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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3620F: <i>Research, Development, Test & Evaluation, Space Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 1206853SF / <i>National Security Space Launch Program (SPACE) - EMD</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	224.421	82.188	23.392	0.000	23.392	7.289	2.828	4.325	4.411	0.000	348.854
650006: <i>Next Generation Launch System Investment</i>	-	224.421	82.188	23.392	0.000	23.392	7.289	2.828	4.325	4.411	0.000	348.854
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Prior Years Funding \$2,089.431M was executed in PE 1206853F.

A. Mission Description and Budget Item Justification

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

NSSL Phase 2 development, started late FY 2014, funds research and development activities and related studies, to include, but not limited to, investments in new and/or upgraded launch systems and associated launch facilities to meet NSS launch needs leveraging domestic commercial launch providers. The RDT&E program will also fund continued research and development activities, mission manifest capability development & future studies for emerging NSS launch needs. These efforts will develop technologies for space access, mobility, and logistics (SAML) through multiple public-private partnerships; help sustain the U.S. industrial base; address emergent needs for launch-related space access and lower procurement costs by promoting competition. Examples include, but are not limited to, orbital transfer, on-orbit servicing, digital engineering, debris removal and novel on-orbit propulsion technologies.

The Space Force will continue investments in the Launch Service Agreement (LSA) public-private partnership with United Launch Alliance Vulcan Centaur for launch system development. Future development to capitalize on new technology and innovations developed by industry may continue to utilize public-private partnerships. The Space Force will also be leveraging opportunities to integrate Department of Defense payloads on to launch services procured commercially or by other Government agencies (e.g. NASA) where excess margin is available.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392SF and 1206398SF. In PY \$1.235M was expended for civilian pay expenses in this program element, and in CY \$2.205M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 5, System Development and Demonstration (SDD) 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.

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	232.648	82.188	23.351	0.000	23.351
Current President's Budget	224.421	82.188	23.392	0.000	23.392
Total Adjustments	-8.227	0.000	0.041	0.000	0.041
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-8.227	0.000	0.041	0.000	0.041

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

Project: 650006: Next Generation Launch System Investment

Congressional Add: NSSL Payload Processing Facility

Congressional Add: Space Mobility and Logistics

Congressional Add Subtotals for Project: 650006

Congressional Add Totals for all Projects

	FY 2023	FY 2024
Congressional Add: NSSL Payload Processing Facility	77.189	0.000
Congressional Add: Space Mobility and Logistics	28.945	0.000
Congressional Add Subtotals for Project: 650006	106.134	0.000
Congressional Add Totals for all Projects	106.134	0.000

Change Summary Explanation

FY 2025: 0.041M HHQ adjustments

FY 2024: -0.541M to realign funding to APPN 3410, PE 1207804SF (SAG 13C), for fiscal policy compliance as Space Systems Command (SSC) establishes Headquarters functions and a Chief Information Office (CIO) for integrated cybersecurity. -0.173M CGR FFRDC

FY 2023: -1.455M CGR FFRDC. +110.000M Congressional Add. -\$8.227M SBIR reduction (-\$4.361M regular budget/- \$3.866M Congressional Add)

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

Title:	FY 2023	FY 2024	FY 2025
Title: Launch Service Agreement	118.287	82.188	23.392
Description: Invest in providers of domestic Launch Services. This investment enables the transition from the use of non-Allied space launch engines to commercial launch services that also meet NSS needs. Execute Other Transaction Authority (OTA)			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>agreements to develop various industry solutions utilizing public-private partnerships. Continue the technical maturation and risk reduction activities in support of Launch Service OTAs.</p> <p>FY 2024 Plans: Continue the NSSL Phase 2 public-private partnership investment with United Launch Alliance (ULA) for the development of the Vulcan Centaur launch system. This investment includes continued development for the heavy lift (Category C) capability of the Vulcan Centaur, including Design Certification Review, and complete the West Coast space launch complex improvements. Additionally, FY 2024 funding will allow the program to rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities include, but are not limited to, program office support, studies, technical analysis, experimentation, prototyping, etc.</p> <p>FY 2025 Plans: Complete the NSSL Phase 2 public-private partnership investment with United Launch Alliance (ULA) for the development of the Vulcan Centaur launch system. This includes completion of the heavy lift (Category C) capability of the Vulcan Centaur and achieving Full Operation Capability (FOC) of the system. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, and activities that may leverage commercial and international opportunities.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The decrease from FY 2024 to FY 2025 is due to the LSA OTA completing in FY25.</p>			
Accomplishments/Planned Programs Subtotals	118.287	82.188	23.392

	FY 2023	FY 2024
<p>Congressional Add: NSSL Payload Processing Facility</p> <p>FY 2023 Accomplishments: Development of payload processing capabilities to support National Security payload processing to support launches from the Eastern Range</p> <p>FY 2024 Plans: N/A</p>	77.189	0.000
<p>Congressional Add: Space Mobility and Logistics</p> <p>FY 2023 Accomplishments: Investments leverage near-term operational capabilities of commercial services and residual RDT&E capacity, which enhance the National Security Space mission area. Funding exploits commercial Space Maneuver and Servicing (SMS) systems already operationally employed and accelerates the development of maneuver and refueling capability in support of Dynamic Space Operations and other</p>	28.945	0.000

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operational requirements. Examples include, but are not limited to, SMS capabilities, on-orbit deployment of enabling and transformational technologies, and in-space transportation. <i>FY 2024 Plans:</i> N/A	FY 2023	FY 2024
Congressional Adds Subtotals	106.134	0.000

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SPSF 01 NSSL00: <i>National Security Space Launch</i>	1,024.803	2,142.846	1,843.757	-	1,843.757	1,743.743	1,913.542	2,034.434	2,156.689	2,388.330	15,248.144

Remarks

E. Acquisition Strategy

Launch Enterprise will continue execution of NSSL Phase 2 Public-Private Partnership investments and NSSL Enabling Investments, including those for Next Generation Rocket Engine Testing and Upper Stage Resiliency Enhancements. Phase 2 consists of RDT&E investment in commercial launch system prototypes developed via the Space Force's Launch Service Agreements (LSAs) and Rocket Propulsion System (RPS) Other Transaction Authority (OTA) agreements to ensure two domestic launch service providers are certified to meet all NSS requirements. Phase 2 ends the use of the Russian RD-180 engine and leverages the U.S. launch industry to meet more stressing national security needs. This strategy ensures space launch operations meet requirements for Assured Access to Space (AATS) codified in 10 USC 2273 and Congressional direction to end U.S. reliance on non-allied propulsion systems. FY 2023 funding used, in partnership with NRO, to enable additional payload processing capacity for future launches. AATS is continuing investment in Space Mobility and Logistics (SAML) with the support of FY 2023 Congressional funding. Development activities foster a robust launch industrial base and leverage launch innovation to maintain American leadership in launch capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3620F / 5				PE 1206853SF / National Security Space Launch Program (SPACE) - EMD				650006 / Next Generation Launch System Investment							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
LSA OTA1	C/Various	United Launch Alliance : Denver, CO	-	86.542	Nov 2022	56.660	Nov 2023	1.560	Nov 2024	-		1.560	Continuing	Continuing	-
LNG/LOX Characterization Testing	Various	Various : Various	-	-		6.249	Dec 2023	-		-		-	Continuing	Continuing	-
Technical Mission Analysis	RO	Aerospace : El Segundo, CA	-	8.738	Dec 2022	2.730	Dec 2023	7.398	Dec 2024	-		7.398	Continuing	Continuing	-
Enterprise System Engineering and Integration (SE&I)	C/CPFF	Various : Various	-	7.844	Nov 2022	1.551	Nov 2023	5.724	Nov 2024	-		5.724	Continuing	Continuing	-
RDT&E SBIR/STTR	TBD	TBD : TBD	-	-		2.539	Mar 2024	0.529	Mar 2025	-		0.529	Continuing	Continuing	-
NSSL Payload Processing Facility	C/TBD	TBD : TBD	-	77.189	Sep 2023	-		-		-		-	Continuing	Continuing	-
Space Mobility and Logistics	C/Various	TBD : TBD	-	28.945	Apr 2023	-		-		-		-	Continuing	Continuing	-
Subtotal			-	209.258		69.729		15.211		-		15.211	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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 : El Segundo, CA	-	2.142	Oct 2022	2.206	Oct 2023	2.246	Oct 2024	-		2.246	Continuing	Continuing	-
Subtotal			-	2.142		2.206		2.246		-		2.246	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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	RO	Aerospace : El Segundo, CA	-	0.954	Dec 2022	0.982	Dec 2023	1.012	Dec 2024	-		1.012	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	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

Launch Service Agreement LSA																												
United Launch Alliance (ULA) LSA OTA																												
ULA LSA OTA Vulcan Certification Flights																												
ULA LSA OTA West Coast Launch Pad Completion																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3620F / 5	R-1 Program Element (Number/Name) PE 1206853SF / <i>National Security Space Launch Program (SPACE) - EMD</i>	Project (Number/Name) 650006 / <i>Next Generation Launch System Investment</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Launch Service Agreement LSA				
United Launch Alliance (ULA) LSA OTA	1	2023	4	2025
ULA LSA OTA Vulcan Certification Flights	2	2024	2	2024
ULA LSA OTA West Coast Launch Pad Completion	3	2024	3	2024