PE NUMBER: 0604830F
PE TITLE: Automated Air-to-Air Refueling

Exhibit R-2, RDT&E Budget Item Justification	DATE: February 2008
BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE: 0604830F Automated Air-to-Air Refueling

	Cost ($ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	0.000	0.000	9.889	44.448	48.387	14.812	0.000	0.000	0.000
2214	Optionally Unmanned Development	0.000	0.000	9.889	44.448	48.387	14.812	0.000	0.000	0.000

(U) A. Mission Description and Budget Item Justification

This program develops, demonstrates, and validates the ability to air refuel aircraft without the intervention of a pilot in the receiving craft to enable the Global Strike, Global Persistent Attack, Global Mobility, and C4ISR CONOPS. Program efforts support the Next Generation Long Range Strike capability and the Next Generation Bomber development strategies.

Capability improvements result from extending the operating range and in-flight endurance of current and future manned, unmanned, and optionally unmanned systems.

This funding supports development, demonstration, and validation of technologies for precision navigation and flight control with redundancy to ensure safety of flight; development and demonstration of technologies for sensors and flight controls to ensure collision avoidance and contingency management; modeling and simulation for technique development and risk reduction; and development and demonstration of command and control strategies, including at beyond-line-of-sight distances. This includes design and demonstration of AAR-related Tactical Targeting Network Technology (TTNT) capabilities, which enable net-centric sensor technologies to correlate information among multiple platforms and precisely locate time-critical targets.

This program is categorized as a Budget Activity 4, Advanced Component Development and Prototypes, since advanced technologies will be explored and integrated for demonstration in a realistic operating environment.

(U) B. Program Change Summary ($ in Millions)

		FY 2007	FY 2008	FY 2009
(U)	Previous President's Budget	0.000	0.000	0.000
(U)	Current PBR/President's Budget	0.000	0.000	9.889
(U)	Total Adjustments	0.000		
(U)	Congressional Program Reductions			
	Congressional Rescissions			
	Congressional Increases			
	Reprogrammings			
	SBIR/STTR Transfer			

(U) Significant Program Changes:

FY09 - This program develops, demonstrates, and validates the ability to air refuel aircraft without the intervention of a pilot in the receiving craft to enable the Global Strike, Global Persistent Attack, Global Mobility, and C4ISR CONOPS.

Exhibit R-2a, RDT&E Project Justification			DATE: February 2008
BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE: 0604830F Automated Air-to-Air Refueling	PROJECT NUMBER AND TITLE: 2214 Optionally Unmanned Development	

Cost ($ in Millions)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
2214	Optionally Unmanned Development	0.000	0.000	9.889	44.448	48.387	14.812	0.000	0.000	0.000
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This program develops, demonstrates, and validates the ability to air refuel aircraft without the intervention of a pilot in the receiving craft to enable the Global Strike, Global Persistent Attack, Global Mobility, and C4ISR CONOPS. Program efforts support the Next Generation Long Range Strike capability and the Next Generation Bomber development strategies.

Capability improvements result from extending the operating range and in-flight endurance of current and future manned, unmanned, and optionally unmanned systems.

This funding supports development, demonstration, and validation of technologies for precision navigation and flight control with redundancy to ensure safety of flight; development and demonstration of technologies for sensors and flight controls to ensure collision avoidance and contingency management; modeling and simulation for technique development and risk reduction; and development and demonstration of command and control strategies, including at beyond-line-of-sight distances. This includes design and demonstration of AAR-related Tactical Targeting Network Technology (TTNT) capabilities, which enable net-centric sensor technologies to correlate information among multiple platforms and precisely locate time-critical targets.

This program is categorized as a Budget Activity 4, Advanced Component Development and Prototypes, since advanced technologies will be explored and integrated for demonstration in a realistic operating environment.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2007	FY 2008	FY 2009
(U) MAJOR THRUST: Develop, demonstrate, and validate the ability to air refuel aircraft without the intervention of a pilot in the receiving craft to enable the Global Strike, Global Persistent Attack, Global Mobility, and C4ISR CONOPS.			
(U) In FY 2009: Develop flight control and precision navigation (PGPS) systems for initial capability of automated air-to-air refueling (AAR).			9.889
(U) In FY 2010: Integrate and start testing automated air-to-air refueling flight controls and precision navigation initial capability using a KC-135 tanker and a limited test aircraft. Prepare test resources for automated air-to-air refueling systems to allow for receiving aircraft to take on fuel from tanker aircraft. Start evaluation of Non-GPS/Hybrid AAR positioning system enhancements to allow for a full AAR capability.			
(U) In FY2011: Continue preparation of test resources to allow for receiving aircraft to take on fuel from tanker aircraft. Refine AAR flight controls and precision navigation systems for initial AAR capability. Continue testing PGPS and flight controls using a KC-135 tanker and limited test aircraft. Continue evaluation and design on Hybrid AAR			

Exhibit R-2a, RDT&E Project Justification		DATE: February 2008
BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE: 0604830F Automated Air-to-Air Refueling	PROJECT NUMBER AND TITLE: 2214 Optionally Unmanned Development

(U) B. Accomplishments/Planned Program ($ in Millions)

		FY 2007	FY 2008	FY 2009
	positioning systems enhancements.			
(U)	Total Cost	0.000	0.000	9.889

(U) C. Other Program Funding Summary ($ in Millions)

		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
(U)	Appn 28, PE 0604015F, Next Generation Bomber	37.476	0.000	0.000	0.000	80.328	100.163	150.027		TBD

(U) D. Acquisition Strategy

Principal acquisitions to be performed through Broad Area Announcements (BAA) resulting in competitive Cost Plus Fixed Fee contracts.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: February 2008

BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE: 0604830F Automated Air-to-Air Refueling

PROJECT NUMBER AND TITLE: 2214 Optionally Unmanned Development

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Precision GPS Development	CPFF	Boeing, St Louis MO	0.000	0.000		0.000		4.000	Dec-08		4.000	TBD
Tactical Targeting Network Technology (TTNT)	CPFF	Rockwell Collins, Cedar Rapids IA	0.000	0.000		0.000		1.000	Dec-08		1.000	TBD
Phase II System Development and Demonstration	CPFF	TBD (release BAA in Apr 08)	0.000	0.000		0.000		3.000	Dec-08		3.000	TBD
Subtotal Product Development			0.000	0.000		0.000		8.000		0.000	8.000	TBD
Remarks:												
(U) Support											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Test & Evaluation												
Precision GPS Testing			0.000	0.000		0.000		0.950			0.950	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.950		0.000	0.950	0.000
Remarks:												
(U) Management												
Program Management			0.000	0.000		0.000		0.939			0.939	
Subtotal Management			0.000	0.000		0.000		0.939		0.000	0.939	0.000
Remarks:												
(U) Total Cost			0.000	0.000		0.000		9.889		0.000	9.889	TBD

Exhibit R-4, RDT&E Schedule Profile		DATE: February 2008
BUDGET ACTIVITY: 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE: 0604830F Automated Air-to-Air Refueling	PROJECT NUMBER AND TITLE: 2214 Optionally Unmanned Development

AAR Phase II Schedule

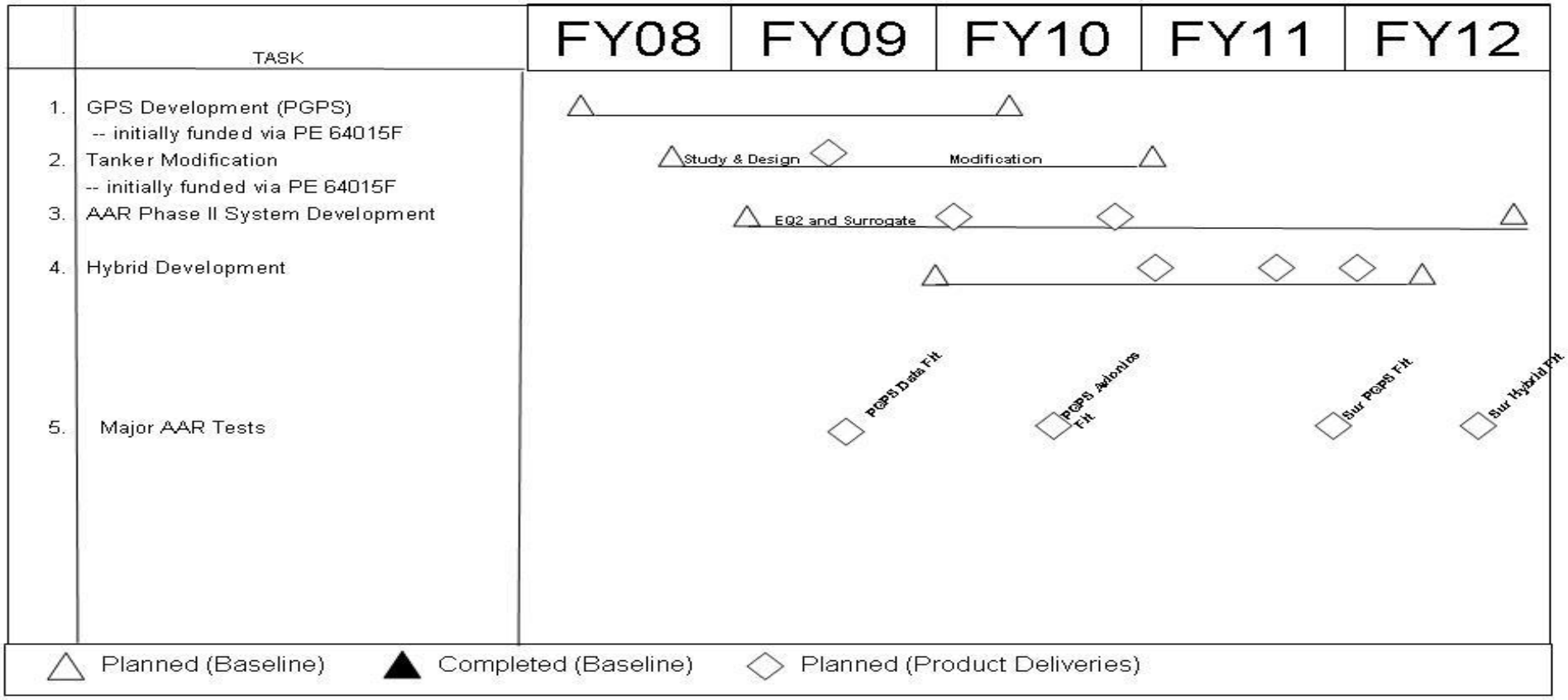

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2008
BUDGET ACTIVITY **04 Advanced Component Development and Prototypes (ACD&P)**	PE NUMBER AND TITLE **0604830F Automated Air-to-Air Refueling**	PROJECT NUMBER AND TITLE **2214 Optionally Unmanned Development**

(U) Schedule Profile	FY 2007	FY 2008	FY 2009
(U) Tanker Modification Critical Design Review			2Q
(U) Precision GPS Data Collection Flight Test			3Q