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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2019 Air Force **Date:** February 2018

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force / BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0101127F / <i>B-2 Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	0.000	122.973	193.108	105.561	0.000	105.561	106.376	43.727	41.534	42.293	Continuing	Continuing
675345: <i>B-2 Modernization</i>	0.000	73.768	54.523	91.472	0.000	91.472	92.025	29.128	26.631	27.118	Continuing	Continuing
676021: <i>BASELINE SUPPORT</i>	0.000	13.181	13.967	14.089	0.000	14.089	14.351	14.599	14.903	15.175	Continuing	Continuing
676022: <i>AEHF Strategic Comm</i>	0.000	36.024	124.618	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	160.642

## Note

This program, BA 7, PE 0101127F, project 675345, B-2 Radar Aided Targeting System (RATS), is a new start.

## A. Mission Description and Budget Item Justification

The B-2 is currently undergoing modernization of avionics/communications systems, engines, 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 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.

Modern communications are key enablers for the B-2 in the anti-access/area denial battlespace, and directly enhance lethality and force multiplication. The Common Very Low Frequency (VLF) Receiver effort (CVR) develops and integrates a receive-only, low bandwidth receiver and antenna subsystem to provide a secure, survivable strategic nuclear communication capability for the B-2.

The B-2 Advanced Extremely High Frequency (AEHF) Satellite Communications (SATCOM) system provides secure, strategic, two-way, survivable Anti-Access/Area Denial communications capability for conventional and nuclear missions. The B-2 AEHF SATCOM program is terminated in the FY 2019 Budget.

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. Upgrades includes Flex Strike and JASSM-ER integration.

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, and stabilizes and improves the combat-ready LO signature for the B-2 fleet.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force			Date: February 2018			
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0101127F I B-2 Squadrons				
The B-2 Crash Survivable Memory Unit (CSMU) provides a more capable Flight Data Recorder (FDR) with increased capacity for storing Flight Information Data (FID) for recovery and use in the event of a mishap.						
The Radar Aided Targeting System (RATS) is planned to be a software only solution implemented in several B-2 system level Operational Flight Programs (OFPs) to provide radar-aided enhanced targeting capability through weapon hand-off navigational updates for guided nuclear weapons in a non-GPS environment.						
The B-2 Identification, Friend or Foe (IFF) Mode 5/S and Automatic Dependent Surveillance Broadcast (ADS-B) modification will fulfill the requirements of the FAA's Next Generation Air Transportation System (NextGen) air traffic modernization mandate and the DoD mandate for secure combat identification.						
The B-2 Training System upgrades include 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.						
This program element may include necessary civilian pay expenses required to manage, execute, and deliver B-2 weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.						
This program is in Budget Activity 7, Operational System Development. This budget activity includes developmental 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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget		152.458	193.108	314.851	0.000	314.851
Current President's Budget		122.973	193.108	105.561	0.000	105.561
Total Adjustments		-29.485	0.000	-209.290	0.000	-209.290
• Congressional General Reductions		0.000	0.000			
• Congressional Directed Reductions		-25.000	0.000			
• Congressional Rescissions		0.000	0.000			
• Congressional Adds		0.000	0.000			
• Congressional Directed Transfers		0.000	0.000			
• Reprogrammings		-0.006	0.000			
• SBIR/STTR Transfer		-4.479	0.000			
• Other Adjustments		0.000	0.000	-209.290	0.000	-209.290
Change Summary Explanation						
FY2017: Congress reduced AEHF SATCOM by -\$25M, -\$4.479M for SBIR, and \$0.006M reprogrammed.						
FY2019: AEHF SATCOM terminated in FY19 budget, reducing by -\$209.290M in FY 2019 budget.						

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
675345: B-2 Modernization	0.000	73.768	54.523	91.472	0.000	91.472	92.025	29.128	26.631	27.118	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

This program, BA 7, PE 0101127F, project 675345, B-2 Radar Aided Targeting System (RATS), is a new start.

**A. Mission Description and Budget Item Justification**

The B-2 is currently undergoing modernization of avionics/communications systems, engines, 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 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.

Modern communications are key enablers for the B-2 in the anti-access/area denial battlespace, and directly enhance lethality and force multiplication. The Common Very Low Frequency (VLF) Receiver effort (CVR) develops and integrates a receive-only, low bandwidth receiver and antenna subsystem to provide a secure, survivable strategic nuclear communication capability for the B-2. B-2 cryptographic modernization updates cryptographic equipment for B-2 AIT/ARC-234, AN/ARC-211 and MIDS/LVT communication systems. The Adaptive Communication Suite (ACS) explores incremental improvements to the B-2 ACS UHF communication system.

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. The Flexible Strike Phase 1 program will re-host the current B-2 stores management software onto a new integrated processor. Integration of the Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER) weapon will further enhance the B-2's ability to attack and destroy high value target sets.

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, and 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 expansion), and radio frequency (RF) diagnostic tools, evaluation systems, and other tools (Tier One Material Inspection System, Signature Diagnostic System, next generation Tier II and Tier III systems, Test Article 0998 optimization, conductivity probes, tailpipe inspection tools, LO-related special test equipment, data archival, and communications tools).

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization		
<p>The B-2 Crash Survivable Memory Unit (CSMU) provides a more capable Flight Data Recorder (FDR) with increased capacity for storing Flight Information Data (FID) for recovery and use in the event of a mishap. The initiative includes replacement of the current CSMU with an adapted Commercial Off the Shelf (COTS) replacement, modification of the Flight Data Recorder Processor (FDRP) to provide 28 vdc power to the new CSMU, modification of the FDRP Operational Flight Program (OFP), and addition of a Underwater Locator Beacon (ULB). The current CSMU/FDRP does not meet the minimum requirements specified in the Aircraft Information Program (AIP) reference documents (AFI 63-133 and AFH 63-1402).</p> <p>The B-2 Identification, Friend or Foe (IFF) Mode 5/S and Automatic Dependent Surveillance Broadcast (ADS-B) modification will fulfill the requirements of the FAA's Next Generation Air Transportation System (NextGen) air traffic modernization mandate and the DoD mandate for secure combat identification. ADS-B is a foundational technology that will modernize the national airspace by replacing ground-based radar technology with satellite-based GPS technology that will enable more efficient tracking and management of aircraft and will provide coverage where radar doesn't exist. Only ADS-B Out capability is mandated. Mode S enhances ADS-B by providing improved accuracy and altitude resolution and reduced interference from closely spaced aircraft through selective interrogation of assigned transponder addresses. Mode 5 provides improved combat identification security, with better 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 is the DoD standard for secure combat ID.</p> <p>The B-2 Training System upgrades include 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.</p> <p>The Radar Aided Targeting System (RATS) is planned to be a software only solution implemented in several B-2 system level Operational Flight Programs (OFPs) to provide radar-aided enhanced targeting capability through weapon hand-off navigational updates for guided nuclear weapons in a non-GPS environment. Funding supports timely software development, test and roll-out of software into a future B-2 OFP, specifically the B61-12 integration.</p> <p>Funds may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, accommodate technology insertion and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness.</p>				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Title: B-2 Common Very Low Frequency Receiver (CVR)		11.469	0.000	0.000
Description: Provides secure, survivable, receive-only strategic nuclear communication for the B-2.				
FY 2018 Plans: N/A				
FY 2019 Plans:				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force			<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600 / 7		<b>R-1 Program Element (Number/Name)</b> PE 0101127F / B-2 Squadrons		<b>Project (Number/Name)</b> 675345 / B-2 Modernization	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>			<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
N/A					
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> There are no changes from FY 2018 to FY 2019 RDT&E funding ended in FY 2017 for CVR Inc 1.					
<b>Title:</b> B-2 Flexible Strike Phase 1  <b>Description:</b> Rehost the currently separate Stores Management Operational Flight Programs onto the new integrated processor unit made available by the B-2 EHF Increment 1 program.  <b>FY 2018 Plans:</b> Complete Engineering and Manufacturing Development efforts. Complete software/hardware integration and flight test.  <b>FY 2019 Plans:</b> N/A  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY 2018 was the last year of RDT&E funding for Flexible Strike Phase 1.			42.816	2.006	0.000
<b>Title:</b> Low Observable Signature and Supportability Mods and Trainers  <b>Description:</b> B-2 Low Observable Signature and Supportability Modifications (LOSSM) pursues multiple low-cost development efforts 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.  <b>FY 2018 Plans:</b> Continue development of on-going Low Observable Signature and Supportability Modifications and Training System core upgrades. Expand development efforts for advanced LO materials, structures, and procedures including the Advanced Signature Reduction efforts; increase efforts for enhanced diagnostics and measurement systems such as the follow-on to the SCI-2k system as well as requirements analysis for Next Generation Tier III system.  <b>FY 2019 Plans:</b> Continue development of on-going Low Observable Signature and Supportability Modifications and Training System core upgrades. Accelerate development efforts for three Advanced Signature Reduction efforts, the Next Generation Zonal Radar, an upgrade to the Tier One Material Inspection System (TOMIS), and Tape Improvement. Continues development efforts for advanced LO materials, structures, procedures, other Advanced Signature Reduction efforts, and enhanced diagnostics and measurement systems.  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b>			11.701	24.841	32.477

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force			<b>Date:</b> February 2018		
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>			<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
Funding levels increased from FY 2018 to FY 2019 due to improved materials qualification, diagnostic tool development, and technology maturation.					
<b>Title:</b> B-2 Joint Air-to-Surface Standoff Missile - Extended Range (JASSM-ER) Integration <b>Description:</b> Integrates the Joint Air to Surface Standoff Missile, Extended Range weapon (JASSM-ER) onto the B-2. <b>FY 2018 Plans:</b> Continue acquisition planning and other pre-EMD activities in preparation for EMD contract award. <b>FY 2019 Plans:</b> Begin EMD efforts to include design finalization for Critical Design Review, Tech Order generation, and pre-production planning. <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> JASSM-ER integration funding decreases between FY 2018 and FY 2019 as the integration completes.			5.697	15.431	12.120
<b>Title:</b> B-2 Cryptographic Modernization <b>Description:</b> Provides NSA-mandated cryptographic modifications to three communication system components on the aircraft: Advanced Integrated Terminal (AIT) also known as AN/ARC-234 (UHF/VHF Radio), AN/ARC-211 (HF Radio), and the Multifunction Information Distribution System (MIDS) Low Volume Terminal (Link-16 Terminal). <b>FY 2018 Plans:</b> Complete Multifunction Information Distribution System (MIDS) Low Volume Terminal (LVT) Risk Reduction Terminal (RRT) Regression Testing. <b>FY 2019 Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Crypto modification funding decreases from FY 2018 to FY 2019 as program completes in order to meet NSA mandate.			2.085	1.987	0.000
<b>Title:</b> B-2 Adaptable Communications Suite (ACS) <b>Description:</b> The Adaptable Communications Suite provides a non-integrated avionics and communications system that allows the B-2 fleet to receive complete integrated mission data, time sensitive targeting information,intelligence updates, and positive command and control procedures. <b>FY 2018 Plans:</b>			0.000	0.199	0.197

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force			<b>Date:</b> February 2018		
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>			<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<p>Conduct acquisition planning, affordability assessments, and requirements maturation associated with future ACS requirements. Future ACS requirements include providing for a permanent BLOS communications system for integrated mission data, time sensitive targeting, intelligence updates, positive command and control capability, and address ACS obsolescence issues.</p> <p><b>FY 2019 Plans:</b> Continue requirements definition and maturation as new communications and mission planning systems come online. Continue to address ACS obsolescence issues.</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> No changes to ACS funding from FY 2018 to FY 2019.</p>					
<p><b>Title:</b> B-2 IFF Mode 5/S/ADS-B out</p> <p><b>Description:</b> B-2 IFF Mode 5/S/ADS-B Out provides improved combat identification security with better 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, in compliance with the FAA mandate. Mode S provides improved accuracy, altitude resolution, and reduced interference from closely spaced aircraft through interrogation of assigned transponder addresses.</p> <p><b>FY 2018 Plans:</b> Conduct acquisition planning and other pre-EMD activities in preparation for contract award.</p> <p><b>FY 2019 Plans:</b> Execute EMD activities to include Preliminary Design Review (PDR), Milestone B, developmental testing, and planning for IOT&amp;E.</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Funding increases from FY 2018 to FY 2019 due to increase in development activities, integration, and engineering work.</p>			0.000	7.687	18.139
<p><b>Title:</b> B-2 Crash Survivable Memory Unit (CSMU)</p> <p><b>Description:</b> The B-2 Crash Survivable Memory Unit (CSMU) provides a more capable Flight Data Recorder (FDR) with increased capacity for storing Flight Information Data (FID) for recovery and use in the event of a mishap. The initiative includes replacement of the current CSMU with an adapted Commercial Off the Shelf (COTS) replacement, modification of the Flight Data Recorder Processor (FDRP) to provide 28 vdc power to the new CSMU, modification of the FDRP Operational Flight Program (OFP), and addition of a Underwater Locator Beacon (ULB).</p> <p><b>FY 2018 Plans:</b> Conduct acquisition planning and other pre-EMD activities in preparation for 4Q FY 2018 EMD contract award. CSMU is an FY 2018 new start.</p> <p><b>FY 2019 Plans:</b></p>			0.000	2.372	4.818

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
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 2017	FY 2018	FY 2019
Perform Non-recurring Engineering (NRE) to adapt Commercial Off the Shelf (COTS) CSMU to the B-2 Flight Data Recorder (FDR) system; modify the FDRP; and update the FDRP OFP. Two prototype CSMUs will be assembled for integration and flight test, and two FDRPs will be modified to operate with the COTS CSMU design.												
FY 2018 to FY 2019 Increase/Decrease Statement: Increase from FY 2018 to FY 2019 funding due to the development of two prototype assets and modification of two Flight Data Recorders.												
Title: B-2 Radar Aided Targeting System (RATS)										0.000	0.000	23.721
Description: The Radar Aided Targeting System (RATS) is planned to be a software only solution implemented in several B-2 system level Operational Flight Programs (OFPs) to provide radar-aided enhanced targeting capability through weapon hand-off navigational updates for Type 2 nuclear weapons in a non-GPS environment.												
FY 2018 Plans: N/A												
FY 2019 Plans: Award Requirements Maturation (RM) effort, affordability assessments, and other pre-EMD activities. Radar Aided Targeting System (RATS) is a new start.												
FY 2018 to FY 2019 Increase/Decrease Statement: Program is a New Start in FY 2019.												
Accomplishments/Planned Programs Subtotals										73.768	54.523	91.472
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost	
• APAF 05 Line Item B00200: B-2 CVR Inc 1 Mod Funding, PE 0101127F	18.592	10.610	7.051	-	7.051	2.376	-	-	-	0.000	38.629	
• APAF 05 Line Item B00200 (1)...: B-2 Training Support Modification, PE 0809731F	0.428	9.082	7.800	-	7.800	7.938	8.080	8.242	8.392	Continuing	Continuing	
• APAF 05 Line Item B00200 (2)...: B-2 Flexible Strike Mod Funding, PE 0101127F	4.214	6.658	7.662	-	7.662	4.894	-	-	-	0.000	23.428	



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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization	

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

<u>Line Item</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u> <u>Base</u>	<u>FY 2019</u> <u>OCO</u>	<u>FY 2019</u> <u>Total</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 07 Line Item B00200: B-2 Post Production Support, B-2A ICS for CVR Inc 1: PE 0101127F	0.010	0.131	1.442	-	1.442	1.403	1.686	1.686	1.785	Continuing	Continuing
• APAF 06 Line Item B00200: B-2 Squadrons, A/C Initial Spares for CVR Inc 1	2.036	2.578	-	-	-	-	-	-	-	0.000	4.614
• APAF 07 Line Item B00200 (5)...: B-2 Depot Activation for CVR Inc 1, PE 0101127F	-	2.025	-	-	-	-	-	-	-	0.000	2.025
• APAF 05 Line Item B00200 (6)...: B-2 LOSSM Mod Funding, PE 0101127F	8.263	8.454	13.489	-	13.489	9.607	19.878	20.276	20.645	Continuing	Continuing
• APAF 05 Line Item B00200 (7)...: B-2 CSMU Mod Funding, PE 0101127F	-	-	-	-	-	2.480	0.793	1.601	1.631	Continuing	Continuing
• APAF 05 Line Item B00200 (8)...: B-2 IFF Mode 5/S Mod Funding, PE 0101127F	-	-	-	-	-	1.984	7.239	15.020	15.294	Continuing	Continuing
• APAF 05 Line Item B00200 (9)...: B-2 B61-12 Integration Mod	-	27.514	-	-	-	-	-	-	-	0.000	27.514
• APAF 05 Line Item B00200 (10)...: B-2 MGUE Mod	4.066	10.704	0.578	-	0.578	0.990	-	-	-	0.000	16.338

**Remarks**

**D. Acquisition Strategy**

Key elements of the overall acquisition strategy include: use of sole source contract with a prime/integrating contractor (Northrop Grumman), employ the program office as the system integrator when practical, leverage mature technology and systems development investments by other Department of Defense organizations, encourage prime contractor competition of subsystems and key components to reduce risk and cost, use of cost plus incentive fee (CPIF) development contracts, and combine developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and differences in fielded configurations.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force** **Date:** February 2018

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0101127F / B-2 Squadrons	<b>Project (Number/Name)</b> 675345 / B-2 Modernization
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Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
B-2 Flex Strike Phase 1	Various	Various : Various	-	35.289	Oct 2016	1.893	Dec 2017	-		-		-	0.000	37.182	-
B-2 Common Very Low Frequency Receiver (CVR)	Various	Various : Various	-	10.709	Oct 2016	-		-		-		-	0.000	10.709	-
Low Observable Signature and Supportability Mods	Various	Various : Various	-	11.418	Feb 2017	23.141	Dec 2017	29.943	Nov 2018	-		29.943	Continuing	Continuing	-
B-2 Joint Air-to-Surface Standoff Missile - Extended Range (JASSM-ER) Integration	Various	Various : Various	-	5.315	Sep 2017	12.672	Jan 2018	8.727	Jan 2019	-		8.727	0.000	26.714	-
B-2 Cryptographic Modernization	Various	Various : Various	-	0.963	Jul 2017	1.719	Dec 2017	-		-		-	0.000	2.682	-
B-2 Adaptable Communications Suite (ACS)	Various	Various : Various	-	0.000	Jul 2017	0.188	Dec 2017	0.184	Dec 2018	-		0.184	Continuing	Continuing	-
B-2 IFF Mode 5/S/ADS-B Out	Various	Various : Various	-	-		7.247	Jan 2018	16.343	Jan 2019	-		16.343	Continuing	Continuing	-
B-2 Crash Survivable Memory Unit (CSMU)	Various	Various : Various	-	-		2.218	Aug 2018	4.166	Jan 2019	-		4.166	2.992	9.376	-
B-2 RATS	Various	Various : Various	-	-		-		19.599	Jan 2019	-		19.599	0.000	19.599	-
Aircrew Training	Various	Various : Various	-	1.100	Dec 2016	0.086	Dec 2017	1.091	Dec 2018	-		1.091	Continuing	Continuing	-
Mission Planning	Various	Various : Various	-	0.014	Jan 2017	0.430	Jan 2018	1.100	Jan 2019	-		1.100	Continuing	Continuing	-
<b>Subtotal</b>			-	64.808		49.594		81.153		-		81.153	Continuing	Continuing	N/A

**Remarks**  
Northrop-Grumman is the prime contractor and serves as integrator and hence main contractor for many (ie "Various"), but not all, B-2 modernization efforts.

Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Government Test	MIPR	Various : CA	-	5.336	Nov 2016	1.555	Nov 2017	3.525	Nov 2018	-		3.525	Continuing	Continuing	-
<b>Subtotal</b>			-	5.336		1.555		3.525		-		3.525	Continuing	Continuing	N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2019 Air Force</b>												<b>Date: February 2018</b>			
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0101127F / B-2 Squadrons						<b>Project (Number/Name)</b> 675345 / B-2 Modernization			
<b>Management Services (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PMA	Various	Various : TBD	-	3.624	Oct 2016	3.374	Oct 2017	6.794	Oct 2018	-		6.794	Continuing	Continuing	-
<b>Subtotal</b>			-	3.624		3.374		6.794		-		6.794	Continuing	Continuing	N/A
			<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	73.768		54.523		91.472		-		91.472	Continuing	Continuing	N/A
<b>Remarks</b> Award dates listed are the first incremental funding opportunity associated with each cost category.															

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2019 Air Force

Date: February 2018

Appropriation/Budget Activity

3600 / 7

R-1 Program Element (Number/Name)

PE 0101127F / B-2 Squadrons

Project (Number/Name)

675345 / B-2 Modernization

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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>B-2 Modifications Schedule</b>																												
Flexible Strike EMD																												
Flexible Strike Ph 1 Milestone C																												
Flexible Strike Ph 1 Production Contract Award																												
Flexible Strike Production																												
Flexible Strike Ph 1 Required Assets Available																												
Common Very Low Frequency Receiver EMD																												
Common Very Low Frequency Receiver Milestone C																												
Common Very Low Frequency Receiver Production Contract Award																												
Common Very Low Frequency Production																												
Common Very Low Frequency Receiver Required Assets Available																												
Low Observable Signature and Supportability Mods and Trainers																												
JASSM-ER Integration Preliminary Design																												
JASSM-ER Integration Milestone B																												
Crypto Modification Regression Testing																												
IFF Mode 5/S ADS-B Out TMRR Phase																												
IFF Mode 5/S ADS-B Out Milestone B																												
IFF Mode 5/S ADS-B Out EMD Phase																												
Crash Survivable Memory Unit Milestone B																												
Crash Survivable Memory Unit EMD Contract																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force																				Date: February 2018								
Appropriation/Budget Activity										R-1 Program Element (Number/Name)										Project (Number/Name)								
3600 / 7										PE 0101127F / B-2 Squadrons										675345 / B-2 Modernization								
	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
Crash Survivable Memory Unit Milestone C / Production and Deployment	<div></div>																											
Radar Aided Targeting System (RATS) Software Development and Fielding	<div></div>																											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Air Force			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0101127F / <i>B-2 Squadrons</i>	<b>Project (Number/Name)</b> 675345 / <i>B-2 Modernization</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>B-2 Modifications Schedule</i></b>				
Flexible Strike EMD	1	2017	2	2019
Flexible Strike Ph 1 Milestone C	2	2018	2	2018
Flexible Strike Ph 1 Production Contract Award	2	2018	2	2018
Flexible Strike Production	2	2018	4	2021
Flexible Strike Ph 1 Required Assets Available	4	2020	4	2020
Common Very Low Frequency Receiver EMD	1	2017	4	2017
Common Very Low Frequency Receiver Milestone C	1	2017	1	2017
Common Very Low Frequency Receiver Production Contract Award	1	2017	1	2017
Common Very Low Frequency Production	2	2017	2	2020
Common Very Low Frequency Receiver Required Assets Available	2	2019	2	2019
Low Observable Signature and Supportability Mods and Trainers	1	2017	4	2023
JASSM-ER Integration Preliminary Design	3	2018	1	2019
JASSM-ER Integration Milestone B	1	2019	2	2019
Crypto Modification Regression Testing	3	2018	1	2019
IFF Mode 5/S ADS-B Out TMRR Phase	2	2018	4	2019
IFF Mode 5/S ADS-B Out Milestone B	3	2019	3	2019
IFF Mode 5/S ADS-B Out EMD Phase	3	2019	2	2020
Crash Survivable Memory Unit Milestone B	2	2018	2	2018
Crash Survivable Memory Unit EMD Contract	4	2018	2	2020
Crash Survivable Memory Unit Milestone C / Production and Deployment	2	2020	2	2023
Radar Aided Targeting System (RATS) Software Development and Fielding	2	2019	1	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
676021: BASELINE SUPPORT	0.000	13.181	13.967	14.089	0.000	14.089	14.351	14.599	14.903	15.175	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 ensures the Mission Planning System keeps pace with aircraft modifications and improves the mission planning core system. Baseline Support provides for other B-2 unique government costs and includes assorted studies of aircraft performance and cost trades as well as acquisition planning activities, up to and including proposal preparation, for future aircraft, engine, weapon, communication, navigation or other capabilities.												
Funds may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, accommodate technology insertion and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2017	FY 2018	FY 2019	
Title: Baseline Support Acq Plan/Studies/Integr Test Support									0.297	0.297	0.297	
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.												
FY 2018 Plans: Continue Baseline Support activities including acquisition planning for future capabilities, long range planning, studies, program integration activities, integration and test support of upgraded crypto components.												
FY 2019 Plans: Continue Baseline Support activities including acquisition planning for future capabilities, long range planning, studies, program integration activities, integration and test support of upgraded crypto components.												
FY 2018 to FY 2019 Increase/Decrease Statement: No change to Baseline Support Acq Plan/Studies/Integr Test Support funding from FY 2018 to FY 2019.												
Title: Baseline Support Flight Test									10.161	13.670	13.792	
Description: 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.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force		<b>Date:</b> February 2018	
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0101127F / B-2 Squadrons	<b>Project (Number/Name)</b> 676021 / BASELINE SUPPORT	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>
<b>FY 2018 Plans:</b> Continue B-2 Flight Test activities, maintaining and upgrading the B-2 unique flight test aircraft as well as hardware/software and test equipment, to support developmental systems integration and flight test, and test aircraft de-mod efforts.			
<b>FY 2019 Plans:</b> Continue B-2 Flight Test activities, maintaining and upgrading the B-2 unique flight test aircraft as well as hardware/software and test equipment, to support developmental systems integration and flight test, and test aircraft de-mod efforts.			
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> No significant change to Baseline Support Flight Test funding from FY 2018 to FY 2019.			
<b>Title:</b> Baseline Support Mission Planning  <b>Description:</b> Description: Baseline Support Mission Planning System improvements ensure the mission planning system keeps pace with aircraft modifications and improves mission planning core systems.		2.723	0.000
<b>FY 2018 Plans:</b> Effort completed in FY 2017.			
<b>FY 2019 Plans:</b> N/A			
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> N/A			
<b>Accomplishments/Planned Programs Subtotals</b>		13.181	13.967
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
Key elements of the overall 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; and the combination of developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and differences in fielded configurations.			
<b>E. Performance Metrics</b>			
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.			



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons				Project (Number/Name) 676021 / BASELINE SUPPORT					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Mission Planning	Various	Various : Various	-	2.248	Oct 2016	-		-		-		-	0.000	2.248	-
Subtotal			-	2.248		-		-		-		-	0.000	2.248	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Other Government Costs	Various	Various : Various	-	7.661	Oct 2016	9.919	Oct 2017	9.799	Oct 2018	-		9.799	Continuing	Continuing	-
Subtotal			-	7.661		9.919		9.799		-		9.799	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Government Test	MIPR	AFTC : CA	-	2.841	Oct 2016	3.200	Oct 2017	3.268	Oct 2018	-		3.268	Continuing	Continuing	-
Subtotal			-	2.841		3.200		3.268		-		3.268	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
PMA	Various	Various : TBD	-	0.431	Oct 2016	0.848	Oct 2017	1.022	Oct 2018	-		1.022	Continuing	Continuing	-
Subtotal			-	0.431		0.848		1.022		-		1.022	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	13.181		13.967		14.089		-		14.089	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&amp;E Schedule Profile: PB 2019 Air Force

Date: February 2018

Appropriation/Budget Activity

3600 / 7

R-1 Program Element (Number/Name)

PE 0101127F / B-2 Squadrons

Project (Number/Name)

676021 / BASELINE SUPPORT

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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>B-2 Baseline Support</b>																												
FY17 Flight Test Core Support Contract Award	■																											
Mission Planning 4.4 Release			■																									
FY18 Flight Test Core Support Contract Award					■																							
FY19 Flight Test Core Support Contract Award									■																			
FY20 Flight Test Core Support Contract Award													■															
FY21 Flight Test Core Support Contract Award																■												
FY22 Flight Test Core Support Contract Award																				■								
FY23 Flight Test Core Support Contract Award																									■			

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Air Force			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0101127F / <i>B-2 Squadrons</i>	<b>Project (Number/Name)</b> 676021 / <i>BASELINE SUPPORT</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>B-2 Baseline Support</i></b>				
FY17 Flight Test Core Support Contract Award	1	2017	1	2017
Mission Planning 4.4 Release	3	2017	3	2017
FY18 Flight Test Core Support Contract Award	1	2018	1	2018
FY19 Flight Test Core Support Contract Award	1	2019	1	2019
FY20 Flight Test Core Support Contract Award	1	2020	1	2020
FY21 Flight Test Core Support Contract Award	1	2021	1	2021
FY22 Flight Test Core Support Contract Award	1	2022	1	2022
FY23 Flight Test Core Support Contract Award	1	2023	1	2023

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force										<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0101127F / B-2 Squadrons				<b>Project (Number/Name)</b> 676022 / AEHF Strategic Comm			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
676022: AEHF Strategic Comm	0.000	36.024	124.618	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	160.642
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**  
The initial FY 2016 efforts for B-2 AEHF (strategic communication) were documented in PE 0101127F BPAC 675345 B-2 Modernization.

**A. Mission Description and Budget Item Justification**  
The B-2 Advanced Extremely High Frequency (AEHF) Satellite Communications (SATCOM) system provides secure, strategic, two-way, survivable Anti-Access/Area Denial communications capability for conventional and nuclear missions. The effort was established in Project 675345 B-2 Modernization; the B-2 AEHF effort continued in FY 2017 and subsequent years under Project 676022 AEHF Strategic Comm. The AEHF SATCOM program was terminated in the FY 2019 Budget.

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<b>Title:</b> B-2 AEHF (Strategic Communication)  <b>Description:</b> B-2 AEHF (Strategic Communication) provides secure, strategic, two-way, survivable Anti-Access/Area Denial communications capability for conventional and nuclear missions.  <b>FY 2018 Plans:</b> Continue TMRR efforts to include conducting a System Functional Review (SFR) and Preliminary Design Review (PDR). Develop pre-EMD RFP and accomplish activities to support a future Milestone B decision.  <b>FY 2019 Plans:</b> B-2 EHF SATCOM program is terminated in FY 2019 budget.  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> B-2 EHF SATCOM program is terminated in FY 2019 budget.	36.024	124.618	0.000
<b>Accomplishments/Planned Programs Subtotals</b>	36.024	124.618	0.000

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

**Remarks**

**D. Acquisition Strategy**  
Key elements of the overall acquisition strategy include: use of sole source contract with a prime/integrating contractor (Northrop Grumman), leverage mature technology and system development investments by other Department of Defense organizations, encourage prime contractor to conduct competitions at the subsystem/key

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 676022 / AEHF Strategic Comm
<p>component level to reduce risk and cost, use cost plus incentive fee (CPIF) development contracts, and combine developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and differences in fielded configurations</p> <p><b>E. Performance Metrics</b></p> <p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2019 Air Force</b>												<b>Date: February 2018</b>			
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0101127F / B-2 Squadrons						<b>Project (Number/Name)</b> 676022 / AEHF Strategic Comm			
<b>Product Development (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AEHF Strategic Comm	SS/CPIF	Northrop Grumman : Palmdale, CA	-	34.511	Jul 2017	117.080	Dec 2017	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	34.511		117.080		-		-		-	Continuing	Continuing	N/A
<b>Remarks</b> Northrop-Grumman is the prime contractor and lead integrator.															
<b>Management Services (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PMA	Various	Various : TBD	-	1.513	Oct 2016	7.538	Jan 2018	-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			-	1.513		7.538		-		-		-	Continuing	Continuing	N/A
			<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	36.024		124.618		-		-		-	Continuing	Continuing	N/A
<b>Remarks</b> 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 2019 Air Force						Date: February 2018					
Appropriation/Budget Activity						R-1 Program Element (Number/Name)					
3600 / 7						PE 0101127F / B-2 Squadrons					
						Project (Number/Name)					
						676022 / AEHF Strategic Comm					

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
Program Terminated																												
Termination																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 676022 / AEHF Strategic Comm

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Program Terminated</i>				
Termination	1	2019	1	2019

**Note**  
Program is terminated in the FY19 budget. No events are planned.