

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604853F / <i>Evolved Expendable Launch Vehicle Program (SPACE) - EMD</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	1,632.493	225.600	227.784	296.572	0.000	296.572	296.715	247.195	197.796	198.629	0.000	3,322.784
650004: <i>Evolved Expendable Launch Vehicle</i>	1,632.493	6.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1,638.493
650006: <i>Next Generation Launch System Investment</i>	0.000	219.600	227.784	296.572	0.000	296.572	296.715	247.195	197.796	198.629	0.000	1,684.291

Program MDAP/MAIS Code: 176

Note
This program, BA 05 PE 0604853F, project 650006, Launch System Investment, is a new start.

A. Mission Description and Budget Item Justification

The Evolved Expendable Launch Vehicle (EELV) program is a space launch system that satisfies the government's National Launch Forecast (NLF) requirements to place National Security Space (NSS) space vehicles on orbit. EELV is a launch service, not a weapon system, which is primarily funded with production funds.

Prior to FY2015 EELV funded product improvements, replacement components, system enhancements and special studies to allow EELV to meet NLF requirements through 2030. The Air Force developed an acquisition strategy to initiate Public Private Partnerships by sharing the investment in industry's launch systems with the end goal of two or more domestic, commercially-viable launch providers that also meet all national security launch needs, including launching to all orbits required for NSS missions.

In FY2015, the Air Force initiated this program using the \$220M added by the FY2015 National Defense Authorization Act and the FY2015 DoD Appropriations Act with an intermediate step that invested in the Rocket Propulsion Systems (RPS) development required for industry's launch systems. In addition, the Air Force continued a Technical Maturation program to address the highest risks for RPS. In FY2016, the Air Force continues the investment in RPS using the \$227M provided in the FY2016 Omnibus Appropriations Act, which was restricted to rocket engine development. In FY2017, the EELV Program plan is to invest through a Public Private Partnership in the development of new or upgraded domestic launch systems with domestic launch providers. The end goal of these investments are two or more domestic, commercially-viable launch providers that also meet all NSS requirements, including placing all NSS satellites into their required orbits.

The EELV program has been designated as an Acquisition Category ID (ACAT ID) program. This program element is in Budget Activity 5, System Development and Demonstration, because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604853F / <i>Evolved Expendable Launch Vehicle Program (SPACE) - EMD</i>
---	--

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	225.600	84.438	59.528	0.000	59.528
Current President's Budget	225.600	227.784	296.572	0.000	296.572
Total Adjustments	0.000	143.346	237.044	0.000	237.044
• Congressional General Reductions	0.000	-0.254			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	143.600			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	237.044	0.000	237.044

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 650004: *Evolved Expendable Launch Vehicle*

 Congressional Add: *Space Launch Range Services and Capability*

Congressional Add Subtotals for Project: 650004

Project: 650006: *Next Generation Launch System Investment*

 Congressional Add: *Rocket Propulsion System Technical Maturation and Risk Reduction*

 Congressional Add: *Rocket engine development*

Congressional Add Subtotals for Project: 650006

Congressional Add Totals for all Projects

	FY 2015	FY 2016
	6.000	-
Congressional Add Subtotals for Project: 650004	6.000	-
	219.600	-
	-	143.346
Congressional Add Subtotals for Project: 650006	219.600	143.346
Congressional Add Totals for all Projects	225.600	143.346

Change Summary Explanation

FY16: \$143.346M Congressional Add for rocket engine development

FY17: \$237.044M added for new or upgraded launch systems investment

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD	Project (Number/Name) 650004 / Evolved Expendable Launch Vehicle
--	---	--

COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
650004: <i>Evolved Expendable Launch Vehicle</i>	1,632.493	6.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1,638.493
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Evolved Expendable Launch Vehicle (EELV) is a Major Defense Acquisition Program (MDAP) Acquisition Category (ACAT) 1D program that procures launch services to deliver National Security Space (NSS) space vehicles (SVs) on orbit.

This program funded the research to develop new rocket propulsion system possibilities, propulsion development, completion of the EELV Secondary Payload Adapter (ESPA), and special studies (to include but not limited to RD-180 engine replacement, alternative manufacturing process, industrial base studies and other related support activities).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
Title: EELV Pre-Planned Product Improvement (P3I) and Special Studies	0.000	0.000	-
Description: Funded EELV product improvements, replacement components, system enhancements, and special studies to allow EELV to meet National Launch Forecast requirements through 2030.			
FY 2015 Accomplishments: Space Launch Range services and capability			
FY 2016 Plans: N/A			
Accomplishments/Planned Programs Subtotals	0.000	0.000	-

	FY 2015	FY 2016
Congressional Add: Space Launch Range Services and Capability	6.000	-
FY 2015 Accomplishments: Developed the capacity to provide mid-to-low inclination orbits or polar-to-high inclination orbits in support of the national security space program at spaceports or launch and range complexes that are commercially-licensed by the Federal Aviation Administration (FAA).		
Congressional Adds Subtotals	6.000	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD	Project (Number/Name) 650004 / Evolved Expendable Launch Vehicle
--	---	--

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SPAF: BA01: Line Item # MSEELV: Evolved Expendable Launch Veh (Space)	0.000	679.851	737.854	0.000	737.854	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.316
• SPAF: BA01: Line Item # MSEELC: Evolved Expendable Launch Veh (Infrast.)	0.000	571.276	768.586	0.000	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.806
• MPAF: BA05: Line Item # # MSEELV: Evolved Expendable Launch Vehicle	732.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11,727.435
• MPAF: BA05: Line Item # MSEELC: Evolved Expendable Launch Veh (Infrast)	687.753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

Remarks

D. Acquisition Strategy

The Air Force structured EELV with a new cost savings acquisition strategy that stabilizes the industrial base through a quantity and rate commitment to the current provider, provides predictability to maintain mission success, and enables on-ramps for other launch vehicle companies referred to as New Entrants. The Air Force, National Reconnaissance Office (NRO), and the National Aeronautics and Space Administration (NASA) agreed to a coordinated strategy for certification of New Entrants to launch payloads in support of NSS requirements. The FY2015 Congressional Add funding was executed through a NASA contract at Wallops Island.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD	Project (Number/Name) 650004 / Evolved Expendable Launch Vehicle
--	---	--

Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Delta IV development	C/FFP	Boeing : Huntington Beach, CA	710.182	0.000		0.000		0.000		0.000		0.000	0.000	710.182	-
Atlas V development	C/FFP	Lockheed Martin : Denver, CO	583.511	0.000		0.000		0.000		0.000		0.000	0.000	583.511	-
Launch Service Development	SS/CPIF	United Launch Services : Denver, CO	185.673	0.000		0.000		0.000		0.000		0.000	0.000	185.673	-
Space Launch Range Service	Various	NASA Wallops Island : TBD	0.000	6.000	May 2015	0.000		0.000		0.000		0.000	0.000	6.000	-
Special studies	Various	Various : TBD	1.826	0.000		0.000		0.000		0.000		0.000	0.000	1.826	-
Subtotal			1,481.192	6.000		0.000		0.000		0.000		0.000	0.000	1,487.192	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Organic Civilian Range Mission Spt	Various	Space and Missile Center : Los Angeles AFB, CA	43.617	0.000		0.000		0.000		0.000		0.000	0.000	43.617	-
Subtotal			43.617	0.000		0.000		0.000		0.000		0.000	0.000	43.617	-

Remarks
Note: FFRDC Mission Assurance & Special Studies moved from Support Category

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD	Project (Number/Name) 650004 / Evolved Expendable Launch Vehicle
--	---	--

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FFRDC	SS/CPAF	Aerospace : El Segundo, CA	82.858	0.000		0.000		0.000		0.000		0.000	0.000	82.858	-
Other Support	Various	Various : Various	24.826	0.000		0.000		0.000		0.000		0.000	0.000	24.826	-
Subtotal			107.684	0.000		0.000		0.000		0.000		0.000	0.000	107.684	-
Project Cost Totals			1,632.493	6.000		0.000		0.000		0.000		0.000	0.000	1,638.493	-

Remarks
N/A

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / <i>Evolved Expendable Launch Vehicle Program (SPACE) - EMD</i>	Project (Number/Name) 650004 / <i>Evolved Expendable Launch Vehicle</i>

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Space Launch Range Services and Capability	[REDACTED]																											
--	------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / <i>Evolved Expendable Launch Vehicle Program (SPACE) - EMD</i>	Project (Number/Name) 650004 / <i>Evolved Expendable Launch Vehicle</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Space Launch Range Services and Capability	3	2015	1	2017

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force										Date: February 2016		
Appropriation/Budget Activity 3600 / 5					R-1 Program Element (Number/Name) PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD				Project (Number/Name) 650006 / Next Generation Launch System Investment			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
650006: Next Generation Launch System Investment	0.000	219.600	227.784	296.572	0.000	296.572	296.715	247.195	197.796	198.629	0.000	1,684.291
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
This program, BA 05 PE 0604853F, project 650006, Launch System Investment, is a new start.

A. Mission Description and Budget Item Justification

This program funds research and development activities and related studies support to invest to invest in new or upgraded launch systems to meet NSS launch needs with two or more domestic commercially viable providers.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
Title: Rocket Propulsion System Development	-	84.438	-
Description: Continue to invest in providers of domestic rocket propulsion systems. This investment enables the transition from the use of non-Allied space launch engines to providers of domestic rocket propulsion systems. Continue to execute Other Transaction Authority (OTA) agreements and various industry solutions utilizing public private partnerships, continue technical maturation and risk reduction activities started in FY15.			
FY 2016 Plans: Execute investments with providers of domestic rocket propulsion systems. This investment enables the transition from the use of non-Allied space launch engines to domestic rocket propulsion systems. Execute four Other Transaction Authority agreements and various industry solutions utilizing public private partnerships, allowing the continued technical maturation and risk reduction activities started in FY15.			
Title: Launch System Investment	0.000	0.000	296.572
Description: Invest in two or more launch service providers' new launch system development and/or upgrades to existing launch systems to provide two or more domestic, commercially-viable launch providers that also meet all NSS requirements, available by the end of FY2022. This investment utilizes Public Private Partnerships to enable the development of new/upgraded launch systems, including domestic Rocket Propulsion Systems (RPS), upper stages, main stages and launch infrastructure. These systems are required to sustain competition while ending the reliance on the Russian RD-180.			
FY 2015 Accomplishments:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD	Project (Number/Name) 650006 / Next Generation Launch System Investment
--	---	---

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
N/A			
FY 2016 Plans: N/A			
FY 2017 Plans: Invest in domestic launch providers' launch systems. This investment is for the providers' development of new launch systems or upgrades to existing launch systems with the goal of two or more domestic, commercially-viable launch providers that also meet NSS requirements. Conduct technical maturation and risk reduction activities.			
Accomplishments/Planned Programs Subtotals	0.000	84.438	296.572

	FY 2015	FY 2016
Congressional Add: Rocket Propulsion System Technical Maturation and Risk Reduction	219.600	-
FY 2015 Accomplishments: Continue Rocket Propulsion System development by executing Other Transaction Authority (OTA) agreements and various industry solutions utilizing public private partnerships for Rocket Propulsion System (RPS) prototypes. Conducted special studies (to include, but not limited to, alternate manufacturing processes, launch system architecture, and other related activities). Continued efforts to provide robust modeling and design tools, reduced the risk of key propulsion system components, invested in material and manufacturing development, and advanced propulsion technologies.		
Congressional Add: Rocket engine development	-	143.346
FY 2016 Plans: Execute investments with providers of domestic rocket propulsion systems for rocket engine development. This investment enables the transition from the use of non-allied space launch engines to domestic rocket propulsion systems. Execute four Other Transaction Authority agreements and various industry solutions utilizing public private partnerships.		
Congressional Adds Subtotals	219.600	143.346

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• SPAF BA01: Line Item #	0.000	679.851	737.854	0.000	737.854	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.316
MSEELV: Evolved Expendable Launch Veh (Space)											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force										Date: February 2016	
Appropriation/Budget Activity 3600 / 5				R-1 Program Element (Number/Name) PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD				Project (Number/Name) 650006 / Next Generation Launch System Investment			

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

Line Item	FY 2015	FY 2016	FY 2017	FY 2017	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Cost To	
			Base	OCO	Total					Complete	Total Cost
• SPAF: BA01: Line Item # MSEELC: Evolved Expendable Launch Veh (Infrast)	0.000	571.276	768.586	0.000	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.806
• MPAF: BA05: Line Item # MSEELV: Evolved Expendable Launch Veh (Space)	732.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11,727.435
• MPAF: BA05: Line Item # MSEELC: Evolved Expendable Launch Veh (infrast)	687.735	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

Remarks

D. Acquisition Strategy

The Department intends to pursue a strategy to competitively invest in two or more domestic launch providers' development of new launch systems or upgrades to existing systems. This shared investment approach may also leverage commitments to a portion of the planned phase 2 launch services (planned for launch between FY2020 and FY2024) to decrease the required up front Government investment.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 5				PE 0604853F / Evolved Expendable Launch Vehicle Program (SPACE) - EMD				650006 / Next Generation Launch System Investment							
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Rocket Propulsion System Development	C/TBD	Various : TBD	0.000	159.223	Jan 2016	213.709	Mar 2016	0.000		0.000		0.000	0.000	372.932	-
Booster Propulsion Technology Maturation	Various	Various : TBD	0.000	55.296	Mar 2015	0.040	Dec 2015	3.300	Dec 2016	0.000		3.300	0.000	58.636	-
FFRDC Mission Assurance	SS/CPAF	Aerospace : El Segundo, CA	0.000	3.294	Oct 2015	1.098	Oct 2015	5.262	Oct 2016	0.000		5.262	4.204	13.858	-
Launch Enterprise System Engineering and Integration	C/FP	Various : TBD	0.000	0.000		1.813	Mar 2016	3.423	Mar 2017	0.000		3.423	16.938	22.174	-
Launch System Investment	C/TBD	Various : TBD	0.000	0.000		0.000		270.351	Dec 2016	0.000		270.351	885.681	1,156.032	-
Subtotal			0.000	217.813		216.660		282.336		0.000		282.336	906.823	1,623.632	-
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Organic Civilian Support	Reqn	DOD : TBD	0.000	0.000		0.995	Apr 2016	1.848	Oct 2016	0.000		1.848	5.754	8.597	9.723
Subtotal			0.000	0.000		0.995		1.848		0.000		1.848	5.754	8.597	9.723
Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC	SS/CPAF	Aerospace : El Segundo, CA	0.000	0.000		1.830	Oct 2015	2.164	Oct 2016	0.000		2.164	1.270	5.264	5.263

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / <i>Evolved Expendable Launch Vehicle Program (SPACE) - EMD</i>	Project (Number/Name) 650006 / <i>Next Generation Launch System Investment</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Next Generation Rocket Engine Risk Reduction	1	2015	2	2018
Rocket Propulsion System Development	1	2016	2	2017
Launch System Investment	1	2017	4	2021

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED