

## UNCLASSIFIED

PE NUMBER: 0401219F  
PE TITLE: KC-10S

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2006	
BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0401219F KC-10S					
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	13.280	4.781	39.270	50.779	5.662	0.000	Continuing	TBD
5195 Aircraft Modernization Program (AMP)	0.000	13.280	4.781	39.270	50.779	5.662	0.000	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**

Global Air Traffic Management (GATM) was based upon evolving Communication, Navigation and Surveillance (CNS) and Free Flight concepts and requirements. Key elements of its architecture were Dual MMR (Multi-Mode Receiver), Dual CMU (Communications Management Unit), Communication Data links (HF, VHF, SATCOM), and associated avionics components and wiring. Communications upgrades included a data link to augment/replace voice communications. The navigation capabilities included a fully integrated GPS and an advanced flight management system. The surveillance capabilities included automatic aircraft position reporting (both enroute and oceanic). Prototype aircraft delivery was scheduled for 3QFY03 but due to schedule slips and cost overruns, the prototype delivery was expected to be delayed to 2QFY05. The development program was terminated in April 2004.

KC-10 Aircraft Modernization Program (AMP) will provide a robust, integrated on board aircraft network where measurements are taken by digital sensors, transmitted to digital equipment, used to operate the aircraft, and displayed for the aircrew. This postures the KC-10 for global "network centric operations", and provides enhanced survivability (to include Night Vision Imaging System (NVIS) compatibility for aircraft exterior, boom operator station and cockpit lighting; a growth path to Defensive Systems (DS), provisions to support multi-mission payload, and real time information in the cockpit (RTIC) capability). All aircraft controls and systems will be compatible with aircrew chemical defense ensemble. Communications upgrades include adding a data link to augment/replace voice communications, and adding a secure voice and data communications. Navigation capabilities include a fully integrated GPS (to include YMCA card, if available) and an advanced flight management system. Surveillance capabilities include automatic aircraft reporting (both enroute and oceanic) and the 406MHz Emergency Locator Transmitter (ELT). KC-10 aircraft modernization is needed to address reliability/maintainability concerns and obsolescence issues, to include inertial navigation units (INU), central air data computer (CADC), weather radar, analog autopilot, analog engine instruments, analog flight instruments, analog nav/comm radios, cockpit voice recorder (CVR), and flight data recorder (FDR), fuel system gauges, refueling boom/drogue electronics, and flight engineer station controls/instruments. KC-10 AMP will automate aircrew tasks to reduce the crew's workload, and integrate products and displays into an efficient package that will increase situational awareness. KC-10 training and mission planning systems will be correspondingly upgraded. Concept Refinement Studies will address potential technical approaches, spiral development, cockpit commonality, affordability, etc, and will precede award of development contract.

NOTE: OGC on funding page includes AF Mission support as well as Contractor support at 327 CLSG.

These efforts support a fielded weapon system and therefore are assigned to Budget Activity 7, Operational Systems Development.

R-1 Shopping List - Item No. 222-2 of 222-8

Exhibit R-2 (PE 0401219F)

## Exhibit R-2, RDT&amp;E Budget Item Justification

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**07 Operational System Development**

PE NUMBER AND TITLE

**0401219F KC-10S**(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	18.452	13.472	38.710
(U) Current PBR/President's Budget	0.000	13.280	4.781
(U) Total Adjustments	-18.452	-0.192	
(U) Congressional Program Reductions			
Congressional Rescissions	-18.452	-0.192	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			

(U) **Significant Program Changes:**  
GATM Development Program Cancelled; Congress rescinded GATM RDT&E appropriations in FY05.  
The Aircraft Modernization Program is a new start in FY06.  
FY06 was realigned to match the acquisition strategy for Concept Refinement studies.  
FY07 was realigned to match Congressional program reductions for a one year slip.

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## Exhibit R-2a, RDT&amp;E Project Justification

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PROJECT NUMBER AND TITLE

5195 Aircraft Modernization Program  
(AMP)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5195 Aircraft Modernization Program (AMP)	0.000	13.280	4.781	39.270	50.779	5.662	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	1	0	0		

(U) **A. Mission Description and Budget Item Justification**

Global Air Traffic Management (GATM) was based upon evolving Communication, Navigation and Surveillance (CNS) and Free Flight concepts and requirements. Key elements of its architecture were Dual MMR (Multi-Mode Receiver), Dual CMU (Communications Management Unit), Communication Data links (HF, VHF, SATCOM), and associated avionics components and wiring. Communications upgrades included a data link to augment/replace voice communications. The navigation capabilities included a fully integrated GPS and an advanced flight management system. The surveillance capabilities included automatic aircraft position reporting (both enroute and oceanic). Prototype aircraft delivery was scheduled for 3QFY03 but due to schedule slips and cost overruns, the prototype delivery was expected to be delayed to 2QFY05. The development program was terminated in April 2004.

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5195 Aircraft Modernization Program  
(AMP)(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Prime Contract	0.000		0.000
(U) Studies and Analysis	0.000	11.172	1.894
(U) Government Furnished Equipment	0.000	0.000	0.000
(U) Government Test and Evaluation	0.000	0.000	0.000
(U) Mission Support	0.000	2.108	2.887
(U)			
(U)			
(U)			
(U)			
(U) Total Cost	0.000	13.280	4.781

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other APPN		1.600	2.000	0.103	5.616	35.173	44.141	Continuing	TBD
PE # 41219F / KC-10, Aircraft procurement, AF, BA-5, KC-10 Mods, BP-11, BP-16									

(U) **D. Acquisition Strategy**

Concept Refinement Studies in FY06 will foster competition, mitigate identified acquisition risks, and support System Development and Demonstration (SDD) Request for Proposal (RFP). FY07 will consist of RFP prep, solicitation and source selection. The SDD contract will be a competitively awarded, best value contract, commencing in FY08.

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## Exhibit R-3, RDT&amp;E Project Cost Analysis

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5195 Aircraft Modernization Program  
(AMP)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &amp;</u> <u>Type</u>	<u>Performing</u> <u>Activity &amp;</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u> Studies and Analysis	TBD	TBD				11.172	Apr-06	1.894	Nov-06	Continuing	TBD	
Subtotal Product Development			0.000	0.000		11.172		1.894		Continuing	TBD	
Remarks:										Continuing	TBD	0.000
(U) <u>Support</u> Mission Support		Wright Patterson AFB, OH				2.108		2.887		Continuing	TBD	
Subtotal Support			0.000	0.000		2.108		2.887		Continuing	TBD	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>  Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Management</u>  Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		13.280		4.781		Continuing	TBD	0.000

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## Exhibit R-4, RDT&amp;E Schedule Profile

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5195 Aircraft Modernization Program  
(AMP)

Fiscal Year	FY06				FY07				FY08			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4
CDD JROC Approved		*										
Concept Refinement Studies												
Draft SDD RFP							*					
SDD RFP								*				
Source Selection												
SDD Contract Award/Milestone B										*		

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## Exhibit R-4a, RDT&amp;E Schedule Detail

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PROJECT NUMBER AND TITLE

5195 Aircraft Modernization Program  
(AMP)(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) CDD approved by JROC

2Q

(U) Concept Refinement Studies

3-4Q

1Q

(U) Draft System Development &amp; Demonstration (SDD) Request for Proposal (RFP) released

3Q

(U) SDD RFP released

4Q