

UNCLASSIFIED

PE NUMBER: 0401218F
 PE TITLE: KC-135s

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0401218F KC-135s
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Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	7.825	10.305	10.297	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
4494 KC-135 Aging Aircraft Program	1.228	4.348	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5261 KC-135 Upgrades	6.597	5.957	10.297	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

KC-135 Aging Aircraft Program (674494).

This program supports projects that keep the KC-135 viable for the future. Projects include the analysis and testing efforts in the area of aging aircraft, to include structural, corrosion, fatigue, and stress corrosion cracking. Additionally, the Functional System Integrity Program (FSIP) proactively examines individual aircraft systems for potential impacts due to aging components. The USAF will utilize these activities to improve KC-135 Programmed Depot Maintenance efficiency and to provide direction for future aircraft efforts to sustain the KC-135 as a viable airframe until the planned fleet retirement completion date of 2040.

KC-135 Upgrades (675261).

Block 45 program - Supports a modification program performing analysis, testing, software development, prototyping, documenting source data, and incorporating a new Digital Flight Director (DFD), Radio Altimeter (RA), Autopilot (AP) and Electronic Engine Instrument Displays (EEID).

Enhanced Surveillance (EHS) - Mode S is an upgrade to the currently fielded Elementary Surveillance (ELS) and is currently required by a EUROCONTROL mandate. The EHS upgrade replaces the current APX-100 transponder with the APX-119 transponder.

This program has associated APAF funding in Program Elements 41218F and 41897F.

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

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Previous President's Budget	8.766	7.133	0.000
(U) Current PBR/President's Budget	7.825	10.305	10.297
(U) Total Adjustments	-0.941	3.172	
(U) Congressional Program Reductions	-0.056		
Congressional Rescissions	-0.885		
Congressional Increases		3.172	
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			

Exhibit R-2, RDT&E Budget Item Justification

DATE

May 2009

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0401218F KC-135s

Recently the Block 45 program was re-scoped to support modifications to the AP, DFD, RA and delete Night Vision Imaging System (NVIS) and Aeromedical Equipment upgrade. EEID was also added to support replacement of the soon to be obsolete Engine Instruments. As a result, the overall testing and integration efforts have more than doubled. Funds were added in the FY10 Programming cycle to address this change in program requirements.

Exhibit R-2a, RDT&E Project Justification

DATE
May 2009

BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0401218F KC-135s			PROJECT NUMBER AND TITLE 4494 KC-135 Aging Aircraft Program		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
4494 KC-135 Aging Aircraft Program	1.228	4.348	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This program supports projects that keep the KC-135 viable into the future. Projects include the analysis and testing efforts in the area of aging aircraft, to include structural, corrosion, fatigue, and stress corrosion cracking. Additionally, the Functional System Integrity Program (FSIP) proactively examines individual aircraft systems for potential impacts due to aging components. The USAF will utilize these activities to improve KC-135 Programmed Depot Maintenance efficiency and to provide direction for future aircraft efforts to sustain the KC-135 as a viable airframe until the planned fleet retirement completion date of 2040.

NOTE: The FY2009 budget contains a \$3.188M Congressional add for the purpose of KC-135R blended winglet development.

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Aging Aircraft Studies	0.417	0.375	
(U) Functional Systems Integrity Program (FSIP)/Corrosion & Fatigue Testing	0.500	0.735	
(U) Mission support/contractor support (includes FY09 congressional add for winglets)	0.311	3.238	
(U) Total Cost	1.228	4.348	0.000

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) None										

(U) D. Acquisition Strategy

The acquisition strategy consists primarily of separate task orders (with separate statements of work) ranging from fixed price to cost plus contracts. These task orders address a myriad of aging aircraft activities against existing contract vehicles, such as the SPO-managed KC-135 Fleet Support Contract and Design Engineering Program contracts managed through the Air Logistics Centers.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

May 2009

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
07 Operational System Development				0401218F KC-135s					4494 KC-135 Aging Aircraft Program			
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
None											0.000	
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Support</u>												
Aging Aircraft Studies	T&M	Air Force Academy, Colorado Springs, CO		0.417		0.375				0.000	0.792	
Subtotal Support			0.000	0.417		0.375		0.000		0.000	0.792	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												
Corrosion & Fatigue Testing/Functional Systems Integrity Program	Fleet Support, T&M/FFP	Boeing, Wichita KS		0.500		0.735				0.000	1.235	
Subtotal Test & Evaluation			0.000	0.500		0.735		0.000		0.000	1.235	0.000
Remarks:												
(U) <u>Management</u>												
(includes the FY09 congressional add for winglets)				0.311		3.238				0.000	3.549	
Subtotal Management			0.000	0.311		3.238		0.000		0.000	3.549	0.000
Remarks:												
(U) Total Cost			0.000	1.228		4.348		0.000		0.000	5.576	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE
May 2009

BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0401218F KC-135s

PROJECT NUMBER AND TITLE
4494 KC-135 Aging Aircraft Program

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile

Date: September 2008

BA: 07 Operational System Development

PE 41218F

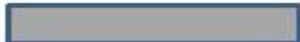
Project: 4494 KC-135 Aging Aircraft

KC-135 R-4 Schedule Profile

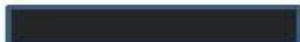
Fiscal Year	FY06				FY07				FY08				FY09			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Corrosion & Fatigue Testing																
FSIP																
Contractor/Management Support																



Major Event or Milestone



Planned Ongoing Activity



Ongoing Activity that is Complete



Completed Event



Planned Task(s)

**Exhibit R-4 (PE 0401218F)
Project 4494**

R-1 Line Item No. 214

UNCLASSIFIED

R-1 Line Item No. 223

Page-5 of 11

Project 4494

Exhibit R-4 (PE 0401218F)

Exhibit R-4a, RDT&E Schedule Detail

DATE

May 2009

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0401218F KC-135s

PROJECT NUMBER AND TITLE

4494 KC-135 Aging Aircraft Program

(U) Schedule Profile

FY 2008

FY 2009

FY 2010

(U) Corrosion & Fatigue Testing

1-4Q

1-4Q

(U) FSIP

1-4Q

1-4Q

(U) Congressional Add for KC-135R Blended Winglet Development

3-4Q

Exhibit R-2a, RDT&E Project Justification

DATE
May 2009

BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0401218F KC-135s			PROJECT NUMBER AND TITLE 5261 KC-135 Upgrades		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
5261 KC-135 Upgrades	6.597	5.957	10.297	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Block 45 modification consists of Digital Flight Director (DFD), Radar Altimeter (RA), Autopilot (AP) and the Electronic Engine Instrument Display (EEID) and is needed to extend the KC-135 as a viable weapon system through Fiscal Year (FY) 2040. There are 417 KC-135 aircraft based throughout the United States, Pacific and Europe that are anticipated to receive the Block 45 modification upgrade. The Block 45 systems mitigate capability gaps identified in the Initial Capabilities Document (ICD) for Aerial Refueling (AR) and the Air Force (AF) Integrated Capability Review and Risk Assessment (I-CRRA), address anticipated airspace restrictions within the global CNS/ATM system and improve overall KC-135 shortcomings in reliability, maintainability and supportability.

Enhanced Surveillance (EHS) - Mode S is an upgrade to the currently fielded Elementary Surveillance (ELS) and is a EUROCONTROL mandate required by Mar 09. The EHS upgrade replaces the current APX-100 transponder with the APX-119 transponder.

This program has associated APAF funding in Program Elements 41218F and 41897F.

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

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Block 45 - Non-Recurring Engineering efforts/tasks for all Block 45 sub programs	5.673	5.957	10.297
(U) EHS - Non-Recurring Engineering efforts/tasks for EHS	0.924		
(U) Total Cost	6.597	5.957	10.297

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) EHS Mod # 8654										
Procurement C135	6.648	7.900	16.394							30.942
0401218F										

(U) D. Acquisition Strategy

Block 45 - The strategy is to have a contracted integrator accomplish the task of performing analysis, testing, software development, prototypes, documentation of source data, and integrating a new Digital Flight Director (DFD), digital Autopilot (AP), digital Radar Altimeter (RA), and Electronic Engine Instrument Display (EEID). The contractor will be responsible for acquiring the necessary information and personnel to integrate each item stated above into the KC-135 legacy systems. The contractor will be responsible for developing, subcontracting, or a combination of the two for the development of the components.

EHS - The strategy is to have a single contractor do NRE. Kits will be purchased and installed as a Field Level Modification. Rockwell Collins is performing

Exhibit R-2a, RDT&E Project Justification

DATE

May 2009

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0401218F KC-135s

PROJECT NUMBER AND TITLE

5261 KC-135 Upgrades

integration, and Raytheon is the supplier for the APX-119.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

May 2009

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
07 Operational System Development				0401218F KC-135s					5261 KC-135 Upgrades			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> Block 45 - NRE, engineering, development, and prototype	Sole Source	TBD	0.000	5.673		5.957	Jul-15	10.297			21.927	TBD
EHS - NRE and development	Engineering Assignment (EA)	Rockwell Collins, Inc (IA/OK)	0.000	0.924							0.924	
Subtotal Product Development Remarks:			0.000	6.597		5.957		10.297		0.000	22.851	TBD
(U) <u>Support</u>		TBD									0.000	
Subtotal Support Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U) <u>Test & Evaluation</u>		TBD									0.000	
Subtotal Test & Evaluation Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U) <u>Management</u>		TBD									0.000	
Subtotal Management Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U)											0.000	
Subtotal Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U)											0.000	
Subtotal Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U) Total Cost			0.000	6.597		5.957		10.297		0.000	22.851	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

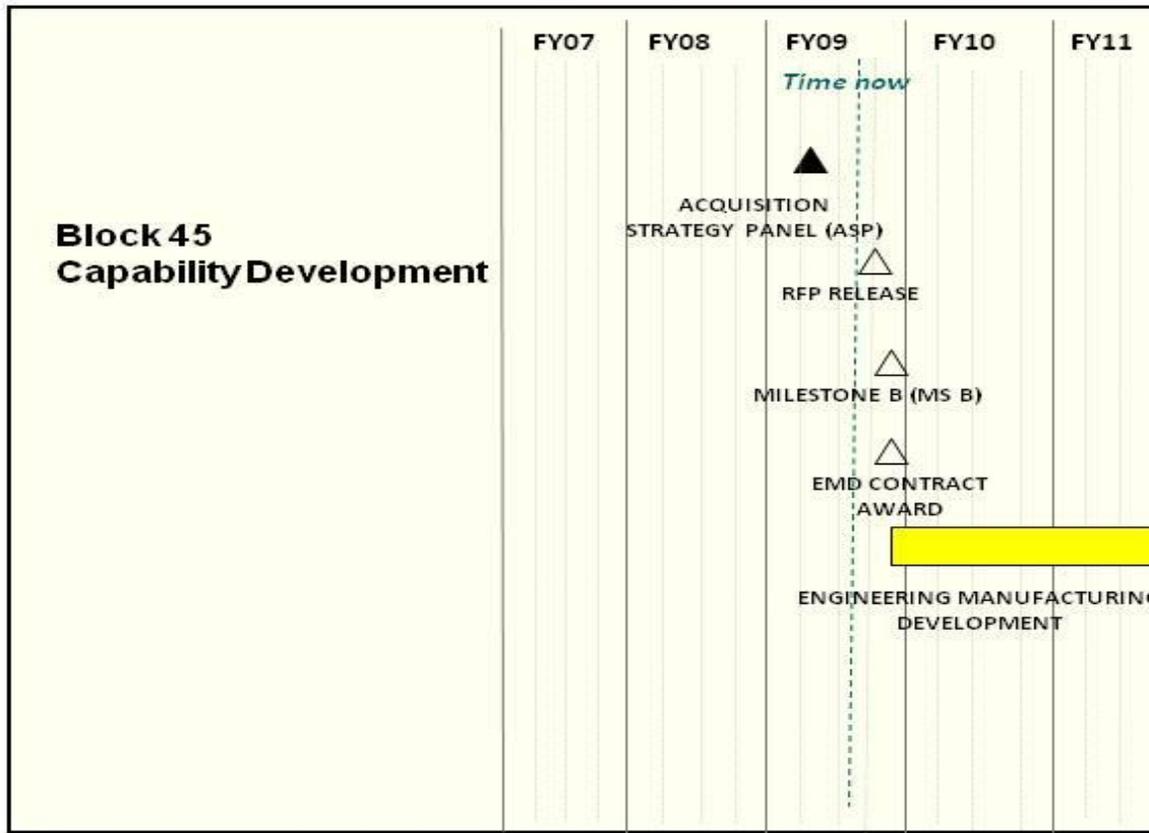
May 2009

BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0401218F KC-135s

PROJECT NUMBER AND TITLE
5261 KC-135 Upgrades

KC-135 CNS/ATM (Block 45) Program Schedule (FY10.5 PB)



As of: 15 Apr 09

Exhibit R-4a, RDT&E Schedule Detail

DATE

May 2009

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0401218F KC-135s

PROJECT NUMBER AND TITLE

5261 KC-135 Upgrades

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Schedule Profile			
(U) Acquisition Strategy Panel (ASP)		1Q	
(U) Engineering Manufacturing Development (EMD) RFP Release		3Q	
(U) Milestone B (MS B)		4Q	
(U) EMD Contract Award		4Q	
(U) EMD		4Q	1-4Q