PE NUMBER: 0604853F
PE TITLE: Evolved Expendable Launch Vehicle - EMD

Exhibit R-2, RDT&E Budget Item Justification

DATE: May 2009

BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604853F Evolved Expendable Launch Vehicle - EMD

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	6.500	33.628	26.545	0.000	0.000	0.000	0.000	0.000	0.000	1,486,341.000
0004	Evolved Expendable Launch Vehicle	6.500	33.628	26.545	0.000	0.000	0.000	0.000	0.000	0.000	1,486,341.000

New Start effort:
In FY10, PE0604853F, Evolved Expendable Launch Vehicle (EELV) includes New Start efforts for Pre-Planned Product Improvements to sustain the EELV capability through 2030.

(U) A. Mission Description and Budget Item Justification

The Evolved Expendable Launch Vehicle (EELV) program is a space launch system developed with industry to provide two families of launch vehicles (Delta IV & Atlas V). The program satisfies the government's National Launch Forecast (NLF) requirements and reduces the cost of space launch by at least 25% over legacy systems.

EELV is a launch service, not a weapon system, which is primarily funded with production funds. The program has developmental items including: a Global Positioning System (GPS) Metric Tracking capability for obtaining real-time booster position data during flight; complete qualification of the extended mission kit, fleet standardization of the RS-68 main engine upgrade, special studies, Pre-Planned Product Improvements (secondary payload adaptor standard service, etc.), and other related support activities.

EELV is responsible for launching government manifested payloads, including those once supported by Titan II, Delta II, Atlas II/III, and Titan IV. Evolved from heritage expendable launch systems and new applications of existing technology, EELV supports military, intelligence, civil, and commercial mission requirements. As of 21 August 2007, the EELV Program has formally entered the sustainment phase. The Air Force Space Command Routine Spacelift Enabling Concept (31 Oct 2007) formally extends the EELV Program an additional 10 years, from 2020 through 2030.

This program element is in Budget Activity 5, System Development and Demonstration, because it supports development and demonstration of the EELV concept leading to deployment of a lower cost expendable launch vehicle system.

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604853F Evolved Expendable Launch Vehicle - EMD

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

		FY 2008	FY 2009	FY 2010
(U)	Previous President's Budget	0.000	33.719	0.000
(U)	Current PBR/President's Budget	6.500	33.628	26.545
(U)	Total Adjustments	6.500	-0.091	
(U)	Congressional Program Reductions			
	Congressional Rescissions		-0.091	
	Congressional Increases			
	Reprogrammings	6.500		
	SBIR/STTR Transfer			

(U) Significant Program Changes:

Continues RS-68 Upgrade implementation and adds a Pre-Planned Product Improvement New Start effort. Additionally, added $6.5M to FY08 for GPS Metric Tracking.

Exhibit R-2a, RDT&E Project Justification		DATE: May 2009
BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE: 0604853F Evolved Expendable Launch Vehicle - EMD	PROJECT NUMBER AND TITLE: 0004 Evolved Expendable Launch Vehicle

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
0004	Evolved Expendable Launch Vehicle	6.500	33.628	26.545	0.000	0.000	0.000	0.000	0.000	0.000	1,486,341.000
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

New Start effort:
In FY10, PE0604853F, Evolved Expendable Launch Vehicle (EELV) includes New Start efforts for Pre-Planned Product Improvements to sustain the EELV capability through 2030.

(U) A. Mission Description and Budget Item Justification

The Evolved Expendable Launch Vehicle (EELV) program is a space launch system developed with industry to provide two families of launch vehicles (Delta IV & Atlas V). The program satisfies the government's National Launch Forecast (NLF) requirements and reduces the cost of space launch by at least 25% over legacy systems.

EELV is a launch service, not a weapon system, which is primarily funded with production funds. The program has developmental items including: a Global Positioning System (GPS) Metric Tracking capability for obtaining real-time booster position data during flight; complete qualification of the extended mission kit, fleet standardization of the RS-68 main engine upgrade, special studies, Pre-Planned Product Improvements (secondary payload adaptor standard service, etc.), and other related support activities.

EELV is responsible for launching government manifested payloads, including those once supported by Titan II, Delta II, Atlas II/III, and Titan IV. Evolved from heritage expendable launch systems and new applications of existing technology, EELV supports military, intelligence, civil, and commercial mission requirements. As of 21 August 2007, the EELV Program has formally entered the sustainment phase. The Air Force Space Command Routine Spacelift Enabling Concept (31 Oct 2007) formally extends the EELV Program an additional 10 years, from 2020 through 2030.

This program element is in Budget Activity 5, System Development and Demonstration, because it supports development and demonstration of the EELV concept leading to deployment of a lower cost expendable launch vehicle system.

(U)	B. Accomplishments/Planned Program ($ in Millions)	FY 2008	FY 2009	FY 2010
(U)	Continue GPS Metric Tracking Development	6.500	0.050	
(U)	Fleet Standardization - RS-68 Upgrade		0.050	18.045
(U)	Extended Mission Kit Qualification		33.528	
(U)	Pre-Planned Product Improvements			8.500
(U)	Total Cost	6.500	33.628	26.545

Exhibit R-2a, RDT&E Project Justification		DATE May 2009
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604853F Evolved Expendable Launch Vehicle - EMD	PROJECT NUMBER AND TITLE 0004 Evolved Expendable Launch Vehicle

(U) C. Other Program Funding Summary ($ 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 Cost
(U) Other APPN										
(U) MPAF (BA 05, PE 0305953F, P-28)*	1091.844	1350.283	1295.325							

* The Cost To Complete value is an estimate based on 150 AF launches in the current manifest, FY 2002-2030 (extended from FY 2020 per AFSPC).

(U) D. Acquisition Strategy

The EELV concept of families of launch vehicles emphasizes commonality of hardware and infrastructure to enhance production, operations, and support efficiencies. Four initial contracts were awarded for the Low Cost Concept Validation (LCCV) phase in August 1995. The Air Force downselected to two contractors - The Boeing Company (TBC) and Lockheed Martin (LM) - for the Pre-Engineering and Manufacturing Development (Pre-EMD) phase in December 1996. In 1998, two $500M Other Transaction Agreements (OTA) were awarded to TBC and LM for the development effort. The contractors have contributed additional funds of their own, as necessary, to bring their national launch operational capability on line. It is estimated that each contractor has invested in excess of $1.5B. At the same time as the award of the development effort, Initial Launch Services (ILS) contracts were awarded to Boeing for 19 missions and to Lockheed Martin for 9 missions.

All of the ILS (Buy 1/awarded) launch services are firm-fixed price contracts. Due to the decrease in the commercial market, the projected costs of the unawarded EELV launches have increased. The new acquisition strategy, implemented in FY06, separates the launch service price from the infrastructure costs. Follow-on (Buy 3) Launch Service procurements will include launch service costs on a fixed-price contract. EELV Launch Capability infrastructure costs (includes launch and range operations, mission integration, mission unique development and integration, subcontract support engineering, factory engineering, etc.) are funded on an annual basis via a cost-plus, award-fee contract. The 2005 Space System Acquisition Strategy (SSAS) for EELV documents this modified approach to provide assured access to space with two viable launch vehicle families.

The acquisition approach supports the 2004 National Space Transportation Policy, caps the government's development costs, and allows partnership with industry, while still reducing the program's overall cost to launch the NLF by at least 25% over legacy systems. The EELV system will launch the majority of the government portion of the NLF through 2030 and the government will continue to work to partner with industry to continuously improve products and processes to enhance reliability and reduce both the contractor's and government's total costs. As of 21 August 2007, the EELV program has formally entered the sustainment phase. The Air Force Space Command Routine Spacelift Enabling Concept (31 Oct 2007) formally extends the EELV Program an additional 10 years, from 2020 through 2030.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: May 2009

BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604853F Evolved Expendable Launch Vehicle - EMD

PROJECT NUMBER AND TITLE: 0004 Evolved Expendable Launch Vehicle

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2008 Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Prime Contractor Boeing	Comp/FFP		710.182								710.182	
Prime Contractor Lockheed Martin	Comp/FFP		583.511								583.511	
Prime Contractor United Launch Alliance (ULA)	SS/CPAF			6.500		33.628	Oct-08	26.545	Oct-09		66.673	
Subtotal Product Development			1,293.693	6.500		33.628		26.545		0.000	1,360.366	0.000
Remarks: All EELV contracts novated from Boeing and Lockheed Martin to ULA in November 2008.												
(U) Support												
SPO/CTF Range Mission Spt	Various		43.617								43.617	
FFRDC	SS/CPAF		67.214								67.214	
Other Cntr Spt	Various		15.144								15.144	
Subtotal Support			125.975	0.000		0.000		0.000		0.000	125.975	0.000
Remarks:												
(U) Test & Evaluation												
											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			1,419.668	6.500		33.628		26.545		0.000	1,486.341	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE May 2009
BUDGET ACTIVITY **05 System Development and Demonstration (SDD)**	PE NUMBER AND TITLE **0604853F Evolved Expendable Launch Vehicle - EMD**	PROJECT NUMBER AND TITLE **0004 Evolved Expendable Launch Vehicle**

EELV Program - Key Events

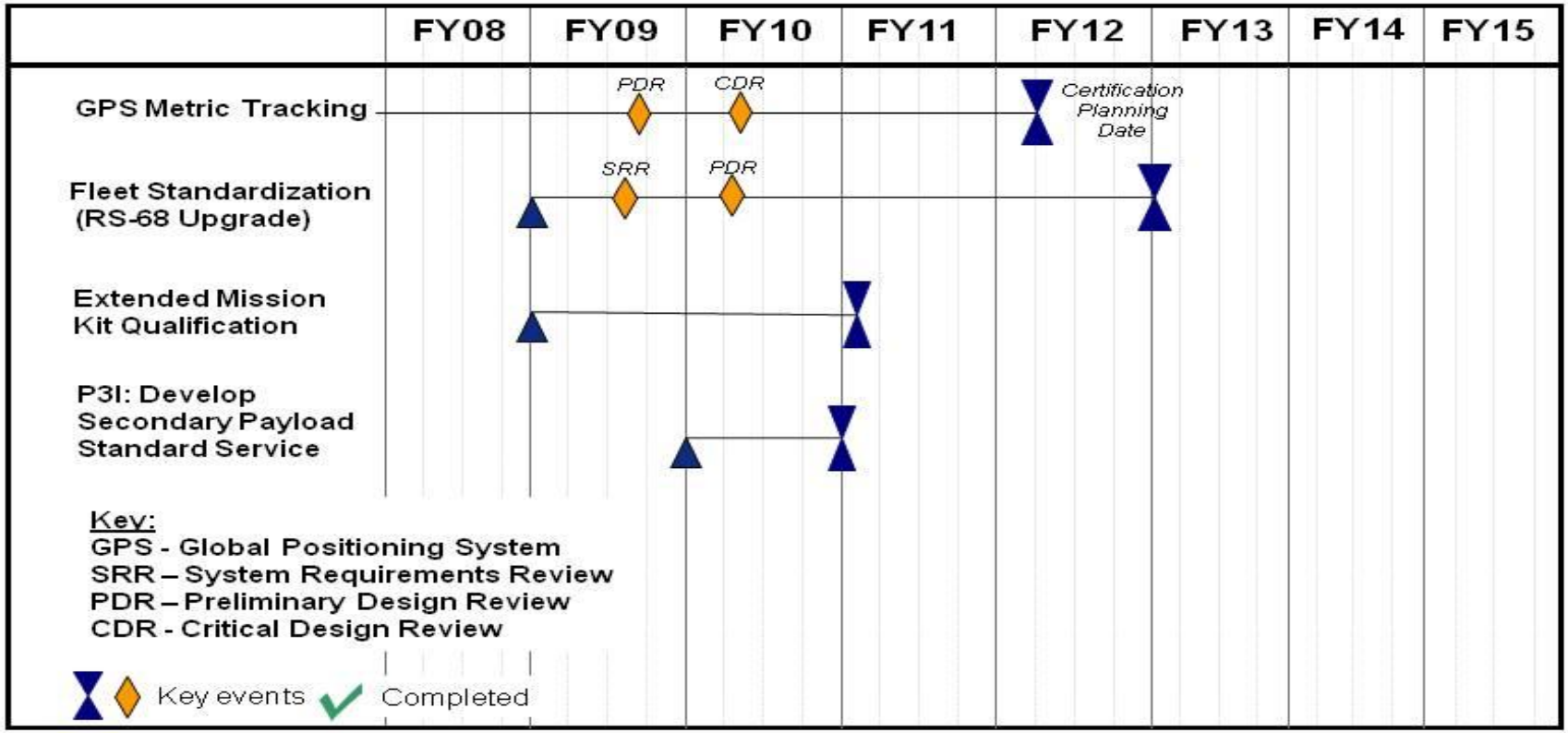

Exhibit R-4a, RDT&E Schedule Detail		DATE: May 2009
BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE: 0604853F Evolved Expendable Launch Vehicle - EMD	PROJECT NUMBER AND TITLE: 0004 Evolved Expendable Launch Vehicle

(U) Schedule Profile	FY 2008	FY 2009	FY 2010
(U) GPS Metric Tracking Development	1-4Q	1-4Q	1-4Q
(U) GPS Metric Tracking Development - Preliminary Design Review		3Q	
(U) GPS Metric Tracking Development - Critical Design Review			2Q
(U) Atlas V Extended Mission Kit Qualification		1-4Q	1-4Q
(U) Fleet Standardization (RS-68 Upgrade)		1-4Q	1-4Q
(U) Fleet Standardization - System Requirements Review		3Q	
(U) Fleet Standardization - Preliminary Design Review			1Q
(U) Pre-Planned Product Improvement (P3I): Secondary Payload Standard Service			1-4Q

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