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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 3: Advanced Technology Development (ATD)					R-1 Program Element (Number/Name) PE 0603444F I Maui Space Surveillance System (MSSS)							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	13.185	12.853	11.681	0.000	11.681	11.681	11.912	12.147	12.390	Continuing	Continuing
634868: Maui Space Surveillance System	-	13.185	12.853	11.681	0.000	11.681	11.681	11.912	12.147	12.390	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program funds ground-based optical space situational awareness (SSA) technology development and demonstration at the Maui Space Surveillance System (MSSS) in Hawaii, as well as the operation and upgrade of the facility. Efforts in this program have been coordinated through the Department of Defense (DoD) Science and Technology (S&T) Executive Committee process to harmonize efforts and eliminate duplication.

This program is in Budget Activity 3, Advanced Technology Development because this budget activity includes development of subsystems and components and efforts to integrate subsystems and components into system prototypes for field experiments and/or tests in a simulated environment.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	14.031	12.853	11.681	0.000	11.681
Current President's Budget	13.185	12.853	11.681	0.000	11.681
Total Adjustments	-0.846	0.000	0.000	0.000	0.000
• 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	-0.475	0.000			
• SBIR/STTR Transfer	-0.371	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
Title: Operate and Upgrade Maui Space Surveillance System (MSSS)	10.156	10.853	9.169
Description: Operate and upgrade the MSSS to support development, demonstration, and integration of ground-based optical SSA technologies.			
FY 2015 Accomplishments: Maintained MSSS facility and experimental equipment in a mission-ready state. Performed needed upgrades and modernization to keep facilities and equipment in good working order and allow MSSS to perform efficiently and reliably. Operated MSSS facility			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
for development and demonstration of ground based optical SSA capabilities in conjunction with customer programs and an operational SSA mission. Completed installation of equipment for upgraded Laser Guidestar system at MSSS. FY 2016 Plans: Maintain MSSS facility and experimental equipment in a mission-ready state. Perform needed upgrades and modernization to keep facilities and equipment in good working order and allow MSSS to perform efficiently and reliably. Operate MSSS facility for development and demonstration of ground based optical SSA capabilities in conjunction with customer programs and an operational SSA mission. Complete testing and demonstration of Laser Guidestar system at MSSS. FY 2017 Plans: Maintain MSSS facility and experimental equipment in a mission-ready state. Perform needed upgrades and modernization to keep facilities and equipment in good working order and allow MSSS to perform efficiently and reliably. Operate MSSS facility for development and demonstration of ground based optical SSA capabilities in conjunction with customer programs and an operational SSA mission. Apply Laser Guidestar system at MSSS to geosynchronous satellite imaging demonstration and detection of closely-spaced orbital objects.				
Title: Geosynchronous Object Sensor Description: Develop and demonstrate dual-use integrated sensor technology for imaging of geosynchronous objects as well as other long-range applications. FY 2015 Accomplishments: Began integration of low power transceiver hardware prior to low power testing to image objects in geosynchronous orbit. FY 2016 Plans: Conduct low power demonstration of augmented objects for refinement of full-power system. Begin build-out of full-power transceiver hardware and initiate telescope modifications for future demonstration of laser imaging of objects in geosynchronous orbit. FY 2017 Plans: Begin full-power demonstration of laser imaging of objects in geosynchronous orbit.		3.029	2.000	2.512
Accomplishments/Planned Programs Subtotals		13.185	12.853	11.681
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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E. Acquisition Strategy
N/A

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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