

UNCLASSIFIED

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

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604853F Evolved Expendable Launch Vehicle - EMD
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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	19.083	0.000	33.719	0.000	0.000	0.000	0.000	0.000	1,445.269
0004 Evolved Expendable Launch Vehicle	19.083	0.000	33.719	0.000	0.000	0.000	0.000	0.000	1,445.269

(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%.

EELV is a launch service, not a weapon system, which is primarily funded with production funds. The program has developmental items including: assured access (RL-10 producibility, etc.); a Global Positioning System (GPS) Metric Tracking capability for obtaining real-time booster position data during flight; RS-68 main engine upgrade, complete extended mission kit qualification for the AFSPC-2 mission, special studies, and other related support activities.

The EELV system provides two families of launch vehicles (Delta IV and Atlas V). 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.

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. Program Change Summary (\$ in Millions)

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	19.738	0.000	0.000
(U) Current PBR/President's Budget	19.083	0.000	33.719
(U) Total Adjustments	-0.655		
(U) Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-0.655		

(U) Significant Program Changes:

FY09 includes additional \$33.7M for GPS Metric Tracking, RS-68 main engine upgrade, and extended mission kit qualification for the AFSPC-2 mission.

Exhibit R-2a, RDT&E Project Justification

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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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
0004 Evolved Expendable Launch Vehicle	19.083	0.000	33.719	0.000	0.000	0.000	0.000	0.000	1,445.269
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue GPS Metric Tracking Booster Capability Integration	7.803		0.050
(U) RS-68 Upgrade			0.050
(U) Extended Mission Kit Qualification			33.619
(U) SPO Support	1.280		
(U) Assured Access initiatives	10.000		
(U) Total Cost	19.083	0.000	33.719

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

	<u>FY 2007</u>	<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>Cost to Complete</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) Other APPN									
(U) MPAF (BA 05, PE 0305953F, P-28)*	852.055	1091.844	1205.278	1402.516	1101.790	1567.582	1266.911	14,513.142	25,172.579

* The Cost To Complete value is an estimate based on 95 AF launches in the current manifest, FY 2002-2020.

Exhibit R-2a, RDT&E Project Justification

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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) 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. 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 2020 and the government will continue to work to partner with industry to continuously improve products and processes to enhance reliability and reduce both the contractors' and government's total costs.

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
05 System Development and Demonstration (SDD)				0604853F Evolved Expendable Launch Vehicle - EMD				0004 Evolved Expendable Launch Vehicle				
(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 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
Prime Contractor Boeing	OTA/ILS		696.983	8.902	Nov-06			0.075	Oct-08		705.960	
Prime Contractor Lockheed Martin	OTA/ILS		569.853	8.902	Nov-06			33.644	Oct-08		612.399	
Subtotal Product Development			1,266.836	17.803		0.000		33.719		0.000	1,318.359	0.000
Remarks:												
(U) <u>Support</u>												
SPO/CTF Range Mission Spt	Various		42.337	1.280							43.617	
FFRDC	SS/CPAF		67.214								67.214	
Other Cntr Spt	Various		15.144								15.144	
Subtotal Support			124.695	1.280		0.000		0.000		0.000	125.975	0.000
Remarks:												
(U) <u>Test & 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			1,391.531	19.083		0.000		33.719		0.000	1,444.334	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

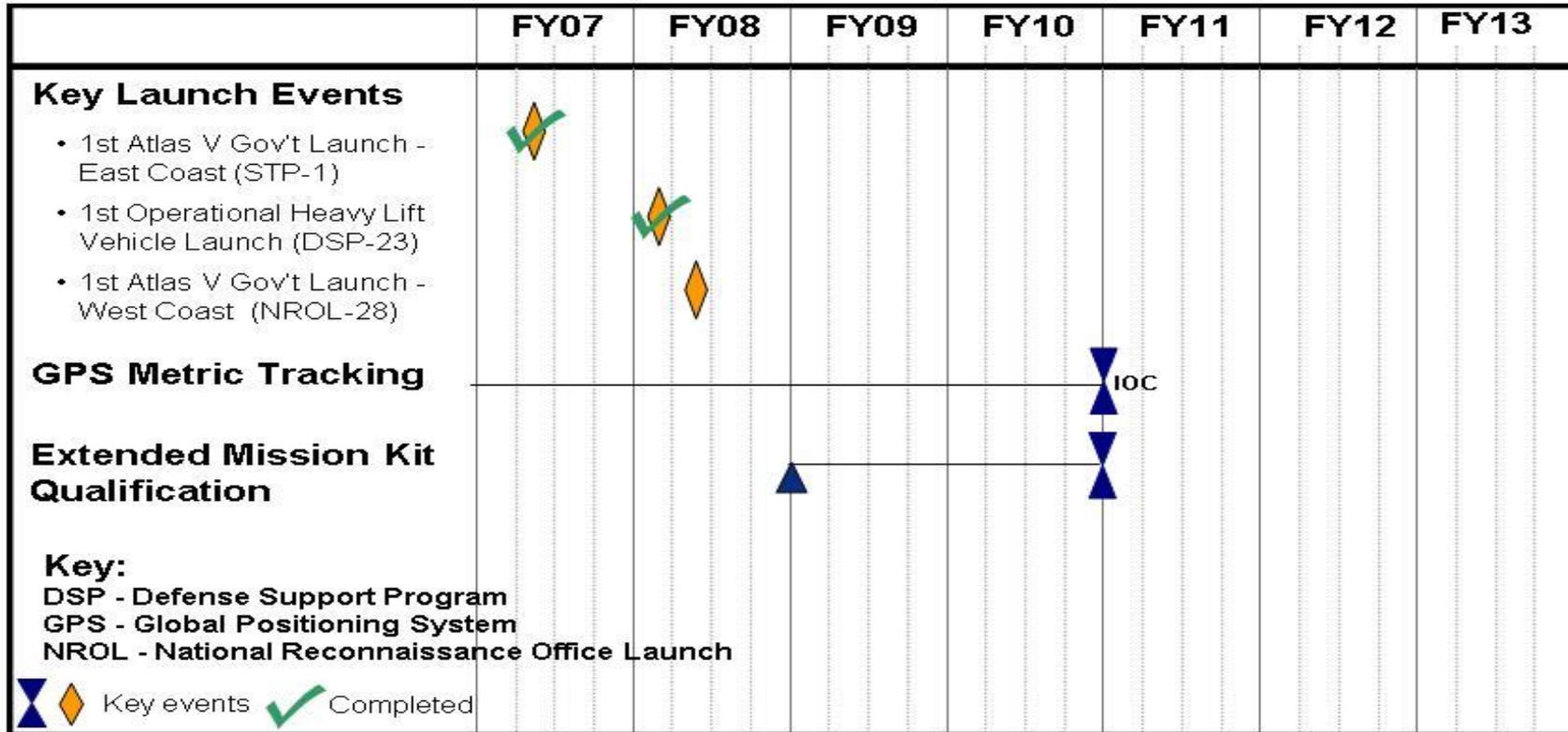
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BUDGET ACTIVITY
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PROJECT NUMBER AND TITLE
0004 Evolved Expendable Launch
Vehicle

EELV Program - Key Events



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Exhibit R-4a, RDT&E Schedule Detail	DATE February 2008
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	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>			
(U) GPS Metric Tracking Project Planning & Requirements Integration	1-4Q	1-4Q	1-4Q
(U) 1st Government East Coast Launch of Atlas V (STP-1)	2Q		
(U) 1st Government Operational HLV Launch (DSP-23)		1Q	
(U) 1st West Coast Launch of Atlas V (NROL-28)		2Q	
(U) Atlas V Extended Mission Kit Qualification			1-4Q