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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 0207697F / <i>Distributed Training and Exercises</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	-	3.251	4.358	3.886	0.000	3.886	4.178	4.255	4.334	4.410	Continuing	Continuing
675190: <i>JFCOM Wargaming</i>	-	3.251	4.358	3.886	0.000	3.886	4.178	4.255	4.334	4.410	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Funding supports the CSAF Title 10 wargaming efforts to test concepts, capabilities, and plans using simulation and other techniques otherwise known as wargaming. Based on the Department and Air Force direction, there is a concerted effort in these periods of fiscal pressure to reinvigorate, institutionalize, and systematize wargaming across the Department. This effort requires additional funding to increase the level of effort to most effectively pursue an innovative strategy, avoid operational and technical surprise and make best use of limited resources. The Air Force is completing its current wargaming cycles and charting a new course to better integrate and synergize the wargaming efforts in support of the new Air Force Strategy, Planning, and Programming (SP3) process. Specifically taking the current two Title 10 wargames and creating two Concept of Operations wargames, one Materiel wargame, and experiments as needed to match the SP3 process and cycles. Also represent the Air Force at other services and Joint wargames as they ramp up across the department. These efforts will make the difference between wise and unwise investment trajectories and make our forces more successful in future conflicts.

The Wargame Information Environment (WIE) is a continually evolving system that provides an array of services to game players which enables the accomplishment of game objectives. The WIE is a deployable standalone Local Area Network (LAN) with servers and laptops that host applications to support virtual battlespace collaboration, decision making, three dimensional visualizations & mapping and services. Behind these applications are cutting edge technologies and database architectures from both commercial off the shelf and government developed software that assures relevance to the wargame. The modeling, simulation, and analysis applications allow participants, adjudicators, and control team members to effectively and efficiently collaborate, make decisions, present those decisions and all the wargame to executed but also documented. Allowing for findings to quickly surface during the wargame and be noted and allowing post-game analysis. These findings Inform portfolio rebalancing exercises, concept and strategy development, and very senior leader decision making. At the conclusion of the current wargaming cycle, the current version of the WIE will need major overall to match the new charter and SP3 process along with supporting greater number and more diverse wargames.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	
Previous President's Budget	3.357	4.358	4.138	0.000	4.138	
Current President's Budget	3.251	4.358	3.886	0.000	3.886	
Total Adjustments	-0.106	0.000	-0.252	0.000	-0.252	
• 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	-0.106	0.000				
• Other Adjustments	0.000	0.000	-0.252	0.000	-0.252	
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>				<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Title:</b> Develop/ Upgrade M&S Tools for WIE				1.442	1.918	1.722
<b>Description:</b> Develop air, space and cyber space wargaming specific functionality in existing modeling and simulation and analysis tools and integrate into the latest version of the WIE						
<b>FY 2015 Accomplishments:</b>						
- Developed user interface to Satellite Toolkit (STK) to allow users to develop their own visualizations versus asking for support from the tech staff. STK is COTS product from Analytical Graphics Inc. that required customized software to interact in the WIE.						
- Developed Observation Tool to capture and manage participant insights and observations. Observation Tool enables post-game analysis supporting objective development, as well as further WIE development.						
- Incorporated the latest version and improved integration of the Air Force's latest version of Synthetic Theater of Operations Research Model (STORM). STORM is a theater campaign model used in pregame and postgame analysis to establish bookends.						
<b>FY 2016 Plans:</b>						
- Expand the WIE from the current construct to support all Air Force wargames. This will require reprogramming of some hard coded, CONOPS-specifics to into broader, more generic, wargame support. Additional models and analytical tools used by other wargames will require the creation of custom interfaces to allow interaction within the WIE.						
- Development and deployment of Force Tracker Request For Forces (RFF) Tool. RFF Tool will permit wargame participants to nominate, vet, and authorize the movement of forces through player selected processes. Its integration into Force Tracker makes						

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
the process transparent in a universally accessible database, eliminating errors in transposition. It also serves as a record of participant decisions suitable for subsequent analysis.  <b>FY 2017 Plans:</b> - Develop the WIE as a standard platform for Air Force wargaming, permitting integration with other Air Force Wargaming systems, such as BubbleNet at Lemay Center Wargaming Institute and the planned Schriever Wargame System. - Continue to expand and develop the WIE, incorporating latest technology and tools, in support of a more flexible and agile wargaming enterprise; quicker to respond and tailorable for a wider range of wargaming. This will require analysis of utility and functionality of additional models and analytical tools used by other wargames, as well as creation of custom interfaces to allow interaction within the WIE.				
<b>Title:</b> CRRA Development  <b>Description:</b> Provides for capabilities, Requirements, and Risk Assessment (CRRA)  <b>FY 2015 Accomplishments:</b> Develop Capabilities, Requirements, and Risk Assessment (CRRA)		0.106	-	-
<b>Title:</b> JCD&E Tools  <b>Description:</b> Develop of scenarios and data for future synthetic environment that grounded in truth to support several wargame and mini-wargame.  <b>FY 2015 Accomplishments:</b> - Created classified scenario and data to support Unified Engagement 14. Framework for UE National Security Council to react/respond to UE Joint Force's intended plans. - Instantiated an environment for approximately 400 participants from the Air Force, Sister Services, Pacific Command, functional commands, and multinational coalition to plan to have blue, red, and adjudication teams to wargame. - Initiated wargame support plan to SP3.  <b>FY 2016 Plans:</b> - Design and implement novel wargaming support plan in accord with SP3. This plan will include flexible and agile, quick-turn efforts to provide analytic support as required by HAF and SAF efforts. - Design and execute a midterm, theater-baseline wargame hosted by USAFE. This baseline wargame directly services HAF objectives and provides high fidelity data for subsequent quick-turn efforts supporting dynamic SP3 requirements.  <b>FY 2017 Plans:</b>		1.351	2.058	1.782

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<b>C. 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>- Refine wargame support plan to SP3 process, with respect to timing, sequence and focus to ensure greatest utility of wargaming efforts in the provision of analytic support; to include dynamic, quick-turn wargaming efforts in support of HAF and SAF initiatives as required.</li> <li>- Maintain, direct, and mature the Air Force Wargaming Enterprise to better coordinate, integrate, and leverage efforts, resources, and expertise across Air Force organizations.</li> <li>- Develop Scenarios, plan and execute materiel-focused, theater baseline wargame involving Air Force, Sister Services, Pacific Command, functional commands, and multinational coalition.</li> </ul>				
<p><b>Title:</b> Software License &amp; Replacement Costs</p> <p><b>Description:</b> Supplies platforms for software in operational environments and for programmed replacement costs</p> <p><b>FY 2015 Accomplishments:</b> Pays for annual license fee for the Modeling and Simulation, Mapping, and Microsoft collaboration and infrastructure fees. Also includes tech refresh on hardware used by WIE.</p> <p><b>FY 2016 Plans:</b> Pays for annual license fee for the Modeling and Simulation, Mapping, and Microsoft collaboration and infrastructure fees. Also includes tech refresh on hardware used by WIE.</p> <p><b>FY 2017 Plans:</b> Pays for annual license fee for the Modeling and Simulation, Mapping, and Microsoft collaboration and infrastructure fees. Also includes expanded tech refresh on hardware used by WIE.</p>		0.352	0.382	0.382
<b>Accomplishments/Planned Programs Subtotals</b>		3.251	4.358	3.886
<b>D. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>E. Acquisition Strategy</b>				
<p>In order to achieve an innovative strategy, avoid operational and technical surprise and make best use of limited resources, the newly revamped wargame approach will require an evolutionary acquisition approach and continued senior-leadership engagement in setting the objectives and strategy for every wargame. Contract support will be required because that is where the wargame specialized expertise resides. The requirements are constantly evolving and cannot be accurately defined at the outset of the contract; therefore, a cost plus fixed fee (CPFF) contract will be used. There is currently an adequate accounting system and government monitoring in place. The Air Force is aware of the increased risk but Air Force will continue to monitor the performance and cost to ensure the contractor has efficient methods and effective cost controls.</p>				

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**F. 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 0207697F / <i>Distributed Training and Exercises</i>	<b>Project (Number/Name)</b> 675190 / <i>JFCOM Wargaming</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			
Various	C/CPFF	TBD : TBD	-	3.251	Apr 2015	4.358	Mar 2016	3.886	Mar 2017	0.000		3.886	Continuing	Continuing	-
<b>Subtotal</b>			-	3.251		4.358		3.886		0.000		3.886	-	-	-

<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>			-	3.251	4.358	3.886	0.000	3.886	-	-	-

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: 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 0207697F / <i>Distributed Training and Exercises</i>	<b>Project (Number/Name)</b> 675190 / <i>JFCOM Wargaming</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

Develop and Integrate M&S Tools	[Redacted]																											
Enhance ViewPoint	[Redacted]																											
Improve GamePoint	[Redacted]																											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Air Force		<b>Date:</b> February 2016
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Develop and Integrate M&S Tools	1	2015	4	2021
Enhance ViewPoint	1	2015	4	2021
Improve GamePoint	1	2015	4	2021