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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons
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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	0.000	100.590	87.623	41.212	0.000	41.212	0.004	0.004	0.004	0.004	Continuing	Continuing
675345: <i>B-2 Modernization</i>	0.000	86.354	85.468	33.196	0.000	33.196	0.004	0.004	0.004	0.004	0.000	205.034
676021: <i>BASELINE SUPPORT</i>	0.000	14.236	2.155	8.016	0.000	8.016	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The B-2 is currently undergoing modernization of avionics, communications systems, cockpit displays, armament systems, low observable components, core training system components, aircraft supportability improvements, and support equipment development.

The Air Force will also study multiple structural, avionics, and engine modifications, as well as advanced weapons integration and advanced communications, that could improve the performance of the aircraft and engines and reduce maintenance man-hours and the logistics footprint of the fleet. Focus of the studies will be on non-mission capable (maintenance) drivers, safety issues, and obsolescence issues through modernization of key components in the airframe, avionics, and engines resulting in improved aircraft availability of a high demand/low density fleet.

The B-2 Display Modernization program is a modernization of the B-2 multi-purpose display units (MDUs) and includes removal of the Defensive Management System-Modernization (DMS-M) modification from the B-2 fleet test aircraft and lab environment. This is not a new start, but a continuation of RDT&E scope that was part of the previous DMS-M program. FY 2021 and prior years DMS-M efforts were in PE 0605931F.

B-2 Advanced Communications included Multiple modernization efforts in the FY24 PB and is now being broken out in two (2) separate lines in the FY25 PB. These efforts support and enhance the aircraft's communications capabilities to keep the B-2 ready, effective, and survivable by complying with growing crypto mandates and mitigating end of life systems. The Adaptable Communications Suite (ACS) Increment 4.0 provides secure beyond line-of-sight SATCOM Command and Control connectivity. ACS 4.0 will replace the current radios and ancillaries to transition B-2 SATCOM to Mobile User Objective System due to the sunset of the current Ultra High Frequency Follow-On satellite constellation. Along with the aircraft system, the ACS ground systems and infrastructure will be redesigned to support this requirement. Significantly, ACS 4.0 will allow for simultaneous use of SATCOM voice and data.

B-2 Battlespace Collaborative Combat Communications (B2C3) integrates an independent Open Mission Systems (OMS) avionics architecture integrated on the B-2. B2C3 objective is to identify, leverage, and integrate existing capabilities to meet B-2 communications requirements. B2C3 is a compilation of multiple efforts (can be thought of as an integration effort) designed to deliver the OMS architecture (domain) within the B-2. B2C3 will implement Airborne Integrated Terminal Group (AITG) which provides Line-of-Sight Ultra High Frequency (UHF) and Very High Frequency (VHF) anti-jam, encrypted, and unencrypted voice communications. AITG Replacement will include the replacement of the AN/ARC-234 radio which will reach end-of-life effective 01 Oct 2026. AITG replacement will also implement the SATURN Waveform for anti-jam voice communications; this is a transition from the HAVE QUICK Waveform which will be retired effective 01 Oct 2024.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>	
<p>Low Observable Signature and Supportable Modifications (LOSSM) is a continuous improvement program delivering quickly fielded solutions that ensures the B-2 stealth platform (LO maintainability and signature performance) stays relevant. The program addresses emerging threats that challenge the viability of the LO aircraft in highly contested environments. LOSSM ensures aircraft survivability through innovation in signature reduction and advanced LO performance; as well as reducing the LO maintenance and maintainability. The efforts reduce costs and maintenance man hours as well as increase aircraft readiness.</p> <p>The B-2 Identification Friend or Foe (IFF) Mode 5/S modification program replaces the current IFF transponder with a new Mode 5 and Mode S capable transponder ensuring compliance with DoD Combat Identification mandates and global Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements. Mode 5 is the DoD standard for secure combat identification and provides improved discrimination between closely spaced platforms, while reducing interference with civil air traffic control transponders, enabling the B-2 fleet to accomplish its anti-access and global strike mission. Mode 5 replaced the obsolete Mode 4 combat identification. Mode S is a civil air traffic control secondary surveillance radar process that allows selective interrogation of aircraft according to the unique 24-bit address. Mode S provides improved accuracy and altitude resolution and reduced interference from closely spaced aircraft through selective interrogation of assigned transponder addresses.</p> <p>The B-2 Training System upgrades include updates to training device hardware and components, simulation software, course ware and academic materials, instructional system design architectures, engineering drawings, and system documentation that is not driven by a funded aircraft modification.</p> <p>This budget supports B-2 nuclear certification activities to include certification testing, analysis, and support related costs to ensure the weapon system's nuclear mission remains intact. B-2 funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.</p> <p>Additionally, program funds may be used for Airframe Hardware Supportability Modifications (AHSM). The AHSM program increases aircraft availability and ensures mission effectiveness by targeting flight control, defensive management, communication, armament, and other system components that are the greatest contributors to aircraft downtime and/or ineffective system performance through lack of spares, extensive man-hours to troubleshoot and repair, and/or high failure rates. This program addresses current and forecasted obsolescence, Diminishing Manufacturing Sources/Material Shortages (DMSMS), and effective and timely repairs at both the field and depot levels. It also targets components whose failure rates, mean time to repair (MTTR) hours, and performance levels fail to meet established baseline targets/ specifications. This program includes multiple efforts including, but not limited to, the Radio Frequency Switching Unit, Radar Receiver Exciter, Radar Signal Processor, Flight Control Computer, Band 1 Radio Frequency Front End (RFFE), Air Turbine Starter Control Valve.</p> <p>This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.</p> <p>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.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>
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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	101.790	87.623	33.136	0.000	33.136
Current President's Budget	100.590	87.623	41.212	0.000	41.212
Total Adjustments	-1.200	0.000	8.076	0.000	8.076
• 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	2.080	0.000			
• SBIR/STTR Transfer	-3.280	0.000			
• Other Adjustments	0.000	0.000	8.076	0.000	8.076

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

Project: 675345: *B-2 Modernization*

Congressional Add: *B-2 Modernization*

	FY 2023	FY 2024
	5.000	-
Congressional Add Subtotals for Project: 675345	5.000	-
Congressional Add Totals for all Projects	5.000	-

Change Summary Explanation

FY23 adjustments consist of -\$1.260M on FY23-80PA; +\$4.0M reprogramming for Fixed Reception Pattern Antenna Retrofit; -\$0.660M for AFIPPS reprogrammings and -3.280M for Small Business Innovative Research (SBIR)
 FY25 increase addresses Baseline Support for Flight Test infrastructure

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons				Project (Number/Name) 675345 / B-2 Modernization			
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
675345: B-2 Modernization	0.000	86.354	85.468	33.196	0.000	33.196	0.004	0.004	0.004	0.004	0.000	205.034
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-2 is currently undergoing modernization of avionics, communications systems, cockpit displays, armament systems, low observable components, core training system components, aircraft supportability improvements, and support equipment development.

The Air Force will also study multiple structural, avionics, and engine modifications, as well as advanced weapons integration and advanced communications, that could improve the performance of the aircraft and engines and reduce maintenance man-hours and the logistics footprint of the fleet.

The B-2 Display Modernization program is a modernization of the B-2 multi-purpose display units (MDUs) and includes removal of the Defensive Management System-Modernization (DMS-M) modification from the B-2 fleet test aircraft and lab environment. This is not a new start, but a continuation of 3600 scope that was part of the previous DMS-M program. FY 2021 and prior years DMS-M efforts were in PE 0605931F.

B-2 Advanced Communications included multiple modernization efforts in the FY24 PB and is now being broken out in two (2) separate lines in the FY25 PB. These efforts support and enhance the aircraft's communications capabilities to keep the B-2 ready, effective, and survivable by complying with growing crypto mandates and mitigating end of life systems. The Adaptable Communications Suite (ACS) Increment 4.0 provides secure beyond line-of-sight SATCOM Command and Control connectivity. ACS 4.0 will replace the current radios and ancillaries to transition B-2 SATCOM to Mobile User Objective System due to the sunset of the current Ultra High Frequency Follow-On satellite constellation. Along with the aircraft system, the ACS ground systems and infrastructure will be redesigned to support this requirement. Significantly, ACS 4.0 will allow for simultaneous use of SATCOM voice and data.

B-2 Battlespace Collaborative Combat Communications (B2C3) integrates an independent Open Mission Systems (OMS) avionics architecture integrated on the B-2. B2C3 objective is to identify, leverage, and integrate existing capabilities to meet B-2 communications requirements. B2C3 is a compilation of multiple efforts (can be thought of as an integration effort) designed to deliver the OMS architecture (domain) within the B-2. B2C3 will implement Airborne Integrated Terminal Group (AITG) which provides Line-of-Sight Ultra High Frequency (UHF) and Very High Frequency (VHF) anti-jam, encrypted, and unencrypted voice communications. AITG Replacement will include the replacement of the AN/ARC-234 radio which will reach end-of-life effective 01 Oct 2026. AITG replacement will also implement the SATURN Waveform for anti-jam voice communications; this is a transition from the HAVE QUICK Waveform which will be retired effective 01 Oct 2024.

The Low Observable Signature and Supportability Modifications (LOSSM) program supports the B-2 ability to penetrate anti-access combat environments, performing missions directed by the National Command Authority while ensuring aircrew survivability. The LOSSM program reduces low observable (LO) maintenance, stabilizes, and improves the combat-ready LO signature for the B-2 fleet. This program encompasses multiple improvement projects including, but not limited to, improved LO materials (electrically conductive materials, adhesives, electrically resistive materials, radar absorbing material, fastener fills, coatings, welds, material removal tools, and improved processes), LO structures (radar radomes, antennas, hot trailing edges and tiles, intermediate section doors, tailpipes, windows, lib bay panels, leading edge, permanent fasteners, exhaust pockets, gust load alleviation system, inlets, radar absorbing structures, overall signature stability, and Alternate High Frequency Material

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>	Project (Number/Name) 675345 / <i>B-2 Modernization</i>
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expansion); and radio frequency (RF) diagnostic tools, evaluation systems, and other key support equipment (Tier I Material Inspection System, Signature Diagnostic System, next generation Tier II and Tier III systems, Test Article 0998 (a B-2 test asset) optimization, conductivity probes, tailpipe inspection tools, LO- related special test equipment, data archival, and communications tools). LOSSM yields a high Return On Investment (ROI) and provides signature confidence for war time readiness posturing.

The B-2 Identification Friend or Foe (IFF) Mode 5/S program replaces the current IFF transponder with a new Mode 5 and Mode S capable transponder ensuring compliance with DoD Combat Identification mandates and global Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements. Mode 5 is the DoD standard for secure combat identification and provides improved discrimination between closely spaced platforms, while reducing interference with civil air traffic control transponders, enabling the B-2 fleet to accomplish its anti-access and global strike mission. Mode 5 replaced the obsolete Mode 4 combat identification. Mode S is a civil air traffic control secondary surveillance radar process that allows selective interrogation of aircraft according to the unique 24-bit address. Mode S provides improved accuracy and altitude resolution and reduced interference from closely spaced aircraft through selective interrogation of assigned transponder addresses.

The B-2 Training System upgrades include, but are not limited to, updates to training device hardware and components, simulation software, course ware and academic materials, instructional system design architectures, engineering drawings, and system documentation that are not driven by a funded aircraft modification. Upgrades may include Diminishing Manufacturing Sources efforts to include removal of end-of-life software/hardware within simulator systems and move to a modular, common open system architecture that is sustainable and cyber-resilient. Additional Training System Upgrades may also include efforts to implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative.

Continuation of B-2 Armament upgrades integrate new and/or advanced weapons on the B-2 to attack a wider array of target sets, to include hardened, deeply buried targets, as well as destroy more targets per sortie. Studies and efforts will refine B-2 targeting accuracy using GPS guided weapons. Nuclear modernization will continue with software and crypto modifications.

B-2 funding may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Funding may also support innovation activities including, but not limited to, studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Low Observable Signature and Supportability Mods and Trainers	5.018	0.200	1.000

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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Description: B-2 Low Observable Signature and Supportability Modifications (LOSSM) pursues multiple low-cost development upgrades for Low Observable (LO) materials, diagnostics and procedures to enhance LO signature and/or improve aircraft supportability, as well as other development or study efforts for training system improvements.</p> <p>FY 2024 Plans: LOSSM will utilize these funds to continue technology development activities of the Next Generation Zonal Radar to finalize replacement of legacy system (SCI-2K) by developing Tier 2 low frequency inspection ability that has reemerged as a critical need.</p> <p>FY 2025 Plans: LOSSM will utilize funding for additional phases of research and development for ASR-11 (classified effort) which involves the potential for integration of already matured technologies that will provide new capabilities not previously employed by the B-2.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding for FY25 has been reallocated to LOSSM as a high priority program with ability to execute funding more effectively.</p>				
<p>Title: B-2 Advanced Communications -- Adaptable Communications Suite (ACS) 4.0</p> <p>Description: ACS 4.0 provides secure beyond line-of-sight SATCOM Command and Control connectivity. ACS 4.0 will involve replacing the current radios and ancillaries to transition B-2 SATCOM to Mobile User Objective System due to the sunset of the current Ultra High Frequency Follow-On satellite constellation. Along with the aircraft system, the ACS ground systems and infrastructure will be redesigned to support this requirement. Significantly, ACS 4.0 will allow for simultaneous use of SATCOM voice and data.</p> <p>FY 2024 Plans: ACS 4.0: Award EMD contracts, Complete CDR, conduct Test Readiness Review</p> <p>FY 2025 Plans: Complete airworthiness</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Advanced Communications RDT&E will be complete in FY25.</p>		17.162	23.719	4.617
<p>Title: B-2 Advanced Communications -- B-2 Battlespace Collaborative Combat Communications (B2C3)</p> <p>Description: B2C3 integrates an independent OMS avionics architecture integrated on the B-2. B2C3 objective is to identify, leverage, and integrate existing capabilities (such as ACS & AITG) to meet B-2 communications requirements. B2C3 is a compilation of multiple efforts (can be thought of as an integration effort) designed to deliver the Open Mission Systems (OMS) architecture (domain) within the B-2. By controlling this interface, new technologies can be rapidly developed and fielded.</p>		6.225	21.860	12.033

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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>This will provide an integrated concept that merges BLOS and LOS Link-16 data into the cockpit display and provides a single consolidated Tactical Situation Display (TSD) centrally located for the aircrew.</p> <p>Being developed and fielded as part of B2C3, the AITG provides Line-of-Sight UHF and Very High Frequency (VHF) anti-jam, encrypted, and unencrypted voice communications. AITG Replacement will include the replacement of the AN/ARC-234 radio which will reach end-of-life effective 01 Oct 2026. AITG replacement will also implement the SATURN Waveform for anti-jam voice communications; this is a transition from the HAVE QUICK Waveform which will be retired effective 01 Oct 2024.</p> <p>FY 2024 Plans: Complete development of Spiral 1, release LRIP production contract. Begin Spiral 2 (AITR) development (PDR/CDR)</p> <p>FY 2025 Plans: Continue development of Spiral 2 and Test Spiral 2</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Ramping down B-2 Battlespace Collaborative Combat Communications (B2C3) activities</p>				
<p>Title: B-2 Identification Friend or Foe (IFF) Mode 5/S Program</p> <p>Description: The B-2 IFF Mode 5/S Program is part of B-2 Integrated Functional Capability (IFC) drop P6.6, which also includes software sustainment updates and form, fit, function hardware replacement. The IFC Process is the framework within which B-2 modernization and sustainment improvements are designed, developed, integrated, tested, and delivered. B-2 IFF Mode 5/S Program replaces the current IFF transponder with a new Mode 5 and Mode S capable transponder ensuring compliance with DoD Combat Identification mandates and global communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements. Mode 5 is the DoD standard for secure combat identification and provides improved discrimination between closely spaced platforms, while reducing interference with civil air traffic control transponders, enabling the B-2 fleet to accomplish its anti-access and global strike mission. Mode 5 replaced the obsolete Mode 4 combat identification. Mode S is a civil air traffic control secondary surveillance radar process that allows selective interrogation of aircraft according to the unique 24-bit address. Mode S provides improved accuracy and altitude resolution and reduced interference from closely spaced aircraft through selective interrogation of assigned transponder addresses.</p> <p>FY 2024 Plans: There are no RDT&E program plans in FY24</p> <p>FY 2025 Plans: No FY25 funding</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>		1.789	0.000	0.000

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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
No decrease or increase				
<p>Title: B-2 Display Modernization (BDM)</p> <p>Description: The B-2 Display Modernization program is a modernization of the B-2 multi-purpose display units (MDUs) and includes removal of the Defensive Management System-Modernization (DMS-M) modification from the B-2 fleet test aircraft and lab environment. This is not a new start, but a continuation of RDT&E that was part of the previous DMS-M program. FY 2021 and prior years DMS-M efforts were in PE 0605931F.</p> <p>FY 2024 Plans: Continue development and software integration of MDU Replacements (MDU-R). Advance development on lab support activities and complete modification of the B-2 Test Aircraft, A/C 1087, (currently configured for DMS-M). Conduct technical and test reviews to support restructured program. Start flight test activities.</p> <p>FY 2025 Plans: Complete flight test activities and System Verification Review.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to transition from development and integration activities to flight test and System Verification Review.</p>		50.749	37.056	12.294
<p>Title: B-2 Trainers Modernization</p> <p>Description: The B-2 Training System upgrades include, but are not limited to, updates to training device hardware and components, simulation software, courseware and academic materials, instructional system design architectures, engineering drawings, and system documentation that is not driven by a funded aircraft modification. Upgrades may include Diminishing Manufacturing Sources efforts to include removal of end-of-life software/hardware within simulator systems and move to a modular, common open system architecture that is sustainable and cyber-resilient. Additional Training System Upgrades may also include efforts to implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative. Other Training Systems upgrades may include efforts such as Advanced Communications in conjunction with the platform upgrades. Support to include, but not limited to, Program Management Administration (PMA), Advisory and Assistance Services (A&AS), and travel to enable mission requirements.</p> <p>FY 2024 Plans: Integrate BDM capabilities into the training system to ensure concurrency between the aircraft and training system.</p> <p>FY 2025 Plans: Integrate Advanced Communications capabilities into the training system to ensure concurrency between the aircraft and training system.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>		0.411	2.633	3.252

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Increase in funds will be used to support the Advanced Communications integration effort.			
Accomplishments/Planned Programs Subtotals	81.354	85.468	33.196

	FY 2023	FY 2024
Congressional Add: B-2 Modernization	5.000	-
FY 2023 Accomplishments: Funds will be used in support of the Air Force Global Strike Command (AFGSC) Commercial Capabilities Integration and Transition capability, which will explore, prototype, and invest in commercial technologies to include autonomous robotics perimeter defense system, 5G testing support, and advanced software tools.		
Congressional Adds Subtotals	5.000	-

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

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 B00200: B-2A	72.919	107.980	63.932	-	63.932	58.891	463.000	15.807	16.124	0.000	798.653
• APAF 06 000999: Initial Spares/Repair Parts	9.242	-	-	-	-	-	-	-	-	0.000	9.242
• APAF 07 B00200: B-2A	1.802	1.838	1.885	-	1.885	1.918	-	-	-	0.000	7.443
• APAF 07 B002B0: B-2B	36.325	15.207	15.709	-	15.709	16.026	16.854	17.204	17.547	0.000	134.872
• APAF 07 000075: Other Production Charges	20.320	18.894	19.358	-	19.358	19.698	-	-	-	0.000	78.270
• OPAF 03 833140: Strategic Command And Control	0.617	0.535	0.578	-	0.578	0.591	0.612	0.624	0.636	0.000	4.193

Remarks

D. Acquisition Strategy

The B-2 is currently undergoing modernization of avionics systems, communication systems, cockpit displays, low observable components and training systems as well as the integration of advanced weapons. Most, but not all B-2 modernization programs utilize a sole source contract with the prime/integrating contractor (Northrop Grumman). Key elements of the acquisition strategy include: use of cost plus incentive fee and fixed price incentive fee development contracts, as well as the combination of developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and number of fielded configurations.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Low Observable Signature and Supportability Mods	Various	Various : Various	0.000	4.587	Jun 2023	0.181	Dec 2023	0.900	Apr 2025	-		0.900	Continuing	Continuing	-
B-2 Advanced Communications - Adaptive Communications Suite 4.0	Various	Various : Various	0.000	15.749	Aug 2023	23.823	Dec 2023	3.400	Aug 2025	-		3.400	Continuing	Continuing	-
B-2 Advanced Communications - Battlespace Collaborative Combat Communications (B2C3)	Various	Northrop Grumman; various : Various	0.000	5.054	Aug 2023	15.931	Nov 2023	9.113	Aug 2025	-		9.113	0.000	30.098	-
B-2 IFF Mode 5/S	Various	Northrop Grumman : Various	0.000	1.789	Aug 2023	-		-		-		-	0.000	1.789	-
B-2 Display Modernization (BDM)	Various	Northrop Grumman : Various	0.000	39.375	May 2023	26.799	Jan 2024	9.453	Jan 2025	-		9.453	Continuing	Continuing	-
B-2 Training Modernization	Various	Northrop Grumman : Various	0.000	0.367	Feb 2023	2.377	Feb 2024	2.475	Feb 2025	-		2.475	Continuing	Continuing	-
Congressional Add	Various	Not specified. : TBD	0.000	5.000	Sep 2023	-		-		-		-	0.000	5.000	-
Subtotal			0.000	71.921		69.111		25.341		-		25.341	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Support	SS/ Various	Northrop Grumman : Various	0.000	1.572	Jan 2023	1.688	Jan 2024	1.014	Jan 2025	-		1.014	0.000	4.274	-
Subtotal			0.000	1.572		1.688		1.014		-		1.014	0.000	4.274	N/A

Remarks
This support is the Enterprise Support Delivery Order (ESDO) under the B-2 Flexible Acquisition and Sustainment Team (FAST) II umbrella contract with Northrop Grumman.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Management Services	Various	Various : Various	0.000	4.402	Oct 2022	5.921	Oct 2023	3.651	Oct 2024	-		3.651	0.000	13.974	-
PMA	Various	DCS Corporation : Various	0.000	8.459	Oct 2022	8.748	Oct 2023	3.190	Oct 2024	-		3.190	Continuing	Continuing	-
Subtotal			0.000	12.861		14.669		6.841		-		6.841	Continuing	Continuing	N/A
Project Cost Totals			0.000	86.354		85.468		33.196		-		33.196	Continuing	Continuing	N/A

Remarks
Award dates listed are the first incremental funding opportunity associated with each cost category.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization
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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

B-2 Modifications Schedule																												
Low Observable Signature and Supportability Mods and Trainers																												
IFF Mode 5/S EMD Phase																												
B-2 Display Modernization (BDM) Displays EMD Phase																												
Advanced Communications-Adaptable Communications Suite (ACS 4.0)																												
Advanced Communications-B-2 Battlespace Collaborative Combat Communications (B2C3)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>	Project (Number/Name) 675345 / <i>B-2 Modernization</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>B-2 Modifications Schedule</i>				
Low Observable Signature and Supportability Mods and Trainers	1	2023	4	2025
IFF Mode 5/S EMD Phase	1	2023	2	2024
B-2 Display Modernization (BDM) Displays EMD Phase	1	2023	4	2025
Advanced Communications-Adaptable Communications Suite (ACS 4.0)	1	2023	3	2025
Advanced Communications-B-2 Battlespace Collaborative Combat Communications (B2C3)	1	2023	1	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons				Project (Number/Name) 676021 / BASELINE SUPPORT			
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
676021: <i>BASELINE SUPPORT</i>	0.000	14.236	2.155	8.016	0.000	8.016	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Baseline Support maintains and upgrades the B-2 unique flight test aircraft as well as hardware/software and test equipment to support developmental systems integration, and flight test, reducing the need for additional operational aircraft and accelerating deployment of advanced operational capabilities to the warfighter.

Baseline Support also provides for other B-2 unique government costs and includes assorted studies of aircraft performance as well as acquisition planning activities, up to and including proposal preparation, for future aircraft, engine, weapon, communication, navigation or other capabilities.

B-2 funding may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Funding may also support innovation activities including, but not limited to, studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.

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

	FY 2023	FY 2024	FY 2025
<p>Title: Baseline Support Acq Plan/Studies/Integr Test Support</p> <p>Description: Baseline Support provides for other B-2 unique government costs, including acquisition planning activities for future capabilities, long range planning, studies, and program integration activities, as well as integration and test support of upgraded crypto components as needed.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: No increase or decrease.</p>	0.000	0.000	0.000
<p>Title: Baseline Support Flight Test</p> <p>Description: Baseline Support Flight Test maintains and upgrades the B-2 unique flight test aircraft as well as hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerating deployment of advanced operational capabilities to the warfighter.</p> <p>FY 2024 Plans:</p>	14.236	2.155	8.016

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>	Project (Number/Name) 676021 / <i>BASELINE SUPPORT</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Continue to support and complete B-2 test activities.			
<i>FY 2025 Plans:</i> Continue to support and complete B-2 test activities including maintaining and supporting the B-2 flight test aircraft and supporting integration flight test, and planning activities associated with the test jet.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increase will be used to cover the costs of maintaining the B-2 flight test aircraft as well as hardware/software and test equipment to support developmental systems. It will support costs associated with the test jet including planning activities, proposal preparation for future aircraft engine, weapon, communication and navigation capabilities, resolve emerging safety of flight issues and to ensure continued aircrew safety and mission effectiveness.			
Accomplishments/Planned Programs Subtotals	14.236	2.155	8.016

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

N/A

Remarks

D. Acquisition Strategy

Key elements of the acquisition strategy include: use of a sole source contract with a prime/integrating contractor (Northrop Grumman) for most but not all B-2 programs; use of cost plus incentive fee (CPIF) development contracts; use of B-2A Global Power Bomber Combined Test Force (GPB CTF) Statement of Capabilities (SOC) and the combination of developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and differences in fielded configurations.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 676021 / BASELINE SUPPORT
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Support	SS/ Various	Northrop Grumman : Various	0.000	0.004	Jan 2023	-		-		-		-	0.000	0.004	-
Other Government Costs	Various	Various : Various	0.000	12.989	Oct 2022	1.945	Oct 2023	6.380	Oct 2024	-		6.380	Continuing	Continuing	-
Subtotal			0.000	12.993		1.945		6.380		-		6.380	Continuing	Continuing	N/A

Remarks
 This support is the Enterprise Support Delivery Order (ESDO) under the B-2 Flexible Acquisition and Sustainment Team (FAST) II umbrella contract with Northrop Grumman.
 Other Government Costs covers the flight test cadre Contract Line Item Number (CLIN) on the ESDO.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Management Services	C/CPAF	Not specified. : TBD	0.000	0.625		0.000		0.825	Dec 2024	-		0.825	0.000	1.450	-
PMA	Various	Various : TBD	0.000	0.618	Dec 2022	0.210	Dec 2023	0.811	Dec 2024	-		0.811	Continuing	Continuing	-
Subtotal			0.000	1.243		0.210		1.636		-		1.636	Continuing	Continuing	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			0.000	14.236	2.155	8.016	-	8.016	Continuing	Continuing	N/A

Remarks
 Award dates listed are the first incremental funding opportunity associated with each cost category.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 676021 / BASELINE SUPPORT
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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

<i>B-2 Baseline Support</i>	
FY 2023 Flight Test Core Support Annual Contract Award	
FY 2024 Flight Test Core Support Annual Contract Award	
FY 2025 Flight Test Core Support Annual Contract Award	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>	Project (Number/Name) 676021 / <i>BASELINE SUPPORT</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>B-2 Baseline Support</i>				
FY 2023 Flight Test Core Support Annual Contract Award	1	2023	1	2024
FY 2024 Flight Test Core Support Annual Contract Award	1	2024	1	2025
FY 2025 Flight Test Core Support Annual Contract Award	1	2025	1	2026