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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 1206426F I Space Fence							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	240.692	168.364	35.937	0.000	35.937	0.000	5.267	0.000	0.000	0.000	450.260
65A009: Space Fence	0.000	240.692	168.364	35.937	0.000	35.937	0.000	5.267	0.000	0.000	0.000	450.260
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Program MDAP/MAIS Code: 438												
Note In FY2018, PE 0604426F, Space Fence efforts were transferred to PE 1206426F, Space Fence due to the creation of a new Major Force Program for Space. FY2016 and FY2017 funding is now documented in the exhibits for PE 1206426F.												
A. Mission Description and Budget Item Justification The Space Fence effort will develop a system of ground-based sensors to improve upon the former Air Force Space Surveillance System (AFSSS), a Very High Frequency (VHF) radar operational from 1961 to 2013. The Space Fence will provide a more accurate and timely detection capability of smaller orbiting objects, primarily in low-earth orbit (LEO). The system will use higher frequency S-band radars at globally dispersed sites. As a result, it will greatly expand the uncued detection and tracking capacity of the Space Surveillance Network, from around 20,000 to 100,000+ objects, while working in concert with other network sensors. Requirements are identified in the June 2012 approved Space Fence Capabilities Development Document (CDD). 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 prior to full-rate production.												
B. Program Change Summary (\$ in Millions)				FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total				
Previous President's Budget				240.692	168.364	50.217	0.000	50.217				
Current President's Budget				240.692	168.364	35.937	0.000	35.937				
Total Adjustments				0.000	0.000	-14.280	0.000	-14.280				
• Congressional General Reductions				0.000	0.000							
• Congressional Directed Reductions				0.000	0.000							
• Congressional Rescissions				0.000	0.000							
• Congressional Adds				0.000	0.000							
• Congressional Directed Transfers				0.000	0.000							
• Reprogrammings				0.000	0.000							
• SBIR/STTR Transfer				0.000	0.000							
• Other Adjustments				0.000	0.000	-14.280	0.000	-14.280				

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Change Summary Explanation FY 2018: -\$14.280M Reduction due to higher Air Force priorities.												
C. Accomplishments/Planned Programs (\$ in Millions)								FY 2016	FY 2017	FY 2018		
Title: Space Fence								240.692	168.364	35.937		
Description: Develops S-band SSA radar system to provide detection and tracking capability of objects in Low Earth Orbit.												
FY 2016 Accomplishments: Continued system manufacture, software builds, integration and test, training, technical orders, and technical manual development. This included the majority of radar facility and operations building construction as well as power plant annex construction and commissioning. Completed construction of the Space Fence Operations Center (SOC) at the Reagan Test Site Operations Center, Huntsville, AL (ROC-H).												
FY 2017 Plans: Complete on-island assembly of the Receive and Transmit arrays. Conduct contractor installation, checkout and test of the system at the Kwajalein Atoll, Marshall Islands and the SOC at the ROC-H. Conduct cybersecurity vulnerability assessments in support of Interim Authority to Test (IATT). Obtain IATT and Authorization to Connect (ATC). Conduct Deputy Assistance Secretary of Defense (DASD)/Development Test & Evaluation (DT&E) and Director, Operational Test and Evaluation (DOT&E) assessments of system level capabilities. Conduct formal in plant contractor test.												
FY 2018 Plans: Complete contractor installation, checkout and formal on-site contractor test of the system at the Kwajalein Atoll, Marshall Islands and the SOC at the ROC-H. Conduct Developmental Test Readiness Review (DTRR) to confirm and certify readiness to enter DT&E. Conduct government DT&E and enter into dedicated Initial Operational Test and Evaluation (IOT&E). Secure test assets and test support for government testing. Continue program office and other related support activities that may include, but are not limited to studies, technical analysis, etc. Initiate preparations for the second radar site, including studies, investigations, and site surveys in support of Full Operational Capability (FOC).												
Accomplishments/Planned Programs Subtotals								240.692	168.364	35.937		
D. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
• SPAF: BA01: Line Item	0.000	0.000	0.000	0.000	0.000	45.982	50.199	0.000	0.000	0.000	96.181	
SPCFNC: Space Fence												
Remarks												

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E. Acquisition Strategy A single Engineering Manufacturing and Development (EMD) Production and Deployment contract was awarded on 2 June 2014 to Lockheed Martin Mission Systems and Training. The contract will take the contractor through Critical Design Review (CDR), fabrication, integration, test, production and deployment, with up to two years of Interim Contractor Support (ICS). The program will utilize a two increment approach. Increment 1/Initial Operational Capability (IOC) will consist of successful operations at the first radar site located on the Kwajalein Atoll and the SOC at ROC-H. Increment 2 (contract option)/Full Operational Capability (FOC) will include completion of the second radar at a location which is to be determined pending a separate Memorandum of Agreement (MOA) decision approval and negotiations with the proposed host nation.		
F. 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: FY 2018 Air Force												Date: May 2017			
Appropriation/Budget Activity 3600 / 5						R-1 Program Element (Number/Name) PE 1206426F / <i>Space Fence</i>				Project (Number/Name) 65A009 / <i>Space Fence</i>					
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Space Fence Development	C/FPIF	Lockheed Martin : Moorestown, NJ	0.000	226.280	Nov 2015	139.707	Nov 2016	18.264	Dec 2017	0.000		18.264	1.716	385.967	911.115
Various (Independent Program Assessment, site survey, software, Site Activation Task Force (SATAF), Space Fence Operations Center (SOC))	Various	Various : Various	0.000	2.832	Oct 2015	11.415	Jan 2017	5.937	Oct 2017	0.000		5.937	0.000	20.184	-
Design Oversight and Management	SS/FP	MIT Lincoln Laboratory : Lexington, MA	0.000	1.150	Nov 2015	0.682	Jan 2017	0.640	Dec 2017	0.000		0.640	0.000	2.472	-
Subtotal			0.000	230.262		151.804		24.841		0.000		24.841	1.716	408.623	-
Remarks															
Prior to FY15 all funds were executed and reported in PE 0604225F (Space Situational Awareness Systems)															
Product Development: \$774.994															
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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			-	-		-		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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 - 46th Test Squadron	PO	46th Test Squadron : Eglin AFB, FL	0.000	1.128	Dec 2015	2.400	Dec 2016	2.392	Dec 2017	0.000		2.392	0.000	5.920	-
Test - Joint Interoperability Test Command	MIPR	Joint Interoperability Test Command : Fort Huachuca, AZ	0.000	0.025	Jan 2016	0.064	Feb 2017	0.185	Jan 2018	0.000		0.185	0.000	0.274	-
Subtotal			0.000	1.153		2.464		2.577		0.000		2.577	0.000	6.194	-

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Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Remarks Prior to FY15 all funds were executed and reported in PE 0604225F (Space Situational Awareness Systems) Test and Evaluation: \$1.366															
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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, MA	0.000	4.056	Oct 2015	9.216	Nov 2016	4.426	Oct 2017	0.000		4.426	2.319	20.017	-
FFRDC	SS/FP	Various : Various, MA	0.000	5.221	Nov 2015	4.880	Nov 2016	4.093	Oct 2017	0.000		4.093	1.232	15.426	-
Subtotal			0.000	9.277		14.096		8.519		0.000		8.519	3.551	35.443	-
Remarks Prior to FY15 all funds were executed and reported in PE 0604225F (Space Situational Awareness Systems) Management Services: \$68.683															
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	240.692		168.364		35.937		0.000		35.937	5.267	450.260	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force	Date: May 2017
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Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 1206426F / <i>Space Fence</i>	Project (Number/Name) 65A009 / <i>Space Fence</i>
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	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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
Increment 1 EMD																												
Development Test and Evaluation																												
Initial Operational Test and Evaluation																												
Initial Operational Capability (IOC) Increment 1																												
Increment 1 Interim Contractor Support Option 1																												
Increment 1 Interim Contractor Support Option 2																												

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 1206426F / <i>Space Fence</i>	Project (Number/Name) 65A009 / <i>Space Fence</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment 1 EMD	1	2016	2	2019
Development Test and Evaluation	3	2018	4	2018
Initial Operational Test and Evaluation	4	2018	1	2019
Initial Operational Capability (IOC) Increment 1	2	2019	2	2019
Increment 1 Interim Contractor Support Option 1	3	2019	2	2020
Increment 1 Interim Contractor Support Option 2	3	2020	2	2021