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<b>Exhibit R-2, PB 2010 Air Force RDT&amp;E Budget Item Justification</b>								<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600 - Research, Development, Test & Evaluation, Air Force/BA 3 - Advanced Technology Development (ATD)					<b>R-1 ITEM NOMENCLATURE</b> PE 0603444F MAUI SPACE SURVEILLANCE SYSTEM					
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	41.357	36.339	5.813						Continuing	Continuing
634868: Maui Space Surveillance System	41.357	36.339	5.813						Continuing	Continuing
<b>A. Mission Description and Budget Item Justification</b>										
This program funds space situational awareness technology development and demonstration at the Maui Space Surveillance System (MSSS) in Hawaii, as well as the operation and upgrade of the facility. This program is in Budget Activity 3, Advanced Technology Development, since it enables and demonstrates technologies for existing system upgrades and/or new system developments that have military utility and address warfighter needs.										
<b>B. Program Change Summary (\$ in Millions)</b>										
		<u><b>FY 2008</b></u>	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011</b></u>					
Previous President's Budget		42.160	4.838	5.902						
Current BES/President's Budget		41.357	36.339	5.813						
Total Adjustments		-0.803	31.501	0.000						
Congressional Program Reductions		0.000	0.000							
Congressional Rescissions		0.000	-0.099							
Total Congressional Increases		0.000	31.600							
Total Reprogrammings		-0.068	0.000							
SBIR/STTR Transfer		-0.735	0.000							
<b>Change Summary Explanation</b>										
Not Applicable.										
Note: In FY 2009, Congress added \$1.6 million for Flash Hyper-Dimensional Imaging System for Space Situational Awareness and Ballistic Missile Defense, \$22.0 million for MSSS Operations and Research, and \$8.0 million for the Panoramic Survey Telescope and Rapid Response System (Pan-STARRS).										
<b>C. Performance Metrics</b>										
Under Development.										

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<b>Exhibit R-2a, PB 2010 Air Force RDT&amp;E Project Justification</b>								<b>DATE:</b> May 2009		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600 - Research, Development, Test & Evaluation, Air Force/BA 3 - Advanced Technology Development (ATD)				<b>R-1 ITEM NOMENCLATURE</b> PE 0603444F MAUI SPACE SURVEILLANCE SYSTEM					<b>PROJECT NUMBER</b> 634868	
<b>COST (\$ in Millions)</b>	<b>FY 2008 Actual</b>	<b>FY 2009 Estimate</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
634868: Maui Space Surveillance System	41.357	36.339	5.813						Continuing	Continuing
<b>A. Mission Description and Budget Item Justification</b> N/A										
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>							<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>MAJOR THRUST/CONGRESSIONAL ADD: Develop, demonstrate, and integrate space situational awareness technology at the Maui Space Surveillance System (MSSS) in Hawaii, as well as operate and upgrade the facility. Note: This effort includes Congressional Adds of \$23.0 million in FY 2008 and \$22.0 million in FY 2009.</p> <p>In FY 2008: Continued MSSS research, development, and operational contributions supporting various customers and experimenters. Continued refurbishing and upgrading MSSS and maintaining site safety and security in accordance with Air Force regulations. Continued development and implementation of self-sufficiency plan. Developed concepts for space situational awareness, space system characterization, and active tracking. Continued development of a state-of-the-art, high-performance sodium beacon adaptive optics system. Provided health/status, identification, and anomaly resolution for selected satellites using ultra-precise astrodynamics techniques and electro-optic characterization.</p> <p>In FY 2009: Continue MSSS infrastructure contributions in research, development, and operations that support various customers and experimenters. Continue refurbishing and upgrading MSSS to accommodate those missions and maintaining requirements for safety and security in accordance with Air Force regulations. Continue development and implementation of self-sufficiency plan.</p> <p>In FY 2010: Continue MSSS infrastructure contributions in research, development, and operations that support various customers and space situational awareness research and demonstrations. Continue refurbishing and upgrading MSSS to accommodate those missions and maintaining requirements for safety and security in accordance with Air Force regulations. Continue development and implementation of self-sufficiency plan.</p>							27.495	26.765	5.813	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>CONGRESSIONAL ADD: Panoramic Survey Telescope And Rapid Response System (Pan-STARRS).</p> <p>In FY 2008: Continued transition of Pan-STARRS telescope on Maui into routine use for sky surveys. Completed utility demonstration. Initiated four-telescope system design and development based on lessons learned from Maui installation/operations.</p> <p>In FY 2009: Pan-STARRS telescope on Maui will be in routine use for sky surveys. Begin second single telescope system procurement and construction based on lessons learned from first telescope.</p> <p>In FY 2010: Not Applicable.</p>	8.785	7.978	0.000	
<p>CONGRESSIONAL ADD: High Accuracy Network Determination System (HANDS).</p> <p>In FY 2008: Support research activities and data collection to improve persistent space situational awareness capabilities. Continue efforts to obtain foreign operating rights in order to deploy a small telescope to Australia. Continue development of improved small autonomous telescope with increased data collection capabilities.</p> <p>In FY 2009: Not Applicable.</p> <p>In FY 2010: Not Applicable.</p>	5.077	0.000	0.000	
<p>CONGRESSIONAL ADD: Flash Hyper-Dimensional Imaging System for Space Situational Awareness and Ballistic Missile Defense.</p> <p>In FY 2008: Not Applicable.</p>	0.000	1.596	0.000	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<p>In FY 2009: Provide hyperspectral imaging for missile intercepts and SSA applications. Determine temperatures on missile intercept fireballs and do debris tracking. Provide hyperspectral information to aid in identifying non-imaging space objects.</p> <p>In FY 2010: Not Applicable.</p>				

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<b>C. Other Program Funding Summary (\$ in Millions)</b>										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<b>Cost To Complete</b>	<b>Total Cost</b>
Activity Not Provided/ Related Activities:	0.000	0.000							Continuing	Continuing
PE 0602605F/ Directed Energy Technology.	0.000	0.000							Continuing	Continuing
PE 0603605F/ Advanced Weapons Technology.	0.000	0.000							Continuing	Continuing
PE 0601108F/ High Energy Laser Research Initiatives.	0.000	0.000							Continuing	Continuing
PE 0602890F/ High Energy Laser Research.	0.000	0.000							Continuing	Continuing
PE 0603924F/ High Energy Laser Advanced Technology Program.	0.000	0.000							Continuing	Continuing
PE 0603883C/ Ballistic Missile Defense Boost Phase Segment.	0.000	0.000							Continuing	Continuing
Activity Not Provided/ This project has been coordinated through the Reliance process to harmonize efforts and eliminate du	0.000	0.000							Continuing	Continuing
<b>D. Acquisition Strategy</b> Not Applicable.										

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**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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