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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604830F: <i>Automated Air-to-Air Refueling</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	42.978	0.085	-	-	-	-	-	-	-	Continuing	Continuing
642214: <i>Improved Aerial Refueling Systems</i>	42.978	0.085	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program develops single channel Precision GPS (PGPS) system to support Automated Aerial Refueling (AAR) for future manned and unmanned air systems (UAS). The FY11 funding will support the close out of the Automated Aerial Refueling Phase II Program. From FY04-08, the Next Generation Bomber PE 0604015F funded critical technology maturation and risk reduction efforts that could feed into a long-range strike platform in the future. AAR Phase II is a critical technology for future manned and unmanned long-range strike operations. AAR Phase I technology has been demonstrated, but it requires additional maturation, development, and integration to be demonstrated for operational utility.

This program is in Budget Activity 4, Advanced Component Development, and Prototypes, (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	42.978	0.085	-	-	-
Current President's Budget	42.978	0.085	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604830F: Automated Air-to-Air Refueling				PROJECT 642214: Improved Aerial Refueling Systems			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
642214: Improved Aerial Refueling Systems	42.978	0.085	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program develops single channel Precision GPS (PGPS) system to support Automated Aerial Refueling (AAR) for future manned and unmanned air systems (UAS). The FY11 funding will support the close out of the Automated Aerial Refueling Phase II Program. From FY04-08, the Next Generation Bomber PE 0604015F funded critical technology maturation and risk reduction efforts that could feed into a long-range strike platform in the future. AAR Phase II is a critical technology for future manned and unmanned long-range strike operations. AAR Phase I technology has been demonstrated, but it requires additional maturation, development, and integration to be demonstrated for operational utility.

This program is in Budget Activity 4, Advanced Component Development, and Prototypes, (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

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

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Automated Aerial Refueling (AAR)	42.978	0.085	-	-	-
Description: Development of flight control and precision navigation (PGPS) systems for initial capability of automated air-to-air refueling					
FY 2010 Accomplishments: Integrate and begin demonstration of automated air-to-air refueling precision navigation initial capability using a KC-135 tanker and a limited test aircraft. Continue development of the single channel PGPS and begin close out of the Automated Aerial Refueling Phase II Program. This funding supports open loop flight demonstration of real-time PGPS performance.					
FY 2011 Plans: Complete demonstration of automated air-to-air refueling precision navigation initial capability using a KC-135 tanker and a limited test aircraft (accomplished with FY10 funding). Close-out of Automated Aerial Refueling Program (accomplished with FY11 funding).					
FY 2012 Base Plans:					

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0604830F: <i>Automated Air-to-Air Refueling</i>			PROJECT 642214: <i>Improved Aerial Refueling Systems</i>					
B. Accomplishments/Planned Programs (\$ in Millions)											
			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total				
none											
<i>FY 2012 OCO Plans:</i>											
none											
Accomplishments/Planned Programs Subtotals			42.978	0.085	-	-	-				
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Activity Not Provided: <i>none</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy Principal acquisitions to be performed through Broad Area Announcements (BAA) resulting in competitive Cost Plus Fixed Fee contracts.											
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 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604830F: Automated Air-to-Air Refueling				PROJECT 642214: Improved Aerial Refueling Systems						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Precision GPS Development	C/CPFF	Northrop Grumman:Woodland Hills, CA	9.500	-		-		-		-	0.000	9.500	0.000	
Tactical Targeting Network Technology (TTNT)	C/CPFF	Rockwell Collins:Cedar Rapids IA	0.200	-		-		-		-	0.000	0.200	0.000	
Phase II System Development and Demonstration	C/CPFF	Boeing:St Louis, MO	18.260	-		-		-		-	0.000	18.260	0.000	
Subtotal			27.960	-		-		-		-	0.000	27.960	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Precision GPS Testing	TBD	Calspan:Buffalo, NY	2.000	-		-		-		-	0.000	2.000	0.000	
Tanker Modification Development	TBD	Rockwell Collins:Oklahoma City, OK	1.500	-		-		-		-	0.000	1.500	0.000	
Refueling Receiver Development	C/CPFF	Calspan:Buffalo, NY	4.000	-		-		-		-	0.000	4.000	0.000	
VISTA F-16 Development	C/CPFF	Lockheed Martin:Ft Worth, TX	1.000	-		-		-		-	0.000	1.000	0.000	
Flight Test	Various	Various:Various,	4.018	-		-		-		-	0.000	4.018	0.000	
Subtotal			12.518	-		-		-		-	0.000	12.518	0.000	

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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Various:Various	2.500	0.085		-		-		-	0.000	2.585	0.000
Subtotal			2.500	0.085		-		-		-	0.000	2.585	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			42.978	0.085		-		-		-	0.000	43.063	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0604830F: Automated Air-to-Air Refueling	PROJECT 642214: Improved Aerial Refueling Systems

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604830F: <i>Automated Air-to-Air Refueling</i>	PROJECT 642214: <i>Improved Aerial Refueling Systems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Precision GPS Development (Initial funding via PE64015F)	1	2010	4	2010
Tanker Modification (Initial funding via PE64015F)	1	2010	3	2010
AAR Phase 2 Design	1	2010	3	2010
PGPS Data Flight Demonstration	2	2010	2	2010
PGPS Avionics Flight Demonstration	3	2011	3	2011
Documentation and Data Archiving	2	2010	4	2011

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