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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3620F: Research, Development, Test & Evaluation, Space Force I BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 1206423SF I Global Positioning System III - Operational Control Segment
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	459.346	388.977	277.052	317.309	0.000	317.309	82.385	22.836	6.616	6.855	0.000	1,561.376
67A021: OCX	405.425	334.680	191.073	200.452	0.000	200.452	19.181	0.000	0.000	0.000	0.000	1,150.811
67A023: OCX Block 3F	0.000	0.000	85.979	116.857	0.000	116.857	63.204	22.836	6.616	6.855	0.000	302.347
67A025: GPS Enterprise Integrator	53.921	54.297	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	108.218

A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) is a space based Positioning, Navigation and Timing (PNT) distribution system which operates through all weather. GPS supports both civil and military users in air, space, sea and land operations. GPS is a satellite-based radio navigation system that serves military and civil users worldwide. GPS users process satellite signals to determine accurate position, velocity and time. GPS must comply with Title 10 United States Code (USC) Sec 2281 which requires that the Secretary of Defense (SECDEF) ensures the continued sustainment and operation of GPS for military and civilian purposes, and 51 USC Sec 50112, which requires that GPS complies with certain standards and facilitates international cooperation. GPS also includes the Nuclear Detonation (NUDET) Detection System (NDS). The Government is responsible for the integration of the GPS Segments such that they provide worldwide GPS capability to support the warfighter and over four billion national security, civil, Allied, and commercial GPS users.

Program Element (PE) 1206423SF funds Research, Development, Test and Evaluation (RDT&E) for the Next Generation Operational Control System (OCX), which includes OCX Blocks 0, 1, and 2, and the upgrade to OCX called OCX Block 3F (OCX 3F), which incorporates Regional Military Protection (RMP) and command and control functionality for GPS III Follow-on (GPS IIIIF) satellites. GPS Enterprise Integrator (EI) activities are systems engineering and integration activities conducted across the space, user, and ground segments. This activity formerly resided in the OCX PE and was switched to the GPS III Follow-on (GPS IIIIF) PE in FY 2023.

OCX acquisition was established to 1) provide command and control of legacy and GPS III satellites, 2) incorporate situational awareness to support Navigation Warfare (NAVWAR) and signal monitoring, 3) enable mission capability upgrades to support a warfighter effects-based approach to operations, and 4) integrate Department of Defense (DoD) information assurance and cybersecurity controls and capabilities. OCX 3F will upgrade OCX to provide RMP, a high-powered military signal which strengthens U.S. and allied forces' GPS resiliency in contested on tested environments to mitigate future jamming threats. OCX 3F also provides the ability to rapidly reconfigure GPS IIIIF satellites to create time-critical warfighter effects. GPS EI is responsible for architecture and system definition (the analysis and definition, management, maintenance, and evolution of the GPS Enterprise requirements and interface technical documents) as well as for the planning, execution, and fielding of the GPS Enterprise.

OCX and OCX 3F funds support efforts such as engineering studies and analyses, architectural engineering studies, trade studies, technology needs forecasting, modernization initiatives, systems engineering, system development, resolving obsolescence issues, test and evaluation efforts, pre-operational support activities, and interim contractor support. These activities support upgrades and product improvements for military and civil applications necessary to enable efforts to protect the

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Appropriation/Budget Activity 3620F: <i>Research, Development, Test & Evaluation, Space Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	
<p>United States Military and Allies' use of GPS. Additionally, funds ensure OCX and OCX Block 3F efforts meet Joint Requirements Oversight Council (JROC) approved required capabilities.</p> <p>OCX Block 1 and 2 primary development concludes at system acceptance executed via DoD Form DD 250 (planned for late FY 2023). Pre-Operational Support (pre-ops acceptance) and Interim Contractor Support (ICS) (post-ops acceptance) is the final contract phase that completes development, achieves the program's final Acquisition Program Baseline (APB) milestone Ready to Transition to Operations (RTO), supports Operational Acceptance (OA), and transitions OCX to long-term sustainment. Specifically, ICS provides contractor support services to sustain and provide capability insertions; maintain system performance requirements; and participate in government led events, maintenance, integrated supply support, security, and launch activities. RDT&E funded government activities include Development Test and Evaluation (DT&E), GPS Constellation Transfer (CTX), Operational Test and Evaluation OT&E, and OA. Upon completion of those activities, OCX will prepare for, and transition to O&M funded Contractor Logistics Support (CLS).</p> <p>OCX 3F, which achieved Milestone B May 2022, is required to launch and operationally command and control GPS IIIF space vehicles. OCX 3F will upgrade OCX with new capabilities to synchronize with GPS IIIF Space Segment and Military GPS User Equipment (MGUE) Increment 2 capabilities. This includes master control station development, GPS system simulator modification, launch and mission planning development, training simulators, integrated logistics support products, test resources, systems engineering required to meet the Government's obligations to the international, military and civil communities, and system requirements verification. OCX 3F will maintain backward compatibility to support the legacy constellation develop solutions necessary to command, control and monitor GPS IIIF, to include integration of RMP high power regional M-code signals, rapid warfighter effects and support to GPS auxiliary payloads.</p> <p>The GPS EI project, transferred from the OCX PE 1206423SF to the GPS IIIF PE 1203269SF in FY23, includes critical efforts associated with the Government's responsibility to accomplish integration of multiple prime contracts across the three GPS enterprise segments, along with the transition to sustainment and operational communities. GPS EI maintains the current GPS architecture and system definition, controls and validates interfaces, ensures compatibility across current Generation II and III systems, and supports ongoing developments within the Space, Ground Control, and User Equipment Segments. GPS EI also develops/manages plans for execution and fielding of new capability like the new Military Code for use at the earliest opportunity. Further, GPS EI provides modeling, simulation, and technical analyses of impacts for Government directed enterprise level trades among the GPS segments leading to definition, management, maintenance, and evolution of the GPS Enterprise requirements and interface technical documents to build and ensure the integrity of the enterprise technical baseline, and perform system requirements verification.</p> <p>GPS EI project funds the technical evolution, risk reduction, enterprise-level testing and delivery of all GPS Enterprise, capabilities. The GPS EI project also assists in the analysis and assessment of futures technology to continue the advancement of the GPS enterprise ensuring GPS capabilities continue to be at the forefront. Examples for Generation II include electronic protection, for Generation III, additional anti-jamming protection and additional civil signals. To accomplish this, GPS EI delivers Test and Verification capabilities, Requirements and Interface Management, and Systems Integration support across the Space, Control, and User Segments. In this capacity, GPS EI is responsible for managing this cross-program work to provide these and other capabilities.</p> <p>GPS EI's analyses guide Government decisions to ensure efficient and effective synchronization and execution across all Generation II and III GPS programs. For Enterprise-wide integration to be successful, the GPS EI: works with the GPS and NDS prime contractor teams to develop plans for early risk reduction System</p>		

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Appropriation/Budget Activity 3620F: <i>Research, Development, Test & Evaluation, Space Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>
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Integration Demonstrations to ensure system interfaces and functionality meet user and system requirements; ensures all equipment and documentation is ready when needed; integrates and analyzes enterprise schedules; and conducts formal test and verification, including Requirement Verification Plans and System Test Plans and Procedures. GPS EI performs all these efforts across all PNT programs in all acquisition phases. The Government owns the GPS Enterprise system requirements and integration, and highly leverages the GPS EI team to eliminate the need to fund a development prime contractor to perform these functions. This enhances Government control, oversight and program accountability.

Space acquisition must respond with speed and agility to pacing and emerging adversary threats. Space Systems Command (SSC) has transformed the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SSC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This PE may include necessary civilian pay expenses required to manage, execute, and deliver OCX and OCX 3F weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in PEs 1206392SF and 1206398SF.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	402.532	359.720	274.887	0.000	274.887
Current President's Budget	388.977	277.052	317.309	0.000	317.309
Total Adjustments	-13.555	-82.668	42.422	0.000	42.422
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-82.668			
• 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	-13.555	0.000			
• Other Adjustments	0.000	0.000	42.422	0.000	42.422

Change Summary Explanation

FY 2023: -\$82.668M Congressional Directed Reduction

FY 2024: +\$43.000M to support Blocks 1 and 2 development completion, and transition to pre-operational support/ICS phase. Plus OCX 3F software sustainment, and development costs from new Agile cost model.

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FY 2024: $-\$1.806\text{M}$ 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.
FY 2024: $+\$1.228\text{M}$ Inflation adjustment

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Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A021 / OCX
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
67A021: OCX	405.425	334.680	191.073	200.452	0.000	200.452	19.181	0.000	0.000	0.000	0.000	1,150.811
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Prior Years Funding \$4,366.725M was executed in PE 1206423F.

A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) is a space based Position, Navigation and Timing (PNT) distribution system which operates through all weather. This project funds the research and development for the Next Generation Operational Control System (OCX). This includes, but is not limited to: advanced concept development, systems engineering and analysis, modernized control segment and mission planning development, modernization/deployment of 17 monitor stations, training simulators, integrated logistics support products, and test resources.

OCX acquisition was established to: 1) provide command and control of legacy and GPS III satellites; 2) incorporate situational awareness to support Navigation Warfare (NAVWAR) and signal monitoring; 3) enable mission capability upgrades to support a warfighter effects-based approach to operations; and 4) integrate DoD information assurance and cybersecurity controls and capabilities. OCX funds will support efforts such as engineering studies and analyses, architectural engineering studies, trade studies, technology needs forecasting, technology development, systems engineering, system development, test and evaluation efforts, pre-operational support activities, and interim contractor support, in support of upgrades and product improvements for military and civil applications necessary to support efforts to protect the United States military and Allies' use of GPS. Additionally, funds will ensure efforts to meet Joint Requirements Oversight Council (JROC) approved required capabilities.

OCX Block 0 is the Launch and Checkout System (LCS) intended to conduct Launch and Early Orbit (LEO) operations and the on-orbit checkout of all GPS III satellites. The 2nd Space Operations Squadron (2SOPS) can also call upon OCX Block 0 capabilities at any time to support GPS III anomaly resolution activities. OCX Block 0 is a subset of OCX Block 1.

OCX Block 1 fields the operational capability to control all legacy satellites, the legacy civil signal (L1C/A), the legacy military signals (L1P(Y), L2P(Y)) as well as the GPS III satellites and the modernized civil signal (L2C) and the aviation safety-of-flight signal (L5). In addition, Block 1 will field the basic operational capability to control the modernized military signals (L1M and L2M M-Code), and the globally compatible signal (L1C). It also fully meets information assurance/cyber defense requirements.

OCX Block 2 fields the advanced operational capability to control the advanced features of the modernized military signals (L1M and L2M M-Code). Blocks 1 & 2 are being delivered concurrently as a result of the Oct 2016 Nunn-McCurdy review.

In FY 2023, the effort for OCX Block 3F (OCX 3F) was captured in a new Project 67A023, OCX Block 3F, for transparency. OCX 3F will modify OCX Blocks 1 and 2 to field new capabilities in support of the GPS III Follow-On (GPS IIIF) production program and incorporate RMP to handle future threats. OCX 3F will upgrade OCX with new capabilities to synchronize with GPS III Follow-on (GPS IIIF) Space Segment and Military GPS User Equipment (MGUE) Increment 2 capabilities. OCX 3F will

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force	Date: March 2023
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maintain backward compatibility with the existing capabilities to support the legacy GPS constellation and integrate into Block 1 and 2 and future efforts to support GPS IIF. The OCX 3F effort will develop solutions necessary to launch, command, control, and monitor GPS IIF spacecraft and include advance collection and integration of RMP high-power regional Military Code (M-Code) signals, rapid warfighter effects, and support to GPS IIF auxiliary payloads including Nuclear Detonation (NUDET), NUDET Detection System (NDS), and Search and Rescue (SAR).

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

	FY 2022	FY 2023	FY 2024
<p>Title: OCX Development</p> <p>Description: Development of Next Generation Operational Control System (OCX) system to launch Global Positioning System (GPS) III, operate a mixed GPS II and GPS III constellation, and provide for a robust Information Assurance system.</p> <p>FY 2023 Plans: Continue contractor support of the OCX Block 0 baseline that is supporting the launch checkout, and anomaly support for GPS III satellites. For Blocks 1/2, address and resolve technical challenges that have delayed completion of formal qualification and system acceptance testing and DD250 into Fourth Quarter FY2023; also study and implement updates and operational procedures to meet the intent of multiple Positioning Signal Integrity and Continuity Assurance (PSICA) related requirements. Also, in support of those activities, continue software fixes, version updates, software patches, and maintaining the global monitor stations. Prepare closeout activities post-DD250 for applicable contract line items. Award and begin Pre-Operational Support (pre-ops acceptance) and Interim Contractor Support (ICS) (post-ops acceptance) activities for OCX Block 0 and Blocks 1/2. Pre-Operational support activities occur with the program office's system acceptance via DD250 but prior to the warfighter's Operational Acceptance (OA). The contractor will provide extensive critical support to certify OCX as ready for Operational Testing (OT): training, demonstrations, readiness campaigns, and enterprise level tests among ground, space, and users. Continue to rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but not limited to, program office support, studies, technical analysis, experimentation, prototyping, etc.</p> <p>FY 2024 Plans: Focus on executing Pre-Ops Support/ICS contract line items (i.e., on-going ICS for OCX Blocks 0 and Blocks 1/2). Continue supporting the launch checkout and anomaly resolution of GPS III satellites. Perform maintenance activities for Blocks 1 and 2, provide contractor staff to support government activities, and conduct pre-planned system updates to align ground capabilities with GPS enterprise changes involving the space and user segments. Begin activities to achieve Blocks 1/2 OA. Planned activities include: Development Testing (Integrated System Test 3-1 (IST 3-1)), contractor performed crew operations, supporting additional crew, training, performing transition rehearsals that validate the procedures to transition the GPS satellite constellation to OCX, transferring the GPS Constellation from the legacy Operational Control System (OCS) to OCX, troubleshooting issues and/or rectifying deficiency reports levied by the operational community in connection with Operational Test and Evaluation (OT&E), and conducting OT&E that culminates with OA. Interim Contractor Support begins immediately upon OA, and the contractor will continue maintenance and pre-planned system updates providing contractor crew operators, support to crew training, and support for other GPS constellation activities. O&M funded long-term Contractor Logistics Support (CLS). CLS transition activities may</p>	251.275	173.854	189.123

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023		
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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>entail, but are not limited to: movement of depot support equipment, laboratories, simulators, upgrades to fielded interfaces, and stand-up of organic Depot Support activities. Finally, ICS must continue to rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. These activities may include, but are not limited to: program office support, studies, technical analysis, experimentation, prototyping, etc.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 increased to support: Focus on executing Pre-Ops Support/ICS contract line items; troubleshooting issues and/or rectifying deficiency reports levied by the operational community in connection with DT, RTO, and OT prep.</p>				
<p>Title: Technical Support</p> <p>Description: Development of the Standardized Space Trainer (SST) to provide GPS III operator training. Development of Enterprise Mission Planning Systems. Facilities upgrades for Control Stations and associated equipment and servers. Systems Engineering (SE) including Technical Mission Analysis (TMA), Modernization SE and Technical Support, and Test and Evaluation (T&E).</p> <p>FY 2023 Plans: Support upgrade of Enterprise Mission Planning Systems as required. Continue data collection and tuning of the monitoring stations equipment as needed. Continue witnessing contractor testing in support of system acceptance. Perform SE and technical support and analysis for planning government led development testing, and operational acceptance testing. Provide contract technical support and assistance as required. Continue support towards OCX Block 1 and 2 Ready to Transition to Operation milestone.</p> <p>FY 2024 Plans: Continue data collection and tuning of the monitoring stations equipment as needed. Continue Systems Engineering and technical support and analysis for Government led testing, and operational demonstrations, exercises, and training. Assist with plans for transition to sustainment, provide contract technical support, and assist with closeout activities as required.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 decreased due to ramp down of technical support effort after DD250; less documentation to review and system engineering to perform.</p>		14.694	17.219	11.329
<p>Title: OCX Block 3F</p> <p>Description: OCX Block 3F will upgrade OCX Block 1 & 2 with new capabilities necessary for the launch and operation of GPS IIIIF and incorporate RMP to handle future threats. OCX Block 3F will maintain backward compatibility to support the legacy constellation develop solutions necessary to command, control and monitor GPS IIIIF, to include advance collection and integration of RMP high power regional M-code signals, rapid warfighter effects and support to GPS auxiliary payloads.</p>		68.711	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: N/A			
FY 2024 Plans: N/A			
FY 2023 to FY 2024 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	334.680	191.073	200.452

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 1203265F: <i>GPS III Space Segment</i>	6.998	1.526	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	8.524
• RDTE 05 1203269SF: <i>GPS III Follow-on</i>	237.947	232.783	247.278	-	247.278	190.442	128.163	100.481	9.000	277.486	1,423.580
• SPSF 01 GPSIII: <i>GPS III Space Segment</i>	84.452	103.340	121.770	-	121.770	75.491	50.078	2.809	0.000	0.000	437.940
• SPSF 01 GPS03C: <i>GPSIII Follow On</i>	835.176	616.962	119.700	-	119.700	678.531	708.802	743.060	758.646	2,051.461	6,512.338

Remarks

D. Acquisition Strategy
The Space Force is pursuing a "Block" approach for OCX in order to respond to warfighter capability requirements. Enterprise studies will ensure GPS Enterprise synchronization across space and ground segments.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
GPS OCX Phase B OCX Block 1 & 2 Development	C/CPAF	Raytheon : Aurora, CO	289.954	232.361	Oct 2021	152.855	Oct 2022	2.600	Oct 2023	-		2.600	0.000	677.770	3,876.024
GPS OCX Pre Operational and Interim Contractor Support	SS/CPIF	Raytheon : Aurora, CO	0.000	-		5.000	Jul 2023	166.548	Oct 2023	-		166.548	16.926	188.474	-
GPS OCX SBIR/STTR	Various	Various : Various	0.000	-		-		7.016	Mar 2024	-		7.016	0.671	7.687	-
GPS OCX Block 3F Development	Various	Various : Various	62.308	68.711	Nov 2021	-		-		-		-	0.000	131.019	-
GPS OCX Technical Mission Analysis	RO	Aerospace : El Segundo, CA	13.660	7.488	Nov 2021	5.408	Nov 2022	3.151	Nov 2023	-		3.151	0.000	29.707	-
GPS OCX Enterprise SE&I	C/CPAF	TASC : El Segundo, CA	11.162	2.869	Nov 2021	1.028	Nov 2022	0.276	Nov 2023	-		0.276	0.000	15.335	-
GPS OCX Modernization/ SE & Tech Support	Various	Various : Various	5.374	0.990	Nov 2021	10.332	Nov 2022	8.178	Nov 2023	-		8.178	0.767	25.641	-
GPS OCX Standardized Space Trainer (SST)	C/CPAF	Sonalyt, Inc. : Waterford, CT	6.000	0.316	Nov 2021	-		-		-		-	0.000	6.316	-
GPS OCX Enterprise Mission Planning	MIPR	Various : Various	5.800	5.900	Jan 2022	-		-		-		-	0.000	11.700	-
Subtotal			394.258	318.635		174.623		187.769		-		187.769	18.364	1,093.649	N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
GPS OCX T&E	C/Various	Various : Various	4.355	-		1.479	Nov 2022	-		-		-	0.000	5.834	-
Subtotal			4.355	-		1.479		-		-		-	0.000	5.834	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
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	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
OCX																												
Block 1 / 2 Certificate of Conformance	■																											
Block 0 / 1 / 2 Pre-operational Support and Interim Contractor Support																												
DD250																												
Contract Closeout																												
System Acceptance Test (SAT)																												
OCX Block 1 Ready to Operate (RTO)																												
OCX Block 3F																												
GPS System Simulator																												
Global PNT Capability																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
OCX				
Block 1 / 2 Certificate of Conformance	1	2022	1	2022
Block 0 / 1 / 2 Pre-operational Support and Interim Contractor Support	4	2023	2	2025
DD250	1	2024	1	2024
Contract Closeout	1	2023	4	2025
System Acceptance Test (SAT)	4	2023	4	2023
OCX Block 1 Ready to Operate (RTO)	3	2024	3	2024
OCX Block 3F				
GPS System Simulator	1	2022	4	2022
Global PNT Capability	1	2022	4	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force **Date:** March 2023

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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
67A023: <i>OCX Block 3F</i>	0.000	0.000	85.979	116.857	0.000	116.857	63.204	22.836	6.616	6.855	0.000	302.347
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

OCX Block 3 Follow-on (OCX 3F) will modify OCX Command and Control (C2) for new Global Positioning System (GPS) III Follow-On (GPS IIIF) satellites and Military GPS User Equipment (MGUE) system capabilities, including Regional Military Protection (RMP) high-powered military signal to strengthen U.S. and allied forces' GPS resiliency in contested environments to mitigate future threats, and the ability to rapidly reconfigure GPS IIIF satellites to create time-critical warfighter effects. OCX 3F will maintain backward compatibility with the existing OCX capabilities to support the legacy GPS constellation as well as GPS IIIF. OCX 3F includes critical functions necessary to launch, command, control, and monitor GPS IIIF spacecraft, collect and integrate RMP high-power regional Military Code (M-Code) signals for rapid warfighter effects, and support GPS IIIF auxiliary payloads, including Search and Rescue (SAR) and Nuclear Detonation (NUDET) Detection System (NDS).

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

	FY 2022	FY 2023	FY 2024
Title: OCX Block 3F	0.000	85.979	116.857
Description: OCX Block 3F upgrades OCX Block 1 & 2 with new capabilities in support of GPS IIIF and incorporate RMP to handle future threats. OCX 3F will maintain backward compatibility to support the legacy constellation develop solutions necessary to command, control and monitor GPS IIIF, to include advance collection and integration of RMP high power regional M-code signals, rapid warfighter effects and support to GPS auxiliary payloads.			
FY 2023 Plans: Continue OCX 3F Command and Control (C2) system development, integration and test, and training capabilities to support GPS IIIF launch, checkout, and on-orbit operations. Support early Enterprise risk reduction integration exercises with GPS IIIF space vehicles. Continue software coding and development of C2 capabilities for Regional Military Protection (RMP) and Rapid Warfighter Effects (RWE). Begin accreditation of the GPS System Simulator for OCX 3F and work on development of the Global Positioning, Navigation, and Timing (PNT) critical capability. Support GPS Systems Integration (SI) Demonstrations to mitigate risks for key interfaces and functionality between the GPS space, ground and user equipment segments. Continue cybersecurity resiliency development and test and support Tabletop exercises to identify and mitigate cybersecurity threats. Upgrade Enterprise Mission Planning Systems to use OCX 3F. Develop OCX 3F upgrades for Standardized Space Trainer (SST) to support OCX 3F C2 operator training. 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, etc.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A023 / <i>OCX Block 3F</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>Deliver initial OCX 3F Launch and Checkout System (LCS) software to support enterprise integration risk reduction events with GPS III F space vehicles. Initiate refresh of LCS hardware to support Enterprise events. Continue system development, integration and test, and training capabilities to support GPS III F launch, checkout, and on-orbit operations. Continue software coding and development of C2 capabilities for RMP and RWE. Finalize accreditation of and complete upgrades to the OCX 3F GPS System Simulator and work on development of the Global Positioning, Navigation, and Timing (PNT) critical capability. Support GPS Systems Integration (SI) Demonstrations to mitigate risks for key interfaces and functionality between the GPS space, ground and user equipment segments. Continue cybersecurity resiliency development and test and support Tabletop exercises to identify and mitigate cybersecurity threats. Incorporate Enterprise Mission Planning Systems capability into OCX 3F baseline. The Enterprise Mission Planning Systems enable Over the Air Rekey capability and other navigation warfare effects taskings. Develop OCX 3F upgrades for SST to support OCX 3F C2 operator training. 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, etc.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 increased due to the support for testing of initial delivery of the LCS software and maturity of OCX 3F specific upgrade efforts for Enterprise Mission Planning System and SST.</p>			
Accomplishments/Planned Programs Subtotals	0.000	85.979	116.857

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• SPSF 01 1203265SF: <i>GPS III Space Segment</i>	84.452	103.340	121.770	-	121.770	75.491	50.078	2.809	0.000	0.000	437.940
• SPSF 01 GPS03C: <i>GPS III Follow On</i>	835.176	616.962	119.700	-	119.700	678.531	708.802	743.060	758.646	2,051.461	6,512.338
• RDTE 07 1203265F: <i>GPS III Space Segment</i>	7.207	1.526	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	8.733
• RDTE 05 1203269SF: <i>GPS III Follow-On (GPS III F)</i>	237.947	232.783	247.278	-	247.278	190.442	128.163	100.481	9.000	277.486	1,423.580

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A023 / <i>OCX Block 3F</i>

D. Acquisition Strategy

OCX Block 3F is a separate, tailored Acquisition Category (ACAT) II program. It is part of the overall GPS Enterprise Modernization effort. The OCX 3F development contract was awarded sole source to Raytheon Intelligence and Space in 3rd Quarter FY 2021. The OCX 3F program uses an agile software development approach to upgrade the OCX system to support the first GPS III F satellite launch, while also maintaining backwards compatibility for C2 of the existing GPS satellite constellation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A023 / <i>OCX Block 3F</i>
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
OCX 3F Development	C/CPAF	Raytheon : Aurora, CO	0.000	-		65.484	Oct 2022	86.906	Oct 2023	-		86.906	Continuing	Continuing	-
OCX 3F SBIR/STTR	Various	Various : Various	0.000	-		-		4.090	Mar 2024	-		4.090	Continuing	Continuing	-
OCX 3F Technical Mission Analysis	RO	Aerospace : El Segundo, CA	0.000	-		3.789	Nov 2022	4.589	Nov 2023	-		4.589	Continuing	Continuing	-
OCX 3F Enterprise SE&I	C/CPAF	TASC : El Segundo, CA	0.000	-		0.622	Nov 2022	2.890	Nov 2023	-		2.890	Continuing	Continuing	-
OCX 3F Enterprise Mission Planning	MIPR	Various : Various	0.000	-		5.900	Jan 2023	7.000	Jan 2024	-		7.000	Continuing	Continuing	-
OCX 3F Modernization/SE & Tech Support	Various	Various : Various	0.000	-		-		1.214	Nov 2023	-		1.214	Continuing	Continuing	-
OCX 3F Standardized Space Trainer (SST)	C/CPAF	Sonalyt, Inc : Waterford, CT	0.000	-		1.943	Nov 2022	3.471	Nov 2023	-		3.471	Continuing	Continuing	-
Subtotal			0.000	-		77.738		110.160		-		110.160	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
OCX 3F FFRDC	RO	Aerospace : El Segundo, CA	0.000	-		0.765	Oct 2022	1.041	Oct 2023	-		1.041	Continuing	Continuing	-
OCX 3F A&AS	Various	Various : Various	0.000	-		7.108	Nov 2022	5.356	Nov 2023	-		5.356	Continuing	Continuing	-
OCX 3F Other Support	Various	Various : Various	0.000	-		0.368	Oct 2022	0.300	Oct 2023	-		0.300	Continuing	Continuing	-
Subtotal			0.000	-		8.241		6.697		-		6.697	Continuing	Continuing	N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	-	85.979	-	116.857	-	116.857	Continuing

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A023 / <i>OCX Block 3F</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
OCX Block 3F				
OCX 3F GPS System Simulator	1	2023	3	2024
OCX 3F Core Software Development	1	2023	2	2025
OCX 3F Support GPS IIIF Integration Exercises	2	2023	4	2025
OCX 3F Satellite Integration, Launch Readiness and Ops Test	1	2026	4	2028
OCX 3F Deploy to Master Control Station (MCS) Operations	2	2026	2	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force										Date: March 2023		
Appropriation/Budget Activity 3620F / 7					R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>				Project (Number/Name) 67A025 / <i>GPS Enterprise Integrator</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
67A025: <i>GPS Enterprise Integrator</i>	53.921	54.297	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	108.218
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2023, PE 1206423SF, Global Positioning System III - Operational Control Segment, Project 67A025, GPS Enterprise Integrator efforts were transferred PE 1203269SF, Global Positioning System III F, Project 653171, Space Programs in order to continue enterprise integration activities to support GPS III F Space, Ground and User Segment.

A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) Program Office established and maintains the technical baseline and is responsible for the successful fielding of all the GPS Segments (space, control, and user). In order to successfully execute these responsibilities, GPS Enterprise Integrator (EI) creates an enterprise architecture, integrates segment products, verifies the enterprise requirements are adequately met, develops and implements various Systems Engineering documents, defines methods of verification, conducts integrated system test and test analysis, develops and manages the Enterprise technical baseline which reflect multiple stakeholder requirements; Stakeholders include the Department of Defense (DoD), foreign governments, industry, and the general public (through four public interface specifications). Furthermore, GPS EI ensures Positioning, Navigation, and Timing (PNT) capabilities meet the warfighter's, civil agencies, commercial entities, international treaties, and over four billion global GPS users needs. Moreover, GPS EI is responsible for delivering a reliable PNT signal capability to military operators, the civil user community, and international partners. In addition, GPS EI validates the system performance in various mission threat scenarios during its development as well as provides in-depth technical expertise to enhance government control, oversight and program accountability. GPS EI is also responsible for all aspects of schedule and technical alignment across the GPS segments (space, control, and user).

More specifically, GPS EI is responsible for technical baseline management, integration, synchronizing, testing, and verifying GPS III, GPS III Follow-on (GPS III F), Operational Control System (OCS), Next Generation Operational Control System (OCX), Military GPS User Equipment (MGUE) Increment 1 and Increment 2, and other PNT investment projects. Additionally, GPS EI is responsible for creating and managing plans that provide early exercise of the products under development, compatibility analysis, and inter-segment testing. The inter-segment tests are required to prove OCX interoperability with GPS III satellites and Modernized User Equipment. More importantly, it ensures backwards compatibility with legacy systems such as, GPS Block II satellites, OCS and legacy user equipment. The GPS EI also manages the process through which the JROC validated requirements are matured and flowed down to the system segments, while remaining consistent with various interfaces. This enables the GPS system to meet Title 10 of the USC, Sec 2281, mandated PNT capabilities, and various other obligations to the international community that provide inter-operable PNT signals.

GPS EI also supports GPS spectrum protection at international forums such as the International Telecommunications Union. Such support consists of advocating on behalf of the United States (U.S.) Government when negotiating with foreign partners. In addition, GPS EI provides technical expertise to maintain relationships with other U.S. government agencies that include the Federal Aviation Administration (FAA), National Geospatial-Intelligence Agency (NGA), National Aeronautics and Space

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force	Date: March 2023
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Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A025 / <i>GPS Enterprise Integrator</i>
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Administration (NASA) and Departments of State (DOS), Transportation (DoT), Homeland Security (DHS), and Commerce (DOC). GPS EI Spectrum also ensures GPS priority for eight essential spectrum signals, including those required for civil air navigation and safety of life. Spectrum Protection prevents encroachment from commercial or foreign entities, which results in the preservation of warfighter's reliable signal. As a result, military operations and the integrity of the global economic infrastructure are protected.

GPS EI also manages GPS and other navigation system performance monitoring and publishes performance specifications and reports to ensure anomalies with GPS can be resolved. In addition GPS EI provides technical expertise for the development for GPS program technical baselines and public specifications to make certain that the Department of Defense (DOD) fulfills its commitment to the world for civilian GPS Service.

GPS EI also provides the PNT enterprise expertise in System Safety, Enterprise level System Security Engineering covering Acquisition Systems Program Security (i.e., personnel, industrial, operations, information, sensitive compartmented information, communication, and physical), Program Protection, Foreign Disclosure, Public Release reviews, Mission System Certification and Accreditation, and Enterprise Cybersecurity. GPS EI is accountable for the development, execution, and analysis of the PNT Enterprise Segments, cybersecurity, and associated test cases necessary to deliver a secure operational system.

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

	FY 2022	FY 2023	FY 2024
<p>Title: GPS Enterprise Integrator</p> <p>Description: The integration and technical baseline control of all elements of the GPS system (space/control/user) in support of both military and civil users. Test and verification of integrated system performance in preparation for operational test and evaluation.</p> <p>FY 2023 Plans: In FY 2023, GPS Enterprise Integrator efforts were transferred PE 1203269SF, Global Positioning System IIIF, Project 653170, Space Programs in order to continue enterprise integration activities to support GPS IIIF Space, Ground and User Segment.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>	54.297	0.000	0.000
Accomplishments/Planned Programs Subtotals	54.297	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A025 / <i>GPS Enterprise Integrator</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• SPSF 01 1203164SF: NAVSTAR <i>Global Positioning System (User Equipment) (SPACE)</i>	434.194	-	-	-	-	-	-	-	-	0.000	434.194
• SPSF 01 1203265SF: <i>GPS III Space Segment</i>	6.998	-	-	-	-	-	-	-	-	0.000	6.998
• RDTE 05 1203269SF: <i>GPS III Follow-On (GPS IIIF)</i>	246.332	-	-	-	-	-	-	-	-	0.000	246.332
• SPSF 01 1203913SF: NUDET <i>Detection System (SPACE)</i>	45.887	-	-	-	-	-	-	-	-	0.000	45.887
• SPSF 01 GPSIII: GPS <i>III Space Segment</i>	84.452	-	-	-	-	-	-	-	-	0.000	84.452
• SPSF 01 GPS03C: GPS IIIF • SPSF 01 GPSSPC: <i>GPS UE Space</i>	852.918	-	-	-	-	-	-	-	-	0.000	852.918
	2.274	-	-	-	-	-	-	-	-	0.000	2.274

Remarks

D. Acquisition Strategy

In accordance with a "back to basics" acquisition approach the Space Force is required to exercise complete ownership of the architecture, system definition, technical baseline, and integration of the GPS space, ground, and user segments. This complex inter-segment integration requires the government to be the integrator. To execute this responsibility, the government leverages systems engineering and integration expertise from both Federally Funded Research and Development Center (FFRDC) contractors and a Systems Engineering & Integration (SE&I) contractor. The GPS EI function of the SE&I contractor is currently funded within this PE. SE&I effort was awarded in April 2022 through a full and open competition, following a sole source SE&I Bridge Contract that began in 1QFY22.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3620F / 7				PE 1206423SF / Global Positioning System III - Operational Control Segment				67A025 / GPS Enterprise Integrator							
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
GPS EI Enterprise SE&I	C/CPAF	TASC : El Segundo, CA	31.976	27.802	Nov 2021	-		-		-		-	0.000	59.778	-
GPS EI Technical Mission Analysis 1	RO	Aerospace : El Segundo, CA	6.574	5.460	Oct 2021	-		-		-		-	0.000	12.034	-
GPS EI Technical Mission Analysis 2	Various	MITRE : Various	10.073	10.763	Oct 2021	-		-		-		-	0.000	20.836	-
GPS EI MRTA/MSTA	C/CPAF	Draper Labs : Cambridge, MA	1.544	4.568	Dec 2021	-		-		-		-	0.000	6.112	-
GPS EI Cybersecurity	Various	Various : El Segundo, CA	1.208	0.000	Dec 2021	-		-		-		-	0.000	1.208	-
GPS EI Additional Product Development	Various	Various : Various	1.466	1.387	Oct 2021	-		-		-		-	0.000	2.853	-
Subtotal			52.841	49.980		-		-		-		-	0.000	102.821	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
GPS Integrated System Test	Various	Various : TBD	0.171	3.951	Oct 2021	-		-		-		-	0.000	4.122	-
Subtotal			0.171	3.951		-		-		-		-	0.000	4.122	N/A
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
GPS EI FFRDC	Various	Various : El Segundo, CA	0.635	0.000	Oct 2021	-		-		-		-	0.000	0.635	-
GPS EI A&AS	Various	Various : El Segundo, CA	0.238	0.167	Oct 2021	-		-		-		-	0.000	0.405	-
GPS EI Other Support	Various	Various : Various	0.036	0.199	Oct 2021	-		-		-		-	0.000	0.235	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A025 / <i>GPS Enterprise Integrator</i>

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Support GPS III AFL																												
GPS III SV08 Available for Launch																												
Enterprise																												
Preparation and Support for OCS to OCX transition																												
Support GRAM-S/M Card Technical Requirements Verification																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206423SF / <i>Global Positioning System III - Operational Control Segment</i>	Project (Number/Name) 67A025 / <i>GPS Enterprise Integrator</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Support GPS III AFL				
GPS III SV08 Available for Launch	1	2022	1	2022
Enterprise				
Preparation and Support for OCS to OCX transition	1	2022	4	2022
Support GRAM-S/M Card Technical Requirements Verification	1	2022	3	2022