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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	0.000	125.191	70.383	72.762	0.000	72.762	103.870	108.070	105.986	72.372	Continuing	Continuing
67A030: Infrastructure	0.000	27.107	11.914	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	39.021
67A031: Mission Applications	0.000	15.081	11.717	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.000	26.800
67A035: Enterprise Space BMC2	0.000	83.003	46.752	72.761	0.000	72.761	103.870	108.069	105.986	72.372	Continuing	Continuing
Program MDAP/MAIS Code: N82												
Note Projects 67A030 and 67A031, JMS Infrastructure and Mission Applications, are complete in FY 2019. The \$0.001M entries in Project 67A031 in FY 2020 and FY 2022 are the result of a database error.												
A. Mission Description and Budget Item Justification The Air Force is developing a Space Command and Control (C2) and Space Situational Awareness (SSA) capability for the Joint Force Space Component Commander (JFSCC). The enterprise-wide system will provide a common government infrastructure and standards for rapid prototyping of dynamic SSA and Battle Management Command and Control (BMC2) applications to address the evolving and dynamic threat. The system will provide a collaborative environment that will enhance and modernize SSA and BMC2 capabilities; create decision-relevant views of the space environment; rapidly detect, track and characterize objects of interest; identify / exploit traditional and non-traditional sources; perform space threat analysis; and enable efficient distribution of data across the Space Surveillance Network (SSN). Funding includes technical studies, development, experimentation, integration and related support costs. In the FY 2019 budget, Project 67A035 ESBMC2 received a Congressional rescission of \$30.000M. The correct total for FY 2018 is \$53.003M In Project 67A035, Enterprise Space BMC2, the FY 2020 funding request was reduced by \$30.000 million to account for the availability of prior year execution balances. Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) is transforming the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities. This program element may include necessary civilian pay expenses required to manage, execute, and deliver JMS weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.												

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force	Date: February 2019
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1203614F / <i>JSpOC Mission System</i>
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As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	99.455	72.256	102.762	0.000	102.762
Current President's Budget	125.191	70.383	72.762	0.000	72.762
Total Adjustments	25.736	-1.873	-30.000	0.000	-30.000
• Congressional General Reductions	0.000	-1.873			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	30.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-4.264	0.000			
• Other Adjustments	0.000	0.000	-30.000	0.000	-30.000

Change Summary Explanation

FY 2018: \$30.000M Congressional increase for Space Enterprise Defense Implementation.

In the FY 2019 budget, ESBMC2 received a Congressional rescission of \$30.000M. The correct total for FY 2018 is \$53.003M.

FY 2020: \$30.000M decrease due to availability of prior year execution balances.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System				Project (Number/Name) 67A030 / Infrastructure			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
67A030: Infrastructure	0.000	27.107	11.914	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	39.021
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2019, Project 67A030, JMS Infrastructure, are complete.

A. Mission Description and Budget Item Justification

Infrastructure provides a Service Oriented Architecture (SOA), net-centric collaborative information environment at the Unclassified, Secret, and Top Secret / Sensitive Compartmented Information (TS/SCI) levels. Efforts incorporate net-centric enterprise services and integrating incremental space mission applications services. Priority is migration off the legacy SPADOC hardware and services into a sustainable infrastructure. Effort integrates components of SSA mission applications and C2 capabilities into the JSpOC to create timely, actionable knowledge necessary for maintaining space superiority and exercising command and control of space forces.

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

	FY 2018	FY 2019	FY 2020
Title: Increment 2	27.107	11.914	0.000
Description: Pursues and integrates a collaborative net-centric, SOA information environment.			
FY 2019 Plans: JMS Increment 2 SP-9 was completed with limited operational acceptance and the program will transfer to operational sustainment. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Continue program office support and other related support activities that may include, but are not limited to studies, technical analysis, prototyping, etc.			
FY 2020 Plans: N/A			
FY 2019 to FY 2020 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	27.107	11.914	0.000

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

<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• SPAF 01 Line Item	3.850	20.366	16.954	-	16.954	14.726	15.021	15.301	15.671	120.952	222.841
836790: <i>Space Mods Space</i>											

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System	Project (Number/Name) 67A030 / Infrastructure	

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

<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u> <u>Base</u>	<u>FY 2020</u> <u>OCO</u>	<u>FY 2020</u> <u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

Replaces JMS components and provides an operational, sustainable environment to maintain capabilities that fuse data from space intelligence, surveillance, reconnaissance, and environmental sources. This modification will procure commercial hardware, software licenses, and warranties to upgrade the operational environment enclaves (2 Secret / 2 TS/SCI), as well as keep up to date development/operational testing locations.

D. Acquisition Strategy

The JMS overarching Acquisition Strategy, approved by the Milestone Decision Authority on April 15, 2012, provides for a multi-increment program to develop, integrate, test, and deliver JMS capability. The acquisition strategy reflects new principles that address the speed, agility, and adaptability required for successful Information Technology (IT) acquisition resulting in a tailored incremental acquisition approach to deliver early and often by leveraging mature industry capabilities and taking advantage of previous Government investments in Federally Funded Research and Development Center (FFRDC) and Government lab prototyping efforts.

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 2020 Air Force **Date:** February 2019

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System	Project (Number/Name) 67A030 / Infrastructure
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Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
JMS SOA, Infrastructure and core service development	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-
JMS High-performance computing and security infrastructure development	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-
JMS Government Capability Providers	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-
JMS Enterprise SEI	Various	Various : Various	0.000	24.477	Nov 2017	8.884	Nov 2018	-		-		-	0.000	33.361	43.165
JMS Mission Infrastructure	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	0.200
JMS Net-Centric Sensors and Data Sources	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-
JMS Standard Space Trainer	C/CPFF	Sonalyt : Colorado Springs, CO	0.000	-		-		-		-		-	0.000	0.000	-
JMS Integration & Acq Logistics	Various	SPAWAR : San Diego, CA	0.000	-		-		-		-		-	0.000	0.000	-
ESBMC2 Government Capability Development	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-
Subtotal			0.000	24.477		8.884		-		-		-	0.000	33.361	N/A

Remarks

Cost table amounts in FY2018 are incorrect in PRCP. The FY2018 \$30M congressional increase should be applied against Project 67A035, Enterprise Space BMC2 instead of 67A030, JMS Inc 2 Infrastructure. Actual total for Project 67A035 is \$85.830M and for Project 67A030, Infrastructure, is \$28.030M. \$30M has been included in this R-3 but will be moved to correct project prior to FY2020 PB submission.

Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
A&AS	Various	Various : Various	0.000	2.630	Jan 2018	3.030	Nov 2018	-		-		-	0.000	5.660	3.656
FFRDC	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-
Subtotal			0.000	2.630		3.030		-		-		-	0.000	5.660	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force											Date: February 2019				
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System					Project (Number/Name) 67A030 / Infrastructure					
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	27.107		11.914		-		-		-	0.000	39.021	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force																Date: February 2019			
Appropriation/Budget Activity 3600 / 7								R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System								Project (Number/Name) 67A030 / Infrastructure			

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System	Project (Number/Name) 67A030 / Infrastructure

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JMS Infrastructure				
Service Pack 9 Limited Ops Acceptance	1	2019	1	2019

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System				Project (Number/Name) 67A031 / Mission Applications			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
67A031: Mission Applications	0.000	15.081	11.717	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.000	26.800
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2019, Project 67A031, Mission Applications, is complete. The \$0.001M entries in FY 2020 and FY 2022 are the result of a database error.

A. Mission Description and Budget Item Justification

Mission applications provides space services to enhance the accuracy, sustainability, and responsiveness of space surveillance capabilities by providing the knowledge environment necessary to enable the Joint Force Space Component Commander to make rapid, responsive decisions for the protection of space assets from proliferating threats (adversary as well as orbiting debris). The system provides a high accuracy space catalog (knowledge of space objects), increased observation verification and capabilities, and improved event processing. Research, development, and system design provides SSA space catalog applications, services, space surveillance observation processing, and sensor tasking. Funding includes technical studies, development, and integration.

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

Title: Increment 2	FY 2018	FY 2019	FY 2020
Description: Services/mission applications to conduct space control/situational awareness.	15.081	11.717	0.001
FY 2019 Plans: JMS Increment 2 SP-9 was completed with limited operational acceptance and the program will transfer to operational sustainment. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc.			
FY 2020 Plans: N/A			
FY 2019 to FY 2020 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	15.081	11.717	0.001

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System	Project (Number/Name) 67A031 / Mission Applications	

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

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• SPAF 01 Line Item 836790: Space Mods Space	3.850	20.366	16.954	-	16.954	14.726	15.021	15.301	15.671	120.952	222.841

Remarks

D. Acquisition Strategy

The JMS overarching Acquisition Strategy, approved by the Milestone Decision Authority on April 15, 2012, provides for a multi-increment program to develop, integrate, test, and deliver JMS capability. The acquisition strategy reflects new principles that address the speed, agility, and adaptability required for successful IT acquisition resulting in a tailored incremental acquisition approach to deliver early and often by leveraging mature industry capabilities and taking advantage of previous Government investments in Federally Funded Research and Development Center (FFRDC) and Government lab prototyping efforts.

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 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System				Project (Number/Name) 67A031 / Mission Applications					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
JMS Enterprise SEI	Various	Various : Various	0.000	3.964	Nov 2017	-		0.001	Dec 2018	-		0.001	0.000	3.965	5.583
JMS Technical Mission Analysis (WS)	Various	Various : Various	0.000	0.357	Oct 2017	0.182	Jan 2019	-		-		-	0.000	0.539	1.475
JMS COTS hardware, software purchase and engineering support	Various	Various : Various	0.000	6.693	Oct 2017	7.108	Nov 2018	-		-		-	0.000	13.801	13.710
Subtotal			0.000	11.014		7.290		0.001		-		0.001	0.000	18.305	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
JMS Technical Support	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	0.634
Subtotal			0.000	-		-		-		-		-	0.000	0.000	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Combined Developmental Test / Operational Test	Various	Various : Various	0.000	1.216	May 2018	0.723	Feb 2019	-		-		-	0.000	1.939	2.016
Combined Test Facility	Various	Various : Various	0.000	1.135	Nov 2017	0.610	Dec 2018	-		-		-	0.000	1.745	1.820
Subtotal			0.000	2.351		1.333		-		-		-	0.000	3.684	N/A
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
A&AS	Various	Various : Various	0.000	0.798	May 2018	0.834	Nov 2018	-		-		-	0.000	1.632	1.788
FFRDC	Various	Various : Various	0.000	0.798	Aug 2018	2.105	Dec 2018	-		-		-	0.000	2.903	1.598
Other Support	Various	Various : Various	0.000	0.120	Oct 2017	0.155	Oct 2018	-		-		-	0.000	0.275	0.175

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019		
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System				Project (Number/Name) 67A031 / Mission Applications				

Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Subtotal			0.000	1.716		3.094		-		-		-	0.000	4.810	N/A

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	15.081	11.717	0.001	-	0.001	0.000	26.799	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force																								Date: February 2019															
Appropriation/Budget Activity 3600 / 7												R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System								Project (Number/Name) 67A031 / Mission Applications																			
												FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
												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
JMS Mission Applications																																							
Service Pack 9 Limited Operational Acceptance												<div></div>																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System	Project (Number/Name) 67A031 / Mission Applications

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JMS Mission Applications				
Service Pack 9 Limited Operational Acceptance	1	2019	1	2019

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System				Project (Number/Name) 67A035 / Enterprise Space BMC2			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
67A035: Enterprise Space BMC2	0.000	83.003	46.752	72.761	0.000	72.761	103.870	108.069	105.986	72.372	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Enterprise provides a SSA & BMC2 System that allows JFSCC to meet dynamic and emerging threats. Continuously develop capabilities that include, but are not limited to, SSA, battle space awareness, dynamic planning and tasking, create an interactive modeling and simulation environment to support training and exercises, collaborative data sharing, and Course of Action (COA) development and assessment. Funding includes technical studies, development, experimentation, systems engineering, integration and related support costs.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2018	FY 2019	FY 2020	
Title: Enterprise Space BMC2									83.003	46.752	72.761	
Description: This program delivers a robust and responsive Space Situational Awareness (SSA) and Battle Management Command and Control (BMC2) capability to meet emerging threats. The program will deliver capability for decision makers trying to prevent a conflict from extending to space, or winning it if it does. Capabilities and associated infrastructure include, but are not limited to, SSA, Indications & Warning (I&W), Transmit/Receive, Space Control, Tactical Operations and Common Platforms and Infrastructure, Cyber and Threat Warning. Other activities include dedicated Systems Engineering & Integration (SE&I), Test & Evaluation (T&E), Model Based Systems Engineering (MBSE) and prototype Validation & Verification to support these efforts.												
FY 2019 Plans: Continue developmental planning and contracting efforts to include, but not limited to, program support, systems engineering, design, technical maturation and risk reduction, prototyping and integration of Enterprise Space BMC2 commercial, industry and government capabilities including infrastructure. Continue to enhance and modernize prototype capabilities in the National Space Defense Center and the Joint Space Operations Center and other operations centers supporting or supported by space capabilities. End-to-end systems engineering requirements flow down and verification planning for Space Enterprise BMC2. Effort includes critical integration of all activities needed to support the kill chain. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc.												
FY 2020 Plans: Plan and develop architecture which is Open Mission Standard (OMS) and Unmanned Aerospace Systems Command and Control (C2) Standards Initiative (UCI) compliant to support both the Space Situational Awareness (SSA) and Battle Management Command and Control (BMC2) missions to meet dynamic emerging threats. The architecture and infrastructure will modernize and deliver new capabilities in the National Space Defense Center, Combined Space Operations Center and other operations												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Air Force							Date: February 2019				
Appropriation/Budget Activity 3600 / 7			R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System			Project (Number/Name) 67A035 / Enterprise Space BMC2					
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2018	FY 2019	FY 2020		
<p>centers supporting SSA and BMC2. In addition to the OMS and UCI architectural efforts, SMC will continue developmental, system engineering and contracting efforts to integrate best in breed commercial, contractor and government applications for the OMS and UCI based ESBMC2 foundational architecture through the release of multiple incremental software capability drops throughout FY 2020. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc.</p> <p><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i> FY 2020 increased compared to FY 2019 by \$26.009M. Justification for this increase is described in the plans above.</p>											
Accomplishments/Planned Programs Subtotals							83.003	46.752	72.761		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• SPAF 01 SPCMOD: <i>Space Mods</i>	-	-	16.954	-	16.954	14.726	15.021	15.301	15.671	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
<p>The Air Force is in developmental planning of the acquisition strategy for the system to support Space Situational Awareness (SSA) and Battle Management Command and Control (BMC2) capabilities. The program emphasizes agile software development based on Open Mission System/Universal Control and Interface (OMS/UCI) architecture. This open architecture will be a foundational component for the program's acquisition strategy which focuses on rapidly delivering capability to warfighters, leveraging commercial, industry and government partners.</p>											
E. Performance Metrics											
<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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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System				Project (Number/Name) 67A035 / Enterprise Space BMC2					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
ESBMC2 Tools	Various	Various : Various	0.000	20.205	Mar 2018	12.908	Nov 2018	-		-		-	Continuing	Continuing	-
ESBMC2 Government Capability Development	Various	Various : Various	0.000	29.102	Apr 2018	12.143	Nov 2018	-		-		-	Continuing	Continuing	-
ESBMC2 Enterprise Systems Engineering & Integration	Various	Various : Various	0.000	20.030	Feb 2018	10.298	Dec 2018	21.751	Dec 2019	-		21.751	Continuing	Continuing	-
ESBMC2 Technical Mission Analysis (WS)	MIPR	Various : Various	0.000	1.668	Nov 2017	0.832	Nov 2018	1.285	Nov 2019	-		1.285	Continuing	Continuing	-
Catalyst Campus/PaaS	C/TBD	Not specified. : TBD	0.000	-		-		19.047	Jan 2020	-		19.047	0.000	19.047	-
Commercial Capability	C/Various	Not specified. : TBD	0.000	-		-		5.322	Dec 2019	-		5.322	0.000	5.322	-
Dynamic SSA Integration	C/TBD	Not specified. : TBD	0.000	-		-		5.336	Nov 2019	-		5.336	0.000	5.336	-
Weapon System Integration	C/TBD	Not specified. : TBD	0.000	-		-		4.729	Feb 2020	-		4.729	0.000	4.729	-
Subtotal			0.000	71.005		36.181		57.470		-		57.470	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Civilian Reimbursable Budget Authority	RO	SMC : El Segundo, CA	0.000	0.173	Jan 2018	0.351	Jan 2019	0.361	Jan 2020	-		0.361	Continuing	Continuing	-
Subtotal			0.000	0.173		0.351		0.361		-		0.361	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Test	TBD	TBD : TBD	0.000	-		-		2.417	Mar 2020	-		2.417	0.000	2.417	-
Subtotal			0.000	-		-		2.417		-		2.417	0.000	2.417	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System						Project (Number/Name) 67A035 / Enterprise Space BMC2			
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
A&AS	C/FFP	Various : Various	0.000	4.765	Jan 2018	6.381	Nov 2018	8.157	Nov 2019	-		8.157	Continuing	Continuing	-
FFRDC	Various	Various : Various	0.000	6.900	Nov 2017	3.639	Nov 2018	4.156	Nov 2019	-		4.156	Continuing	Continuing	-
Other Support	Various	Various : Various	0.000	0.160	Oct 2017	0.200	Oct 2018	0.200	Oct 2019	-		0.200	Continuing	Continuing	-
Subtotal			0.000	11.825		10.220		12.513		-		12.513	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	83.003		46.752		72.761		-		72.761	Continuing	Continuing	N/A
Remarks															
In the FY 2019 budget, ESBMC2 received a Congressional rescission of \$30.000M. The correct total for FY 2018 is \$53.003M.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force																		Date: February 2019																			
Appropriation/Budget Activity 3600 / 7										R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System								Project (Number/Name) 67A035 / Enterprise Space BMC2																			
										FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
										1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
ESBMC2																																					
Tech Exploration, Maturation & Risk Reduction																																					
Systems Engineering/Design Effort																																					
Prototyping & Experimentation																																					
Development/Integration																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203614F / JSpOC Mission System	Project (Number/Name) 67A035 / Enterprise Space BMC2

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ESBMC2				
Tech Exploration, Maturation & Risk Reduction	1	2018	4	2024
Systems Engineering/Design Effort	1	2018	4	2024
Prototyping & Experimentation	1	2018	4	2024
Development/Integration	1	2018	4	2024