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* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*							
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	10,031.708	161.966	311.844	60.565	0.000	60.565	0.001	0.000	0.000	0.001	Continuing	Continuing
653616: *SBIRS High Element Emd*	10,031.708	108.890	121.760	50.436	0.000	50.436	0.000	0.000	0.000	0.001	0.000	10,312.795
657009: *Space Mod Initiative*	0.000	53.076	173.537	10.129	0.000	10.129	0.001	0.000	0.000	0.000	Continuing	Continuing
657106: *Evolved SBIRS*	0.000	0.000	16.547	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Program MDAP/MAIS Code: 210												

Note

Starting in FY 2019, PE 1206441F,Space Based Infrared System (SBIRS) High EMD, Project 657009, Space Mod Initiative efforts were transferred to PE 1206442F, Evolved SBIRS, Project 657009, SMI, in order to realign the Evolved SBIRS.

Starting in FY 2019, PE 1206441F,Space Based Infrared System (SBIRS) High EMD, Project 657106, Evolved SBIRS efforts were transferred to PE 1206442F, Evolved SBIRS, Project 657106, Evolved SBIRS Ground, in order to realign the Evolved SBIRS. The realignment will provide better insight into space and ground elements of the future SBIRS system.

A. Mission Description and Budget Item Justification

The SBIRS RDT&E FY 2019 budget justification exhibits describe three elements of the SBIRS program: 1) the SBIRS Engineering and Manufacturing Development (EMD) program of record PNO 210 MDAP, 2) the Space Modernization Initiative (SMI) (non-MDAP) and the 3) Evolved SBIRS follow-on (pre-MDAP PNO 499).

1. SBIRS EMD: The Space-Based Infrared System (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces, and its allies. SBIRS enhances detection and improves reporting of intercontinental ballistic missile launches, submarine launched ballistic missile launches, and tactical ballistic missile launches. SBIRS supports Missile Defense, Battlespace Awareness, and Technical Intelligence missions by providing reliable, accurate, and timely data to Unified Combatant Commanders, Joint Task Force (JTF) Commanders, the intelligence community, and other users. SBIRS provides increased detection and tracking performance over legacy systems in order to meet requirements in Air Force Space Command's (AFSPC) Operational Requirements Document (ORD). The SBIRS system includes both space and ground elements. The space segment consists of Geosynchronous Earth Orbit (GEO) satellites, payloads hosted on satellites in Highly Elliptical Orbit (HEO), and Defense Support Program (DSP) satellites. The ground segment consists of both fixed and mobile data processing elements, communications infrastructure, and relay ground stations serving all SBIRS space elements. Four HEO payloads and four GEO satellites are on-orbit. Two of the four GEO and two of the four HEO satellites have completed AFSPC and USSTRATCOM operational acceptance and are certified for Integrated Tactical Warning/ Attack Assessment (ITW/AA) missile warning operations and technical intelligence operations. HEO-3 and HEO-4 are in a storage/residual operational mode. GEO-4 (Flight 3) and GEO-3 (Flight 4) are proceeding through on-orbit checkout and infrared sensor tuning following their respective launches in Jan 2017 and Jan 2018. The program of record (PoR)ground segment development exploits both the new scanner and starer sensor data through software processing and builds user messages for missile warning and missile defense. Also, data exploitation efforts enable access to raw and processed data to expand capabilities for battlespace awareness and other applications. The baseline

requirement document is the 1996 SBIRS ORD. Enterprise Systems Engineering and Integration (SE&I) provides intra- and inter-program requirements development, enterprise master planning, validation and verification, specialty engineering, and architecture development.

2. SMI: The primary objective of SMI is to enable and inform future decisions to maintain and evolve a capable, resilient, and affordable OPIR architecture by maturing technologies and mitigating risk areas to facilitate OPIR modernization within the Department's constrained resources. SMI supports the PoR by assessing future parts and material obsolescence and designing future space and ground modifications focused on affordability and capability while simultaneously maximizing the effectiveness of existing system data products. SMI funds engineering activities to reduce both production and future system costs through manufacturing and producibility enhancements and through technology insertion. SMI will also mature potential technology upgrades at the component and system level for future space and ground architecture affordability and capability enhancements. The SBIRS OPIR SMI plan includes studies and risk reduction activities to evolve the current PoR SBIRS constellation, reduce production timelines, and reduce recurring production costs. Based on the outcome of these studies and technology development, the Sensor Ground Demonstration will develop capability for current, next generation sensors, processors, and algorithms. SMI funded data exploitation efforts include OPIR mission data processing (MDP), data fusion, data dissemination, algorithm development, network connectivity, efficient interfaces and sensor performance assessments to enable greater exploitation of SBIRS PoR and other data sources. SMI exploitation efforts build upon PoR capabilities and inform the PoR decision process. The data exploitation efforts identify affordable, responsive and resilient measures to improve technical intelligence and battlespace awareness processing and data dissemination tools to enhance OPIR support to the warfighters and other data users. The SMI Hosted Payloads and Wide Field of View (WFOV) Testbed activities explore technology maturation, qualification of new components, and subsystem/component prototyping to evolve the OPIR architecture. Hosted Payloads and WFOV Testbeds support maturation of MDP algorithms for tactical and strategic applications which are critical demonstration efforts to enhance PoR capabilities and to reduce program risks for future OPIR systems, whether new systems or evolutions of the PoR. Collection of on-orbit WFOV data is critical to develop algorithms to process large data sets generated by emerging large format focal planes and to reduce risk for possible SBIRS follow-on architectures. SBIRS Enterprise Ground Services (EGS) infrastructure modernization efforts under SMI will introduce Telemetry, Tracking and Command systems (TT&C) and Ground Control automation, Future Operationally Resilient Ground Evolution (FORGE) MDP as well as competition into SBIRS Ground with an emphasis to on-ramp to EGS as soon as practical. SMI activities are balanced and phased to enable an expanded tradespace and improve the competitive environment.

3. Evolved SBIRS: The Future Operationally Resilient Ground Evolution (FORGE) will consist of Command and Control (C2) migration to Enterprise Ground Services (EGS), modernization of Mission Data Processing (MDP), and required development/upgrades to Remote Ground Stations (RGS). The FORGE effort will implement an open framework for mission data processing and migration of C2 of satellite operations to integrate with EGS. FORGE and EGS efforts will provide the flexibility to integrate new MDP capabilities and more efficiently allow the system to meet evolving warfighter needs.

The current and future space domain demands that space systems be responsive to new and changing threats, and can rapidly integrate new capabilities to make our warfighting force more resilient in a contested battlespace. This agility, survivability, and rapid reconstitution must extend through the entire space warfighting enterprise, to include how we learn about the threat; develop solutions; acquire, test, deploy, train, operate and integrate new systems into the greater system of systems; and ensure our space mission force is ready to defeat a thinking adversary in a complex, multi-domain battlespace. The enterprise will use all of its elements to accelerate decision-making, prototype potential solutions, rapidly integrate decision-making tools and sustain a war-winning capability by delivering multi-domain effects in, from, and through space and cyberspace enabling battle management and resilience options to "fight through."

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* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*

This program element may include necessary civilian pay expenses required to manage, execute, and deliver SBIRS High EMD, SMI, and OPIR Enterprise weapon system capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	218.766	311.844	345.460	0.000	345.460
Current President's Budget	161.966	311.844	60.565	0.000	60.565
Total Adjustments	-56.800	0.000	-284.895	0.000	-284.895
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	-20.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-36.800	0.000	-284.895	0.000	-284.895

Change Summary Explanation

FY 2017: Congressional Mark (-$20.000M) unjustified request from Tech Maturation and (-$36.800M) RAA Backout.
FY 2019, PE 1206441F,Space Based Infrared System (SBIRS) High EMD, Project 657009, Space Mod Initiative efforts were transferred to PE 1206442F, Evolved SBIRS, Project 657009, SMI, in order to realign the Evolved SBIRS. FY 2018 and prior remain in PE 1206441F.
FY 2019, PE 1206441F,Space Based Infrared System (SBIRS) High EMD, Project 657106, Evolved SBIRS efforts were transferred to PE 1206442F, Evolved SBIRS, Project 657106, Evolved SBIRS Ground, in order to realign the Evolved SBIRS.
FY 2019: +$12.8M for SBIRS Standard Space Trainer (SST), -$65M SMI ISR Reduction, -$136.201M Realign SMI to Next Gen PE, -$96.039M Realign all of FY 2019 Evolved SBIRS to PE 1206442F

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 653616 / *SBIRS High Element Emd*	

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
653616: *SBIRS High Element Emd*	10,031.708	108.890	121.760	50.436	0.000	50.436	0.000	0.000	0.000	0.001	0.000	10,312.795
Quantity of RDT&E Articles	4	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Note: The quantity of RDT&E articles above reflects delivery of GEO-1 in FY 2011, GEO-2 in FY 2012, HEO-1 in FY 2004, and HEO-2 in FY 2005.

The SBIRS primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces, and its allies. SBIRS enhances detection and improves reporting of intercontinental ballistic missile launches, submarine launched ballistic missile launches, and tactical ballistic missile launches. SBIRS supports Missile Defense, Battlespace Awareness, and Technical Intelligence missions by providing reliable, accurate, and timely data to Unified Combatant Commanders, Joint Task Force (JTF) Commanders, the intelligence community, and other users. SBIRS provides increased detection and tracking performance over legacy systems in order to meet requirements in Air Force Space Command's (AFSPC) Operational Requirements Document (ORD). The SBIRS system includes both space and ground elements. The space segment consists of GEO satellites, payloads hosted on satellites in HEO, and Defense Support Program (DSP) satellites. The ground segment consists of both fixed and mobile data processing elements, communications infrastructure, and relay ground stations serving all SBIRS space elements. The three HEO payloads and two GEO satellites are on-orbit. Both GEO and two of the four HEO satellites have completed AFSPC and USSTRATCOM operational acceptance and are certified for Integrated Tactical Warning/Attack Assessment (ITW/AA) missile warning operations and technical intelligence operations. HEO-3 is in a storage/ residual operational mode. The PoR ground segment development exploits both the new scanner and starer sensor data through software processing and builds user messages for missile warning and missile defense. Also, data exploitation efforts enable access to raw and processed data to expand capabilities for battlespace awareness and other applications. SBIRS ground system cyber defense increases resiliency by resolving legacy DSP network architecture issues and establishes an active cyber defense capability. The baseline requirement document is the 1996 SBIRS ORD. Enterprise SE&I provides intra- and inter-program requirements development, enterprise master planning, validation and verification, specialty engineering, and architecture development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: SBIRS EMD	108.890	121.760	50.436
Description: Continued EMD contracts for Space and Ground segment development, concept studies/activities for obsolescence issues. ***FY 2018 Plans:*** Continue Block 20 Ground System Development, System Engineering and Program Management, HEO host program office support, Technical Intelligence activities, Data Processing/ Exploitation/ground integration activities, systems integration and test studies. Continue developing and fielding Command & Control, Technical Intelligence, and Battlespace Awareness operations to leverage residual capability for HEO 1/2 post-transition. Decommissioning of Increment 1 facilities replaced by Block 10 will occur			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element Emd*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
in a time phased manner through O&M efforts. Continue enterprise SE&I. Continue cyber defense improvements to SBIRS ground system architecture in Block 20 to address identified deficiencies during operational testing. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc. ***FY 2019 Plans:*** Complete Block 20 Ground System Development, System Engineering and Program Management, HEO host program office support, Technical Intelligence activities, Data Processing/ Exploitation/ground integration activities, systems integration and test studies. Execute Block 20 fielding and OA time phased with operational priorities to enable effective fielding of capabilities while minimizing concurrency risks to current ITW/AA operations. Decommissioning of Increment 1 facilities replaced by Block 10 will occur in a time phased manner through O&M efforts. Complete developing and fielding Command & Control, Technical Intelligence, and Battlespace Awareness operations to leverage residual capability for HEO 1/2 post-transition. Continue enterprise SE&I. Complete cyber defense improvements to SBIRS ground system architecture in Block 20 to address identified deficiencies during operational testing. Complete Standard Space Trainer (SST) Phase 3. Phase 3 incorporates the next generation of upgrades to the SBIRS SST to address current system deficiencies. Continue program office support and other related support activities. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY 2019 decreased compared to FY 2018 by $71.945M. Justification for this decrease is described in plans above			
Accomplishments/Planned Programs Subtotals	108.890	121.760	50.436

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
• SPAF 01 Line 13, MSSBIR: *SBIR High (Space)*	355.114	1,113.429	138.397	-	138.397	136.552	113.065	8.188	8.340	Continuing	Continuing

Remarks

D. Acquisition Strategy

The pre-SDD SBIRS contracts were competed in full and open competition. Two contracts were awarded to Lockheed/Loral/Aerojet and Hughes/TRW in 1995 for the pre-SDD phase. A single contract was awarded to Lockheed Martin in 1996 for the SDD phase. This contract is still ongoing and will incrementally deliver the ground segment. Production contracts are discussed in the procurement budget exhibits.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element Emd*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element Emd*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Pre-EMD (LMMS & Hughes)	C/CPFF	Hughes Aircraft Company : El Segundo, CA	159.600	0.000		-		-		-		-	0.000	159.600	159.600
SBIRS EMD	Various	Prime: Lockheed MartinSub:Northrop Grumman : Sunnyvale; Azusa, CA	8,940.461	86.629	Oct 2016	104.333	Oct 2017	27.488	Oct 2018	-		27.488	0.000	9,158.911	9,158.709
Enterprise SE&I	C/CPAF	The Analytical Sciences Corporation : El Segundo, CA	56.009	4.979	Dec 2016	2.971	Dec 2017	-		-		-	0.000	63.959	64.541
SST Phase 3	C/CPAF	Not specified. : TBD	0.000	-		-		12.800	Oct 2018	-		12.800	0.000	12.800	-
SBIRS Pre-SDD Contract Adjustment	Various	Various : Various	4.780	0.000		-		-		-		-	0.000	4.780	4.780
Technology	Various	Various : Various	11.600	0.000		-		-		-		-	0.000	11.600	11.600
Phenomenology	Various	Various : Various	17.350	0.000		-		-		-		-	0.000	17.350	17.350
Sensor Technology	Various	Sandia National Lab : Albuquerque, NM	10.000	0.000		-		-		-		-	0.000	10.000	10.000
Technical Mission Analysis	RO	Aerospace Corp. : El Segundo, CA	8.869	5.050	Oct 2016	5.089	Oct 2017	5.241	Oct 2018	-		5.241	0.000	24.249	22.794
HEO Command & Control (C2) Ground Expansion	Various	Lockheed Martin : Sunnyvale, CA	36.259	0.000		-		-		-		-	0.000	36.259	36.259
HEO 1/2 Residual Capability	Various	Various : Various	14.600	0.000		-		-		-		-	0.000	14.600	14.600
		Subtotal	9,259.528	96.658		112.393		45.529		-		45.529	0.000	9,514.108	N/A

Remarks

Award dates represent date of first award of the funds for that fiscal year.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element Emd*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
WFOV Testbed Concept Study	MIPR	Millennium Space Systems : El Segundo, CA	8.000	0.000		-		-		-		-	0.000	8.000	8.000
Program Support	Various	Various : Various	11.942	0.000		-		-		-		-	0.000	11.942	11.942
		Subtotal	19.942	0.000		-		-		-		-	0.000	19.942	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC	RO	Aerospace Corp. : El Segundo, CA	459.775	5.450	Oct 2016	3.761	Oct 2017	3.874	Oct 2018	-		3.874	0.000	472.860	471.006
A&AS	Various	Various : Various	166.560	1.933	Dec 2016	2.559	Dec 2017	-		-		-	0.000	171.052	174.682
Other Support	Various	Various : Various	125.903	4.849	Oct 2016	3.047	Oct 2017	1.033	Oct 2018	-		1.033	0.000	134.832	134.510
		Subtotal	752.238	12.232		9.367		4.907		-		4.907	0.000	778.744	N/A

Remarks

Award dates represent date of first award of the fiscal year.

	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	10,031.708	108.890		121.760		50.436		-		50.436	0.000	10,312.794	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element Emd*

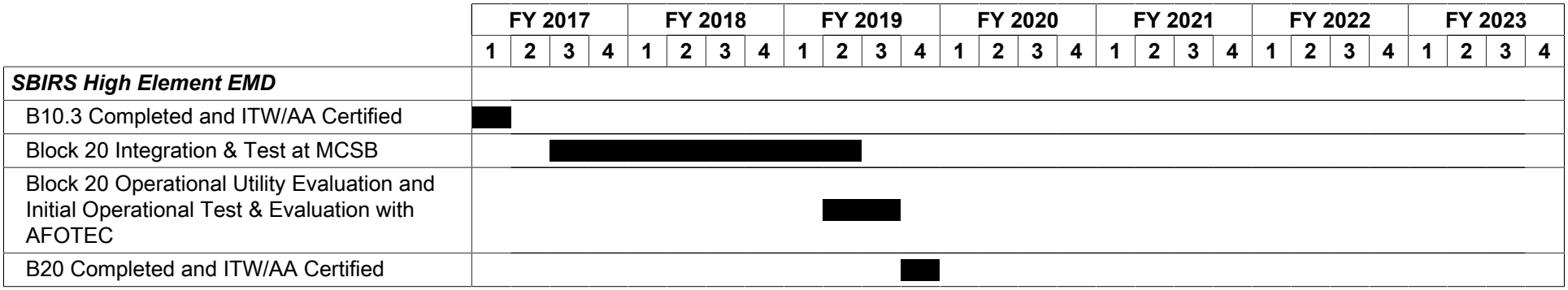

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element Emd*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SBIRS High Element EMD				
B10.3 Completed and ITW/AA Certified	1	2017	1	2017
Block 20 Integration & Test at MCSB	3	2017	2	2019
Block 20 Operational Utility Evaluation and Initial Operational Test & Evaluation with AFOTEC	2	2019	3	2019
B20 Completed and ITW/AA Certified	4	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 657009 / *Space Mod Initiative*	

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
657009: *Space Mod Initiative*	0.000	53.076	173.537	10.129	0.000	10.129	0.001	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Starting in FY2019, PE 1206441F, Space Based Infrared System (SBIRS), Project 657009, Space Mod Initiative efforts were transferred to PE 1206442F, Evolved SBIRS, Project 657009, SMI based on Air Force panel direction. FY18 and prior remain in PE 1206441F.

A. Mission Description and Budget Item Justification

The primary objective of SMI is to enable and inform future decisions to maintain and evolve a capable, resilient, and affordable OPIR architecture by maturing technologies and mitigating risk areas to facilitate OPIR modernization within the Department's constrained resources. SMI supports the PoR by assessing future parts and material obsolescence and designing future space and ground modifications focused on affordability and capability while simultaneously maximizing the effectiveness of existing system data products. SMI funds engineering activities to reduce both production and future system costs through manufacturing and producibility enhancements and through technology insertion. SMI will also mature potential technology upgrades at the component and system level for future space and ground architecture affordability and capability enhancements. The SBIRS OPIR SMI plan includes studies and risk reduction activities to evolve the current PoR SBIRS constellation, reduce production timelines, and reduce recurring production costs. Based on the outcome of these studies and technology development, the Sensor Ground Demonstration will develop capability for current, next generation sensors, processors, and algorithms. SMI funded data exploitation efforts include OPIR mission data processing, data fusion, data dissemination, algorithm development, network connectivity, efficient interfaces and sensor performance assessments to enable greater exploitation of SBIRS PoR and other data sources. SMI exploitation efforts build upon PoR capabilities and inform the PoR decision process. The data exploitation efforts identify affordable, responsive and resilient measures to improve technical intelligence and battlespace awareness processing and data dissemination tools to enhance OPIR support to the warfighters and other data users. The SMI Hosted Payloads and Wide Field of View (WFOV) Testbed activities explore technology maturation, qualification of new components, and subsystem/component prototyping to evolve the OPIR architecture. Hosted Payloads and WFOV Testbeds support maturation of MDP algorithms for tactical and strategic applications which are critical demonstration efforts to enhance PoR capabilities and to reduce program risks for future OPIR systems. Collection of on-orbit WFOV data is critical to develop algorithms to process large data sets generated by emerging large format focal planes and to reduce risk for possible SBIRS follow-on architectures. SBIRS EGS infrastructure modernization efforts under SMI will introduce Telemetry, Tracking and Command systems (TT&C) and Ground Control automation, FORGE MDP as well as competition into SBIRS Ground with an emphasis to on-ramp to EGS as soon as practical. SMI activities are balanced and phased to enable an expanded tradespace and improve the competitive environment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Technology Maturation	1.284	61.475	10.129
Description: Assess technology needs to support resiliency of PoR assets as well as future architectures, responsive to the evolving threat environment. Perform trade and design studies to assess obsolescence, affordability, capability design modifications, and CONOPS for the OPIR mission. Based on study outcomes, mature technologies and manufacturability to			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
reduce cost, schedule, and technical risk for new component and subsystem designs which may be used in the next production block. Develop modeling and simulation capabilities, and engineering model prototypes for hardware/software integration and testing to reduce risk and mature technologies applicable to PoR and future architectures. ***FY 2018 Plans:*** Continue prototyping resiliency hardware and maturing technologies critical to current and future PoRs which include large format Focal Plane Arrays (FPAs), intrinsically-hardened FPAs, resilient processing algorithms, pointing mirrors, threat warning sensors, and next generation space processors. Continue to develop technology options to address emerging threats and stressing targets to current and future OPIR systems. Continue to develop and space qualify ground and on-orbit prototypes to reduce risk for SBIRS and other OPIR programs. Continue to demonstrate system resiliency and advanced technology concepts via ground and on-orbit demonstrations in order to validate performance and prove enhanced system capabilities. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc. ***FY 2019 Plans:*** Continue prototyping resiliency hardware and maturing critical technologies which include large format Focal Plane Arrays (FPA), resilient FPAs and processing algorithms, pointing mirrors, threat warning sensors, and processors. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY2019 decreased compared to FY2018 by $51.346M. Justification for this decrease is described in plans above.			
Title: Data Exploitation	29.095	58.514	0.000
Description: Exploit existing OPIR data sources (DSP, SBIRS HEO, SBIRS GEO Scanner, SBIRS GEO Starer, Commercially Hosted Infrared Payload (CHIRP), and other classified sources) through data collection, processing, fusion, data dissemination, algorithm development and testing, network connectivity, and sensor performance assessments. SBIRS and other sensors provide a rich data set for exploitation. SMI data exploitation enables access to raw and processed data for data analysts and application developers to expand capabilities for battlespace awareness and other applications. SMI data exploitation efforts are complementary to, and enhance, the exploitation capabilities delivered by the PoR and inform future PoR exploitation efforts. SMI will develop tools and algorithms to enable users to apply OPIR data to support their mission needs. Data exploitation efforts are also evaluating tools for command and control, mission management, and MDP for risk reduction to support evolution of the SBIRS PoR ground system to an open architecture that could support PoR and other future satellites and payload alternatives. SMI ground system development activities seek to demonstrate the performance of an evolved ground system architecture capable of supporting multi-satellite, multi-payload, multi-mission management and data processing for any IR payload to achieve lower operating costs with enhanced net-centric and service oriented features along with a flexible expansion capability that was not designed into the current PoR ground system.			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
FY 2018 Plans: Continue to provide enhanced ground segment capability and tools for command and control, data collection, mission processing, and data dissemination to enhance mission resiliency and data exploitation of SBIRS and other OPIR data. Continue to collaborate with Intelligence Community and Missile Defense Agency to enhance Joint OPIR Ground initiatives. Continue WFOV MDP software development. Continue WFOV C2 ground station and software development. Continue planning for the WFOV payload calibration and test campaign. Complete building and expanding data exploitation laboratory capability into its final location to support experimentation, technology maturity and evolution of exploitation algorithms. Continue development and expansion of a Battlespace Awareness real-time capability and facility that will integrate applications and services matured in the data exploitation government lab. Develop and demonstrate the performance of an evolved ground system architecture to support multi-satellite, multi-payload, multi-mission management and data processing for any IR payload with enhanced net-centric and service oriented features along with a flexible expansion capability. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc. ***FY 2019 Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY2019 funds transferred to PE 1206442F.			
Title: Hosted Payloads ***Description:*** Hosted Payloads mature WFOV technology and demonstrate multi-mission capabilities including the potential for a single sensor to simultaneously perform both the strategic and tactical missions. On-orbit data is required in order to develop and validate WFOV algorithms and on-board MDP throughput requirements for the Strategic Missile Warning Mission. These payload risk-mitigation efforts support the potential to field future Strategic Missile Warning and/or multi-mission systems and potentially increase capability of the PoR starer. WFOV payloads are a part of all evolved and new architecture alternatives. ***FY 2018 Plans:*** Complete final payload integration and checkout. Deliver payload to the calibration and test facility. Conduct the payload calibration and test campaign. Deliver payload to bus contractor to begin space vehicle integration. Initiate post-calibration ground analysis. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc. ***FY 2019 Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:***	14.100	10.915	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
FY2019 funds transferred to PE 1206442F.			
Title: WFOV Testbeds	1.972	18.025	0.000
Description: WFOV Testbeds are satellite platforms offering opportunities to demonstrate mission capabilities on-orbit and mitigate development risks for employing WFOV sensors. WFOV Testbeds include contractual options to integrate, test, and launch prototype, developmental WFOV payloads with a Government-owned free-flyer spacecraft or on a host government or commercially owned satellite. The WFOV Testbed will host the WFOV payload to demonstrate on-orbit mission performance. On-orbit data from the WFOV payload hosted on the WFOV Testbed is essential to develop and validate WFOV algorithms and on-board MDP throughput requirements for the Strategic Missile Warning mission. These two critical risk mitigation efforts support the potential to field future Strategic Missile Warning and/or multi-mission WFOV systems. ***FY 2018 Plans:*** Begin payload-to-bus integration. Continue SEIT activities, including inter-segment testing and IA accreditation approval. Begin launch integration and analysis. Procure launch parts and materials. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc. ***FY 2019 Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY2019 funds transferred to PE 1206442F.			
Title: Sensor Ground Demonstration	0.000	9.020	0.000
Description: Based on Technology Maturation study outcomes, design and build test capability for next generation sensors, processors, and algorithms. Develop M&S software, breadboards/brassboards, test equipment, and data reduction software. Perform ground demonstration of candidate FPAs, optical filters, on-board processors, and other payload components for future Missile Warning satellites to validate requirements and ensure demonstrated technical maturity for the next-generation payload technologies and threat mitigation strategies. Activities for the Sensor Ground Demonstrator (SGD) were started in FY17 in Technology Maturation. ***FY 2018 Plans:*** Initiate the fabrication of the SGD test bed. Integrate M&S scenes to the demo test bed to begin scene projection on demo sensors. A test will be designed and conducted to expose a test sensor to a directed energy source. The test results will feed into an iterative process with the M&S scenes to refine and mature the design. The demo test bed will be used to validate resiliency			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
options identified by resiliency studies to inform the SBIRS Next-Gen OPIR program. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc. ***FY 2019 Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY2019 funds transferred to PE 1206442F.			
Title: Management Services ***Description:*** Provide program office and other related support activities that may include, but not limited to Federally Funded Research and Development Center (FFRDC), System Engineering Technical Assistance (SETA), studies, technical analysis, etc. ***FY 2018 Plans:*** Provide program office and other related support activities that may include, but not limited to FFRDC, SETA, studies, technical analysis, etc. ***FY 2019 Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** N/A	3.525	15.588	0.000
Title: Enterprise Ground Services (EGS) ***Description:*** EGS is envisioned to provide a robust enterprise ground architecture for Air Force space systems, which leverages mission commonality and automation to reduce sustainment costs and re-focus manpower on war fighting capabilities. In addition, EGS will enable a near-real-time common operating picture of enterprise-wide tactical health, status, indications, and warnings for Air Force satellites. The end-state will be a modern technical infrastructure which is cyber-secure and resilient against the Advanced Persistent Threat and employs streamlined architecting, acquisition, and operational processes. Through early architecture studies and prototyping, the government will establish clear ownership of the technical baseline to meet Better Buying Power principles as the EGS effort evolves through development. This effort provides focus and expertise for the development, test, certification and enforcement of standards and interfaces for all AFSPC satellite ground systems to enable transition planning for legacy ground systems, new capability demonstrations, and systems acquisition leading to an enterprise ground architecture for Air Force space systems.	3.100	-	-
Accomplishments/Planned Programs Subtotals	53.076	173.537	10.129

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

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
• SPAF 01 Line 13: *MSSBIR: SBIR High (Space)*	355.114	1,113.429	138.397	-	138.397	136.552	113.065	8.180	8.340	Continuing	Continuing

Remarks

D. Acquisition Strategy

The program office will use a variety of acquisition approaches to execute various concept studies, technology maturation efforts, testbed/prototype demonstrations, and data exploitation initiatives and projects. The program office will collaborate with appropriate contracting agencies to support each individual effort. Data exploitation efforts in the laboratory and the Battlespace Awareness center will leverage existing external contracts, as well as new internal competitive contracts. Activities, such as SBIRS obsolescence and affordability enhancements to the existing satellite design, will leverage existing PoR contracts. Technology maturation and component prototyping and/or qualification could leverage existing contracts; in fact many are planned in collaboration with AFRL and other government agencies. Where practical, other efforts could be competed. FFRDC and SETA contractors will also be used to conduct and support studies. New technology, replacement components, and system designs will be acquired with government data rights to the maximum extent to allow their incorporation into any future OPIR satellite production or system development. Contracting partnerships with other agencies will also be used to study, develop, demonstrate and prove emerging capabilities.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Maturation	Various	Various : Various	-	1.284	Aug 2017	61.475	Dec 2017	10.129	Dec 2018	-		10.129	0.000	72.888	-
Data Exploitation	Various	Various : Various	-	29.095	Dec 2016	58.514	Nov 2017	-		-		-	0.000	87.609	-
Hosted Payloads	C/CPFF	L3 Communications : Wilmington, MA	-	14.100	Dec 2016	10.915	Dec 2017	-		-		-	0.000	25.015	-
WFOV Testbeds	C/CPFF	Millenium Space Systems : El Segundo, CA	-	1.972	Dec 2016	18.025	Dec 2017	-		-		-	0.000	19.997	-
Sensor Ground Demonstration	TBD	TBD : TBD	-	0.000		9.020	Feb 2018	-		-		-	0.000	9.020	-
Enterprise SE&I	TBD	TBD : TBD	-	0.000		0.000		-		-		-	0.000	0.000	-
Enterprise Ground Services (EGS)	Various	MITRE Corp, NRL : Various	-	3.100	Dec 2016	-		-		-		-	0.000	3.100	-
Technical Mission Analysis	RO	Aerospace : El Segundo, CA	-	0.000		0.000		-		-		-	0.000	0.000	-
		Subtotal	-	49.551		157.949		10.129		-		10.129	0.000	217.629	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC	Various	Various : Various	-	2.390	Nov 2016	9.616	Oct 2017	-		-		-	0.000	12.006	-
A & AS	Various	Various : Various	-	1.017	Sep 2017	1.035	Sep 2018	-		-		-	0.000	2.052	-
Other Support	Various	Various : Various	-	0.118	Oct 2016	4.937	Oct 2017	-		-		-	0.000	5.055	-
		Subtotal	-	3.525		15.588		-		-		-	0.000	19.113	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	-	53.076		173.537		10.129		-		10.129	0.000	236.742	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

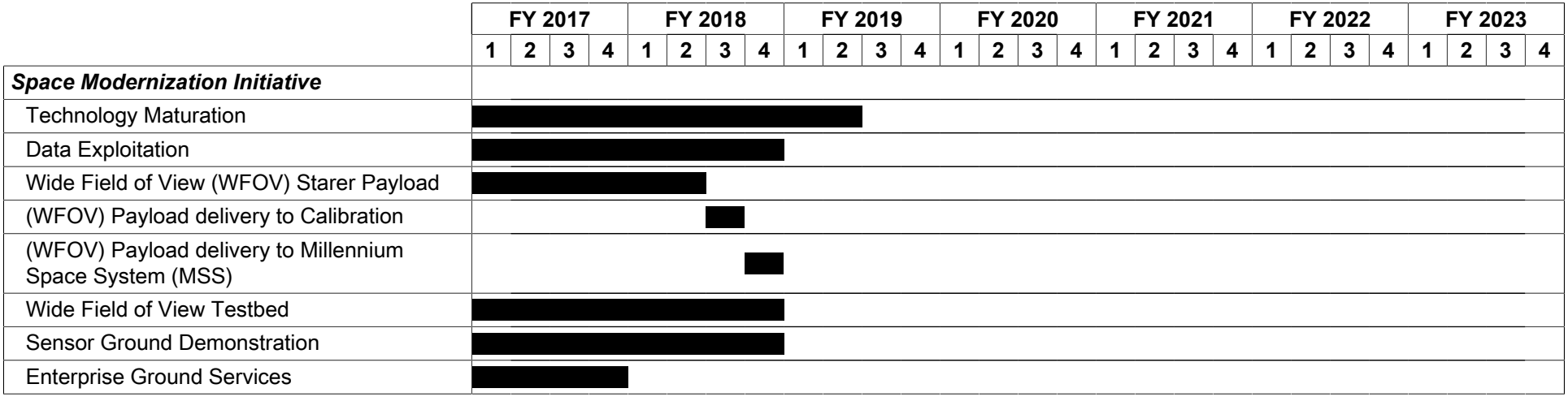

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Mod Initiative*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Space Modernization Initiative				
Technology Maturation	1	2017	2	2019
Data Exploitation	1	2017	4	2018
Wide Field of View (WFOV) Starer Payload	1	2017	2	2018
(WFOV) Payload delivery to Calibration	3	2018	3	2018
(WFOV) Payload delivery to Millennium Space System (MSS)	4	2018	4	2018
Wide Field of View Testbed	1	2017	4	2018
Sensor Ground Demonstration	1	2017	4	2018
Enterprise Ground Services	1	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 657106 / *Evolved SBIRS*	

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
657106: *Evolved SBIRS*	0.000	0.000	16.547	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Starting in FY2019, PE 1206441F, Space Based Infrared System (SBIRS) High EMD, Project 657106, Evolved SBIRS transferred to PE 1206442F Evolved SBIRS, Project 657106, Evolved SBIRS Ground in order to align the Evolved SBIRS effort.

A. Mission Description and Budget Item Justification

FORGE will consist of C2 migration to EGS, modernization of MDP, and required development/upgrades to Remote Ground Stations (RGS). The FORGE effort will implement an open framework for MDP and migration of C2 of satellite operations to integrate with EGS. FORGE and EGS efforts will provide the flexibility to integrate new MDP capabilities and more efficiently allow the system to meet evolving warfighter needs.

The current and future space domain demands that space systems be responsive to new and changing threats, and can rapidly integrate new capabilities to make our warfighting force more effective. This agility must extend through the entire space warfighting enterprise, to include how we learn about the threat; develop solutions; acquire, test, deploy, train, operate and integrate new systems into the greater system of systems; and ensure our space mission force is ready to defeat a thinking adversary in a complex, multi-domain battlespace. The enterprise will use all of its elements to speed decision-making, prototype potential solutions, rapidly integrate decision-making tools and sustain a war-winning capability by delivering multi-domain effects in, from, and through space and cyberspace enabling battle management and resilience options to "fight through."

This program element may include necessary civilian pay expenses required to manage, execute, and deliver SBIRS HIGH EMD, SMI, and OPIR Enterprise weapon system capabilities. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Future Operational Resilient Ground Evolution (FORGE)	0.000	16.547	0.000
Description: Formally titled Evolved SBIRS. FORGE will consist of C2 migration to EGS, modernization of MDP, and required development/upgrades to RGS. The FORGE effort will implement an open framework for MDP and migration of C2 of satellite operations to integrate with EGS. FORGE and EGS efforts will provide the flexibility to integrate new MDP capabilities and more efficiently enable the system to meet evolving warfighter needs.			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657106 / *Evolved SBIRS*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Begin development of the EGS prototype which will perform C2 for two SBIRS HEO payloads with a capability deployment in FY19. Begin FORGE MDP risk reduction with prototype development of an OPIR enterprise framework. The framework must be capable of hosting applications that will meet mission area requirements. ***FY 2019 Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funds transferred to PE 1206442F.			
Accomplishments/Planned Programs Subtotals	0.000	16.547	0.000

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
• RDTE 05 PE 1206442F: *Evolved SBIRS*	-	71.018	643.126	-	643.126	936.450	1,503.891	2,257.813	2,014.802	Continuing	Continuing

Remarks

D. Acquisition Strategy

Utilize existing SMC contracts to transition SBIRS C2 satellite operations to EGS. Compete a MDP framework provider and MDP applications. OPIR Enterprise system acquisition will satisfy global strategic Missile Warning coverage for both the GEO and Polar orbits.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657106 / *Evolved SBIRS*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FORGE	TBD	TBD : TBD	-	-		16.547		-		-		-	Continuing	Continuing	-
		Subtotal	-	-		16.547		-		-		-	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	-	-		16.547		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657106 / *Evolved SBIRS*

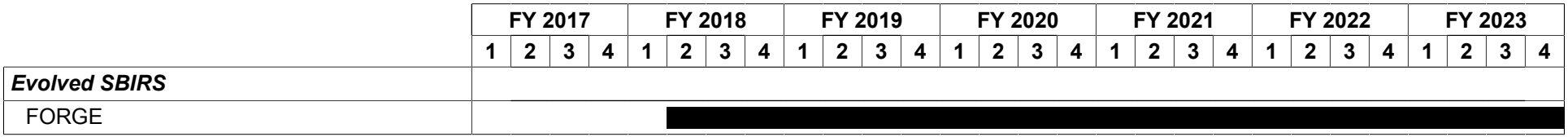

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 1206441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657106 / *Evolved SBIRS*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Evolved SBIRS				
FORGE	2	2018	4	2023

Note

FORGE continuing past 2023.