NAVWAR activities to fully integrate NAVWAR into military operations and the future force structure

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Air Force	<b>Date:</b> February 2016
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>
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The Space Analysis and Application Development program integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation (M&S) models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into the Synthetic Theater Operations Research Model (STORM) campaign level M&S tool. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions. The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.

USSTRATCOM Data Integration and Fusion Center (DIFC) is an innovative organization developing and experimenting innovative concepts designed to validate both material and non-material methodologies to overcome data isolation in order to enable kill chains in the Joint Battlespace. These data isolation challenges result from network isolation, incomplete communications architectures, data security, incompatible information formats, security release policy, etc., inhibiting effective and efficient consolidation of decision quality strategic, operational and tactical information. The DIFC develops machine to machine solutions capable of ingesting Title 10 data at multiple classification levels, to include Special Access Program data, and associating/correlating with National Technical Means at multiple classification levels to both enhance and amplify the Common Operational Picture. The DIFC works closely with DoD SAPCO and elements of the Director of National Intelligence, to include NSA, NRO and CIA, to both identify and address policy barriers, architectures and training opportunities necessary to enable seamless flow of data from all available sensors to warfighters during time of conflict, primarily leveraging currently fielded tactical data links. Though some recommended solutions validated during demonstration events may not transition to operations immediately, but nevertheless provide validated architecture solutions and approved security policies for use should conflict arise versus ad hoc attempts to solve data movement issues during conflict.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2015</u></b>	<b><u>FY 2016</u></b>	<b><u>FY 2017 Base</u></b>	<b><u>FY 2017 OCO</u></b>	<b><u>FY 2017 Total</u></b>
Previous President's Budget	3.134	8.090	8.176	0.000	8.176
Current President's Budget	3.079	8.090	8.674	0.000	8.674
Total Adjustments	-0.055	0.000	0.498	0.000	0.498
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.055	0.000			
• Other Adjustments	0.000	0.000	0.498	0.000	0.498

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**Exhibit R-2A, RDT&E Project Justification:** PB 2017 Air Force **Date:** February 2016

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 670373 / <i>DCIP</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
670373: <i>DCIP</i>	-	0.000	0.497	0.491	0.000	0.491	0.491	0.491	0.492	0.500	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The USSTRATCOM Space Sector Defense Critical Infrastructure Program (DCIP) is a risk management program that seeks to ensure the availability of networked assets critical to USSTRATCOM and other DoD missions. DCIP is directed by the Office of the Assistant Secretary of Defense (Homeland Defense & Americas' Security Affairs) [OASD (HD&ASA)]. Space Sector DCIP manages the identification, prioritization, assessment, and assurance of Critical Infrastructure as a comprehensive program that includes the development of adaptive plans.

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

	FY 2015	FY 2016	FY 2017
<p><b>Title:</b> Assett Dependency / Risk Characterization, Mitigation, and Prototyping</p> <p><b>Description:</b> Supports 1) systems engineering analysis for the decomposition of mission systems and assets, and supporting networks and infrastructure that execute USSTRATCOM mission, 2) research, studies, and operational assessment of mission system capabilities, methodologies, and tactics to identify critical assets and dependency relationships, and 3) evaluation of mission risk through research, studies, analysis and assessment of threats and hazards paired with exploitable vulnerabilities.</p> <p>Supports analysis for the identification and development of risk mitigation and remediation options through research, studies, analysis and assessment of current and future tactics, techniques and procedures and materiel solutions, enabling USSTRATCOM mission assurance planning, coordination, integration, synchronization supporting the reduction of risk to CDRUSSTRATCOM acceptable levels.</p> <p>Supports three spiral development cycles annually consisting of concept and requirement development, tool engineering, algorithm development, prototyping, and testing to support rapid mission impact assessment, risk assessment, and risk management.</p> <p><b>FY 2015 Accomplishments:</b> N/A</p> <p><b>FY 2016 Plans:</b> - Analysis of USSTRATCOM Space Sector critical infrastructure assets and dependencies for space and missile defense missions - Research multiple vulnerability assessments reports and various threat and hazard assessment sources for critical infrastructure</p>	0.000	0.497	0.491

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force		<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 670373 / <i>DCIP</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<ul style="list-style-type: none"> <li>- Remediation analysis of identified vulnerabilities at specific critical infrastructure assets key to USSTRATCOM space and missile defense missions</li> <li>- Research and identify risk mitigation options to ensure mission accomplishment</li> <li>- Concept and requirement development, design development, tool engineering, prototyping, and test &amp; evaluation of a graphical mission impact tool.</li> </ul> <p><b>FY 2017 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continued analysis, studies and research of Space Sector critical infrastructure assets and dependencies supporting all USSTRATCOM assigned missions</li> <li>- Future critical infrastructure vulnerability assessments and researching the various sources to perform threats and hazards assessments</li> <li>- Remediation analysis of identified vulnerabilities at critical infrastructure assets necessary for individual USSTRATCOM missions</li> <li>- Research and identify risk mitigation options to ensure mission accomplishment.</li> <li>- Spiral improvements to the graphical mission impact tool</li> <li>- Concept and requirement development, design development, tool engineering, prototyping, and test &amp; evaluation of a tool combining risk assessment methodology with threat and hazard evaluations of critical infrastructure assets</li> </ul>				
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	0.497	0.491
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
Competitive contracts will be used to the maximum extent possible.				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 670373 / <i>DCIP</i>

**E. Performance Metrics**

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 670373 / DCIP
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<b>Product Development (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Asset Dependency and Risk Characterization Research	C/Various	TBD : TBD	-	0.000		0.497	Jan 2016	0.491	Jan 2017	0.000		0.491	Continuing	Continuing	-
<b>Subtotal</b>			-	0.000		0.497		0.491		0.000		0.491	-	-	-

<b>Support (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

<b>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

<b>Management Services (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

			Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			-	0.000	0.497	0.491	0.000	0.491	-	-	-

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2017 Air Force		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 670373 / <i>DCIP</i>

FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Asset Dependency, Risk Mitigation, Ops Research, Design/Development, Modeling and Simulation, Test and Evaluation



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Air Force		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 670373 / <i>DCIP</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Asset Dependency, Risk Mitigation, Ops Research, Design/Development, Modeling and Simulation, Test and Evaluation	1	2016	4	2021

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force										<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>				<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
672486: <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>	-	3.079	2.527	2.693	0.000	2.693	2.631	2.680	2.721	2.770	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Navigation Warfare (Navwar) is deliberate defensive and offensive action to assure positioning, navigation, and timing (PNT) information through coordinated employment of space, cyberspace, and electronic warfare (EW) operations. Funds are used to create and maintain NAVWAR knowledge. Navwar expertise is developed in part by execution of PNT Operational Field Assessments (POFAs). GYPSY assessments are linked to USSTRATCOM's Tier 1 GLOBAL Series exercises and other CCMD exercises and provide operational realistic threat-representative, GPS-contested environments for analytical assessment of air, ground, or maritime mission capability. FORTUNE POFAs are smaller-scale PNT capability and vulnerability assessments used as future assessment risk reduction or as stand-alone PNT capability assessments. Assessments inform service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures (TTP) development and implementation to mitigate effects on warfighter operations in the anticipated theater Navwar threat environments.

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

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Title:</b> PNT Operational Field Assessment (GYPSY)	1.666	1.482	1.215
<b>Description:</b> The JNWC will operationally assess, and simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities as well as preventing the hostile use of Positioning, Navigation and Timing (PNT) information.			
This will be accomplished primarily through the use of operational field assessments both GYPSY and Fortune, laboratories, employment of competitively selected contractors, universities, other government agencies, and Federally Funded Research and Development Centers (FFRDCs).			
<b>FY 2015 Accomplishments:</b>			
- Investigate, operationally assess, and simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities			
- Develop mitigation strategies for preventing the hostile use of Positioning, Navigation and Timing (PNT) information.			
<b>FY 2016 Plans:</b>			
- Investigate, operationally assess, and simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force		<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<p>- Develop mitigation strategies for preventing the hostile use of Positioning, Navigation and Timing (PNT) information.</p> <p><b>FY 2017 Plans:</b></p> <ul style="list-style-type: none"> <li>- Operational assessments</li> <li>- Simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities</li> <li>- Continuing development to prevent the hostile use of Positioning, Navigation and Timing (PNT) information.</li> </ul>				
<p><b>Title:</b> PNT Operational Field Assessments (FORTUNE)</p> <p><b>Description:</b> The FORTUNE Operational Field Assessments serve as a series of risk mitigation events that lead up to GYPSY PNT Operational Field Assessments (POFA).</p> <p>FORTUNE POFAs are planned and executed to demonstrate various PNT system capabilities and platform vulnerabilities to increase the Joint Navigation Center's understanding of test objectives to be undertaken during a GYPSY event.</p> <p><b>FY 2015 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Test range support for operational field assessments</li> <li>- Range time, engineering, modeling and simulation</li> <li>- Equipment needed to conduct operational field assessment. Modeling and Simulation tool kit, data collection and recording systems, instrumentation and transmitters, receivers, etc.</li> </ul> <p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"> <li>- Test range support for FORTUNE operational field assessments</li> <li>- Equipment needed to conduct operational field assessment. Modeling and Simulation tool kit, data collection and recording systems, instrumentation and transmitters, receivers, etc.</li> </ul> <p><b>FY 2017 Plans:</b></p> <ul style="list-style-type: none"> <li>- Conduct FORTUNE Operational Field Assessments</li> <li>- Serve as a series of risk mitigation events that are incorporated into GYPSY events</li> </ul>		1.413	1.045	1.478

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force		<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
- Create Navigation Warfare knowledge and Tactics Techniques and Procedures to mitigate Position Navigation and Timing (PNT) vulnerabilities				
<b>Accomplishments/Planned Programs Subtotals</b>		3.079	2.527	2.693
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> New contracts will be awarded using competitive procedures to the maximum extent possible.				
<b>E. Performance Metrics</b> Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.				

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>
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<b>Product Development (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PNT Operational Field Assessments (Gypsy and Fortune)	PO	Multiple : Kirtland AFB, NM	-	3.079	Oct 2014	2.527	Oct 2015	2.693	Oct 2016	0.000		2.693	Continuing	Continuing	-
<b>Subtotal</b>			-	3.079		2.527		2.693		0.000		2.693	-	-	-

<b>Support (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

<b>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

<b>Management Services (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

			Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			-	3.079	2.527	2.693	0.000	2.693	-	-	-

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2017 Air Force		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>

FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Operational Field Assessments - Fortune events	[REDACTED]																											
Operational Field Assessments - GYPSY events	[REDACTED]																											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Air Force		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Operational Field Assessments - Fortune events	2	2015	4	2021
Operational Field Assessments - GYPSY events	1	2015	3	2021

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force										<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>				<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
67A011: <i>Space Analysis and Application Development</i>	-	0.000	5.066	5.490	0.000	5.490	6.292	6.292	7.096	7.214	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

In FY 2017, Project 67A011, Space Analysis and Application Development, includes new start efforts for the Data Integration and Fusion Center

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

The Space Analysis and Application Development program Integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation (M&S) models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into the Synthetic Theater Operations Research Model (STORM) campaign level M&S tool. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions.

The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.

USSTRATCOM Data Integration and Fusion Center (DIFC) is an innovative organization developing and experimenting innovative concepts designed to validate both material and non-material methodologies to overcome data isolation in order to enable kill chains in the Joint Battlespace. Funds are necessary to update current government-owned software to ingest and disseminate new data sources from Title 10 and Title 50 sensors. The DIFC efforts at COCOM sponsored experimentation events will inform service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures (TTP) development and implementation to mitigate effects on warfighter operations.

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

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Title:</b> Space Campaign Modeling and Simulation, Development/Modification/Verification/Validation	0.000	5.066	4.500
<b>Description:</b> Develops, modifies, verifies, and validates new models for space mission areas and modifies existing models to portray new capabilities.			
<b>FY 2015 Accomplishments:</b> N/A			
<b>FY 2016 Plans:</b> - Enhance STORM non-lethal effects modeling			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force		<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<ul style="list-style-type: none"> <li>- Continue modifications to support upcoming AOAs and studies</li> <li>- Continue integration of Ionospheric scintillation forecast accuracy modifications into mission models and various communication analysis tools</li> </ul> <p><b>FY 2017 Plans:</b></p> <ul style="list-style-type: none"> <li>- Determine touchpoints between space capabilities and the Offensive Counter Air and Fighter Escort / Fighter Sweep mission tasks within STORM</li> <li>- Refine/develop software code to represent US and adversary space interactions in engagement and mission level models</li> <li>- Develop software to input space effects from engagement and mission level models into STORM campaign-level M&amp;S to determine effect of degraded space on U.S. military campaigns and global operations</li> <li>- Develop test cases to evaluate performance of campaign model</li> <li>- Analyze/assess modeling results to determine impact/effects of space activities on U.S. military campaigns and global operations</li> </ul>				
<p><b>Title:</b> Data Integration and Fusion Center</p> <p><b>Description:</b> USSTRATCOM/J8 Data Integration and Fusion Center (DIFC) is an innovative organization developing and experimenting innovative concepts designed to validate both material and non-material methodologies to overcome data isolation in order to enable kill chains in the Joint Battlespace. The DIFC will work to update current government-owned software to ingest and disseminate new data sources from Title 10 and Title 50 sensors. The DIFC efforts at COCOM sponsored experimentation events will inform service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures (TTP) development and implementation to mitigate effects on warfighter operations.</p> <p><b>FY 2015 Accomplishments:</b> N/A</p> <p><b>FY 2016 Plans:</b> N/A</p> <p><b>FY 2017 Plans:</b> The DIFC will investigate, experiment, and disseminate various Title 10 and Title 50 data sources from collect through dissemination to tactical platforms using machine to machine solutions to move data more efficiently and affect kill chain timelines.</p>		0.000	0.000	0.990
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	5.066	5.490

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Air Force	<b>Date:</b> February 2016
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<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

**Remarks**

**D. Acquisition Strategy**

Any new projects funded in this program will be awarded using competitive procedures to the maximum extent possible.

Best value to the government selected contractors, universities, government facilities, federally funded research and development centers, laboratories, or other organizations

**E. Performance Metrics**

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>
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<b>Product Development (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Model Space effects for two mission tasks and integrate into STORM for joint campaign analysis	TBD	TBD : TBD	-	0.000		5.066	Oct 2015	4.500	Oct 2016	0.000		4.500	Continuing	Continuing	-
Data Integration and Fusion Center	C/Various	Multiple Gov/Civ Agencies : Schriever AFB, CO	-	0.000		0.000		0.990	Oct 2016	0.000		0.990	Continuing	Continuing	-
<b>Subtotal</b>			-	0.000		5.066		5.490		0.000		5.490	-	-	-

**Remarks**  
Best value to the government selected contractors, universities, government facilities, federally funded research and development centers, laboratories, or other organizations

<b>Support (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

<b>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

<b>Management Services (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2017 Air Force</b>								<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 3600 / 7			<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>				<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>				
	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>		<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	-	0.000	5.066		5.490	0.000	5.490	-	-	-	

**Remarks**



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Air Force		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0105921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Model Space effects for Offensive Counter Air/ Attack Operations and Suppression of Enemy Air Defenses Mission Tasks	1	2016	4	2016
Model Space effects for Offensive Counter Air Fighter Escort and Fighter Sweep Mission Tasks	1	2017	4	2017
Model Space effects for Defensive Counter Air High Value Airborne Asset Defense and Point Defense Mission Tasks	1	2018	4	2018
Model Space effects for Defensive Counter Air Area Defense and Passive Air and Missile Defense Mission Tasks	1	2019	4	2019
Model Space effects for Anti-Surface Warfare and Anti-Submarine Warfare Mission Tasks	1	2020	4	2020
Model Space effects for Intelligence, Surveillance, Reconnaissance and Electronic Warfare Mission Tasks	1	2021	4	2021

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