Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force												Date: March 2024
Appropriation/Budget Activity 3620F: *Research, Development, Test & Evaluation, Space Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 1206443SF / *Next-Gen OPIR -- GEO*							
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	1,159.193	1,694.933	719.731	510.806	0.000	510.806	449.932	485.770	509.555	519.606	0.000	6,049.526
657120: *Next-Gen OPIR Space GEO*	1,159.193	1,694.933	719.731	510.806	0.000	510.806	449.932	485.770	509.555	519.606	0.000	6,049.526
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Next-Generation Overhead Persistent Infrared (Next-Gen OPIR) Geosynchronous Earth Orbit (GEO) (Project 657120): The primary mission is to provide initial missile warning of a ballistic missile attack on the US, deployed forces and allies. The Next-Gen OPIR GEO (NGG) missile warning satellites enhance detection and improve reporting of intercontinental ballistic missile launches, submarine ballistic missile launches, and tactical ballistic missile launches. Development consists of new payloads in a highly resilient bus, providing real-time persistent global infrared coverage to meet validated Joint Requirements Oversight Council (JROC) requirements on current and future space domain demands. The Program Office is acquiring the NGG capability in two contract actions. Phase 1 awarded in August 2018 encompasses requirements analysis, design/development, critical path flight hardware procurement, and risk reduction efforts leading to a System Critical Design Review (CDR) in October 2021. Phase 2 was awarded in January 2021 for the manufacturing, assembly, system integration and test, launch, and early on-orbit test through operational acceptance of NGG satellites 1-3.

The Department has assessed the third Satellite Vehicle (SV) is not required as a result of continued positive performance of the Space-Based Infrared System (SBIRS) constellation and the anticipated full operational capability of the Medium Earth Orbit (MEO), Program Element 1206447SF/ Low Earth Orbit (LEO), Program Element 1206446SF missile tracking constellation. As a result, the program has removed the third satellite development efforts. NGG is now a two SV baseline.

The NGG program has been designated as a Major Capability Acquisition.

NGG program prior year costs from PE 1206443SF (Next-Gen OPIR - GEO), Project 657120 (Next-Gen OPIR Space GEO) of $1,159.3 million.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Next-Gen OPIR GEO system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392SF and 1206398SF.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
Appropriation/Budget Activity 3620F: *Research, Development, Test & Evaluation, Space Force I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 1206443SF *I Next-Gen OPIR -- GEO*

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	1,694.933	719.731	509.910	0.000	509.910
Current President's Budget	1,694.933	719.731	510.806	0.000	510.806
Total Adjustments	0.000	0.000	0.896	0.000	0.896
• 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	0.000	0.000	0.896	0.000	0.896

Change Summary Explanation

FY 2025: Decrease of $0.127M due to a realignment to higher priorities; increase of $1.023M due to inflation rates for non-pay and non-fuel purchases.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Next-Gen OPIR GEO	1,694.933	719.731	510.806

Description: Development of the Next-Gen OPIR GEO missile warning satellites with a proven bus, new hardened sensors, and auxiliary payloads for increased resilience. The space segment for GEO missile warning satellites consists of a resilient architecture providing real time persistent global equatorial infrared coverage. The first GEO satellite is required in 2025.

FY 2024 Plans:

FY 2024 funds are required to preserve 2025 initial launch capability (ILC) for SV #1, perform space/ground integration activities, and continue build and integration activities for SV #2. Continue Phase 2 efforts to build and deliver 2 GEO SVs. Conduct system-level assembly and test for the GEO SV #1, including space-to-ground testing to enable discovery and correction of defects critical to launch. Conduct environmental thermal-vacuum testing for the fully assembled SV #1. Continue assembly, integration and test of the second payload. Complete testing of the flight mission payload for SV #2 and delivery for integration into the SV. Continue flight hardware procurement for SV #2. Continue efforts to manufacture, build, integrate, and test the GEO SV #2, including subsystem integration and testing. Continue Enterprise Planning and support for secure communications including government-furnished flight cryptologic units, long-haul communications, launch integration efforts, etc., which were carried in the core project cost category in previous years. Rapidly respond to updated intelligence on threats and implement system resiliency and situational awareness necessary to operate in a contested space domain. Activities include, but are not limited to, program office support, studies, technical analysis, modeling, simulation, experimentation, prototyping.

FY 2025 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Continue Phase 2 efforts to build and deliver 2 GEO SVs. Execute activities to support SV#1 delivery including final space/ ground/launch integration, SV testing, and ground test activities. Implement corrective actions for defects and issues discovered during environmental testing. Continue build, integration, and test of SV#2 including system-level assembly and testing to enable discovery and correction of defects critical to launch. Finish MPL#2 build, assembly, integration, and conduct environmental Thermal Vacuum (TVAC) testing. Continue Enterprise planning and support for launch activities and secure communications including government-furnished cryptologic units, long-haul communications, etc. Rapidly respond to updated intelligence on threats and 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. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** FY 2025 decreased due to completion of non-recurring engineering and material purchases - and the majority of build and integration activities for SV #1.			
Accomplishments/Planned Programs Subtotals	1,694.933	719.731	510.806

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The Space Force intends to rapidly acquire Next-Gen systems in order to out-pace adversary missile and counterspace threats while maintaining survivable, global missile warning capability sufficient to enable a transition to the future Force Design architecture. Next-Gen OPIR GEO consists of two Next-Gen GEO satellites. The Next-Gen OPIR Space program was designated a Middle Tier Acquisition (MTA) Rapid Prototype effort under Section 804 of the 2016 National Defense Authorization Act (NDAA). The Next-Gen OPIR GEO program was re-designated as an Acquisition Category (ACAT)-1B Major Capability Acquisition program in July 2023. The first GEO satellite is required by 2025. The program office awarded a sole source contract under the authority of a Justification & Authorization document. The Next-Gen GEO Phase 1 contract was awarded in FY 2018, consisting of requirements development, critical path flight hardware procurement, and risk reduction efforts culminating in an October 2021 System Critical Design Review (CDR). The Next-Gen GEO Phase 2 modification was awarded in January 2021, and includes scope for parts procurement, assembly, integration, test, launch, and checkout of 3 GEO space vehicles. The third space vehicle was defunded in the FY2024 PB as a result of continued positive performance of the SBIRS constellation and the anticipated operational capability of the Medium Earth Orbit (MEO), Program Element 1206447SF/ Low Earth Orbit (LEO), Program Element 1206446SF missile tracking constellation. NGG is now a two satellite vehicle baseline.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3620F / 5	**R-1 Program Element (Number/Name)** PE 1206443SF / *Next-Gen OPIR -- GEO*	**Project (Number/Name)** 657120 / *Next-Gen OPIR Space GEO*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Next-Gen OPIR GEO (Phase 1 & 2)	Various	Lockheed Martin; Various : Various	1,104.922	1,574.766	Oct 2022	614.264	Oct 2023	430.229	Oct 2024	-		430.229	1,619.212	5,343.393	6,891.125
Enterprise Crypto	Various	General Dynamics; Various : Various	0.000	-		10.991	Oct 2023	8.407	Oct 2024	-		8.407	1.913	21.311	-
Comm GFP	C/CPFF	Sev1 Tech : El Segundo, CA	0.000	-		2.097	Oct 2023	0.000		-		0.000	0.000	2.097	-
Launch Support	Various	Various : Various	0.000	-		16.492	Oct 2023	8.576	Oct 2024	-		8.576	22.363	47.431	-
SE&I	Various	Various : Various	16.589	3.854	Dec 2022	23.033	Nov 2023	13.461	Nov 2024	-		13.461	112.756	169.693	-
Technical Mission Analysis	RO	Aerospace Corporation : El Segundo, CA	15.201	15.923	Oct 2022	17.505	Oct 2023	17.602	Oct 2024	-		17.602	73.199	139.430	-
		Subtotal	1,136.712	1,594.543		684.382		478.275		-		478.275	1,829.443	5,723.355	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC	RO	Aerospace Corporation : El Segundo, CA	7.756	14.328	Oct 2022	10.267	Oct 2023	10.161	Oct 2024	-		10.161	45.031	87.543	-
A&AS	Various	Various : TBD	14.266	85.656	Feb 2023	24.666	Feb 2024	21.920	Feb 2025	-		21.920	84.317	230.825	-
Other Support	Various	Various : TBD	0.459	0.406	Oct 2022	0.416	Oct 2023	0.450	Oct 2024	-		0.450	2.064	3.795	-
		Subtotal	22.481	100.390		35.349		32.531		-		32.531	131.412	322.163	N/A

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,159.193	1,694.933		719.731		510.806		-		510.806	1,960.855	6,045.518	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3620F / 5	**R-1 Program Element (Number/Name)** PE 1206443SF / *Next-Gen OPIR -- GEO*	**Project (Number/Name)** 657120 / *Next-Gen OPIR Space GEO*

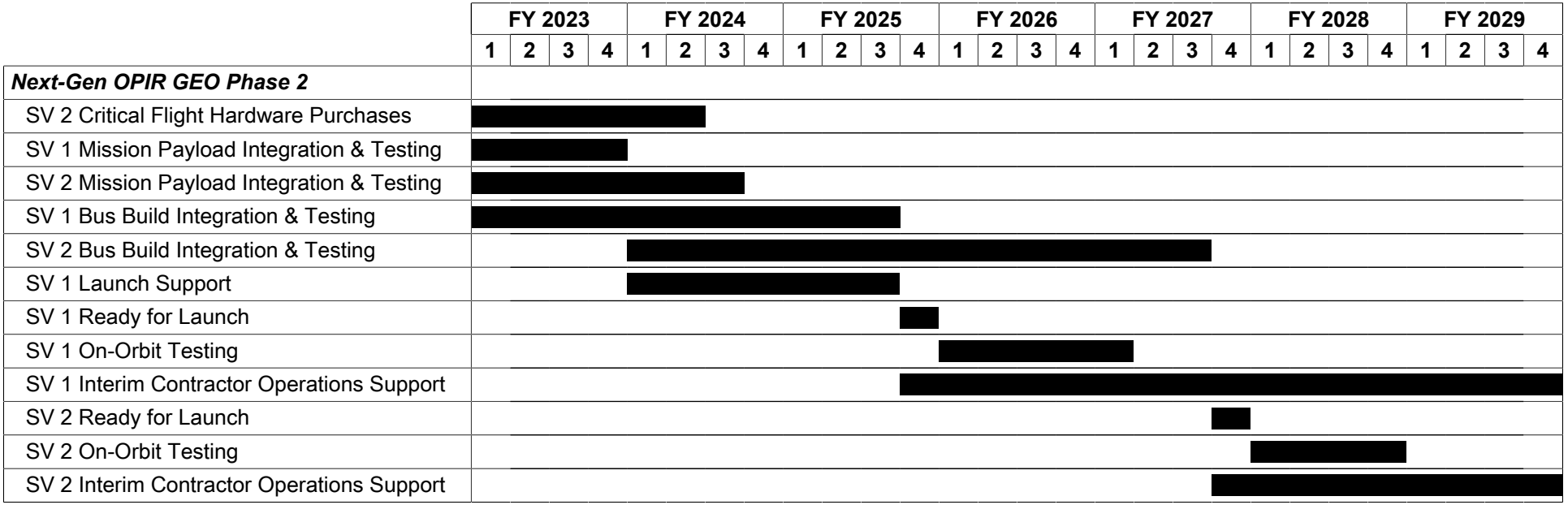

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3620F / 5	**R-1 Program Element (Number/Name)** PE 1206443SF / *Next-Gen OPIR -- GEO*	**Project (Number/Name)** 657120 / *Next-Gen OPIR Space GEO*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Next-Gen OPIR GEO Phase 2				
SV 2 Critical Flight Hardware Purchases	1	2023	2	2024
SV 1 Mission Payload Integration & Testing	1	2023	4	2023
SV 2 Mission Payload Integration & Testing	1	2023	3	2024
SV 1 Bus Build Integration & Testing	1	2023	3	2025
SV 2 Bus Build Integration & Testing	1	2024	3	2027
SV 1 Launch Support	1	2024	3	2025
SV 1 Ready for Launch	4	2025	4	2025
SV 1 On-Orbit Testing	1	2026	1	2027
SV 1 Interim Contractor Operations Support	4	2025	4	2029
SV 2 Ready for Launch	4	2027	4	2027
SV 2 On-Orbit Testing	1	2028	4	2028
SV 2 Interim Contractor Operations Support	4	2027	4	2029