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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603742F: Combat Identification Technology							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	28.708	28.799	26.172	0.000	26.172	25.920	26.097	26.493	26.880	Continuing	Continuing
642597: Noncooperative Identification Subsystems	19.024	25.189	23.557	0.000	23.557	23.822	24.242	24.610	24.972	Continuing	Continuing
642599: Cooperative Identification Techniques	9.684	3.610	2.615	0.000	2.615	2.098	1.855	1.883	1.908	0.000	56.165
A. Mission Description and Budget Item Justification											
<p>The Combat Identification (CID) Technology program element analyzes, develops, and demonstrates promising target identification technologies for transition into System Development and Demonstration (SDD). Numerous joint needs statements, operational documents, lessons learned, and NATO requirements state the need for positive CID. High confidence CID increases combat effectiveness and prevents fratricide. It also enables combatant commanders to effectively command and control their forces in all weather, day or night. This program element focuses on the cooperative and non-cooperative technologies that have the capability to positively identify surface and air targets in both air-to-surface and air-to-air engagements.</p>											
<p>In order to rapidly transition promising CID technologies, the program element funds design studies, engineering analysis, non-recurring engineering, and other efforts associated with integration and modification of CID related technologies and systems on platforms. It also supports the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, Allied, and coalition interoperability.</p>											
<p>Non-cooperative CID employs a number of sensing technologies and signal processing techniques. The results are compared against a database of known objects to identify surface or air threats from air platforms. These technologies include: (1) Laser Vision, an electro-optical imaging system that significantly increases ID ranges and includes (a) the Laser Target Imaging Program (LTIP) which will consist of exploiting synergies between non-cooperative and cooperative ID systems (radio, millimeter wave, infrared, and laser), combat mode improvements, laser vibration development, and studies to support decisions on future work and (b) the Advanced (3D) Laser Sensing (ALS)/Aided Target Recognition (ATR) Combat ID program which includes advanced laser vibration, 3-dimensional laser detection and ranging, laser radar, synthetic aperture laser (SAL) radar, aided/automatic target recognition, and image fusion; (2) Radar Vision, an air-to-ground radar imaging technique to identify stationary and moving targets using their radar signatures; (3) Signature Database, a project focused on real and synthetic signature collection, generation, processing, testing, and standardization techniques that will greatly reduce the cost of supporting fielded and future non-cooperative systems; (4) Fusion Vision, a fusion of sensor data from multiple sources to create a higher confidence in CID of surface or air targets; and (5) X-Patch, a validated set of prediction codes and analysis tools that use the shooting-and-bouncing ray (SBR) method to predict realistic far-field radar signatures from 3D target models in order to predict 1D and/or 2D data. X-Patch is vital to the mission of database production centers which support Joint Sensors Signature Database (JSSD) pathfinders.</p>											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0603742F: Combat Identification Technology			
BA 4: Advanced Component Development & Prototypes (ACD&P)					
<p>Cooperative CID requires systems that rapidly identify friendly platforms. Utilizing a challenge and response system, platforms in the air-to-air or air-to-surface setting emit a directed electromagnetic challenge to achieve a reaction positively identifying another platform as a friendly. This program element funds growth to Mark XIIA, the next generation Identification Friend or Foe (IFF) standard for the DoD and NATO. Mark XIIA represents a substantial enhancement to the Mark XII IFF system. It is expected to achieve joint initial operational capability in 2014. The "A" denotes the addition of Mode 5 (an encrypted challenge-and-reply mode) to the other Mark XII system modes (Modes 1, 2, 3/A, C, S, and 4). The Mode 5 secure IFF program is a DoD-wide, Navy-led development and acquisition program. The development funded by this program element ensures availability of an upgrade path for implementing ground and air platforms across the Air Force fleet.</p> <p>This program is in Budget Activity 4 - Advanced Component Development and Prototypes because it transitions technologies from laboratory to operational use.</p>					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	29.300	27.841	0.000	0.000	0.000
Current President's Budget	28.708	28.799	26.172	0.000	26.172
Total Adjustments	-0.592	0.958	26.172	0.000	26.172
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.592	0.958	26.172	0.000	26.172
Change Summary Explanation					
Funding for X-Patch was moved into the Combat ID program element for FY09 and beyond, and previously resided in PE 63203F. Within PE 63742F, money for X-Patch was placed in BPAC 642599 (Cooperative) for FY09 and BPAC 642597 (Non-cooperative) for FY10.					
FY 2011: The FY2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore, explanation of changes between the two budget positions cannot be made in a relevant manner.					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>				PROJECT 642597: <i>Noncooperative Identification Subsystems</i>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost	
642597: <i>Noncooperative Identification Subsystems</i>	19.024	25.189	23.557	0.000	23.557	23.822	24.242	24.610	24.972	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification <p>Non-cooperative CID employs a number of sensing technologies and signal processing techniques. The results are compared against a database of known objects to identify surface or air threats from air platforms. These technologies include: (1) Laser Vision, an electro-optical imaging system that significantly increases ID ranges and includes (a) the Laser Target Imaging Program (LTIP) which will consist of exploiting synergies between non-cooperative and cooperative ID systems (radio, millimeter wave, infrared, and laser), combat mode improvements, laser vibration development, and studies to support decisions on future work and (b) the Advanced (3D) Laser Sensing (ALS)/Aided Target Recognition (ATR) Combat ID program which includes advanced laser vibration, 3-dimensional laser detection and ranging, laser radar, synthetic aperture laser (SAL) radar, aided/automatic target recognition, and image fusion; (2) Radar Vision, an air-to-ground radar imaging technique to identify stationary and moving targetets using their radar signatures; (3) Database, a project focused on real and synthetic signature collection, generation, processing, testing and standardization techniques that will greatly reduce the cost of supporting fielded and future non-cooperative systems; (4) Fusion Vision, a fusion of sensor data from multiple sources to create a higher confidence in CID of surface or air targets; and (5) X-Patch; a validated set of prediction codes and analysis tools that use the shooting-and-bouncing ray (SBR) method to predict realistic far-field radar signatures from 3D target models in order to predict 1D and/or 2D data. X-Patch is vital to the mission of database production centers which support Joint Sensors Signature Database (JSSD) pathfinders.</p> <p>CID will support Boldquest 09 with more advanced LTIP targetting pods and RBCI (Radio Based Combat ID) in a pod. FY10 development will begin to join cooperative and non-cooperative systems in the Fusion Vision Program to gain a higher confidence combat identification will be the CID project of the future.</p> <p>This program is in Budget Activity 4 - Advanced Component Development and Prototypes because it transitions technologies from laboratory to operational use.</p>												
B. Accomplishments/Planned Program (\$ in Millions)												
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total		
MAJOR THRUST: Establish and develop the Target Signature (multispectral) Database Development Program.						0.610	0.259	0.000	0.000	0.000		

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: In FY 2009: Continuation of above listed activities. A robust database program of surface and air targets from various countries populated from multiple sources. Incorporate the analysis and database developed in prior years by the HRR program.						
FY 2010 Plans: In FY 2010: Continuation of above listed activities.						
FY 2011 Base Plans: In FY 2011: Not applicable						
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						
MAJOR THRUST: The Laser Vision (LV) project provides the demonstration and evaluation data.		4.812	3.555	3.105	0.000	3.105
FY 2009 Accomplishments: In FY 2009: The Laser Vision (LV) project provides the demonstration and evaluation data necessary to make well informed transition decisions on promising CID technologies for both air-to-air and air-to-surface ID that will enhance mission performance and reduce battle space fratricide. The LV project is focused on emerging technologies that could be installed into platforms like targeting pods and UAVs. Future LV candidate projects include the development and testing of enhanced 2D laser imaging, radio based combat identification, hyper-spectral, low light imaging, polarization, 1st generation electro-optical automatic target cueing / recognition, advanced 3D laser imaging, laser vibration, and insertion of mature, hardened camera technologies into alternate platforms.						
FY 2010 Plans: In FY 2010: Continuation of above listed activities.						

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: In FY 2011: Continuation of above listed activities.						
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						
MAJOR THRUST: The Radar Vision technology applies Aided Target Recognition (ATR) algorithms. FY 2009 Accomplishments: In FY 2009: The Radar Vision technology applies Aided Target Recognition (ATR) algorithms to Radar Imagery and Radar Signature returns which puts target ID labels on the radar imagery and tracks using a common database of target signatures. Radar Vision is using spiral development to mature algorithms, add target signatures, and test/demonstrate. Future spirals will include hybrid algorithms, moving surface targets, advanced radar modes and frequencies, and exploitation of 3D characteristics. FY 2010 Plans: In FY 2010: Continuation of above listed activities. FY 2011 Base Plans: In FY 2011: Continuation of above listed activities. FY 2011 OCO Plans: In FY 2011 OCO: Not applicable		9.203	10.682	9.543	0.000	9.543
MAJOR THRUST: Continue funding the Fusion Vision program, a fusion of sensor data from multiple sources to create a high confidence in surface and air targets CID. FY 2009 Accomplishments: In FY 2009: Continuation of above listed activities.		2.000	2.480	4.730	0.000	4.730

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: In FY 2010: Continuation of above listed activities.						
FY 2011 Base Plans: In FY 2011: Continuation of above listed activities.						
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						
MAJOR THRUST: Fund the Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XII/ XIIA System (AIMS) Program Office. FY 2009 Accomplishments: In FY 2009: Continuation of above listed activities. The DoD International AIMS PO has system level interoperability management responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S Systems. FY 2010 Plans: In FY 2010: Not applicable FY 2011 Base Plans: In FY 2011: Not applicable FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.		0.636	0.000	0.000	0.000	0.000
MAJOR THRUST: Continue funding Combat Identification technology flight and other engineering support necessary for management of CID efforts.		1.663	4.544	2.701	0.000	2.701

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: In FY 2009: Continuation of above listed activities.						
FY 2010 Plans: In FY 2010: Continuation of above listed activities.						
FY 2011 Base Plans: In FY 2011: Continuation of above listed activities.						
FY 2011 OCO Plans: In FY 2011 OCO: Not applicable						
MAJOR THRUST: Conduct CID-related studies/demos and conferences.		0.100	0.479	0.300	0.000	0.300
FY 2009 Accomplishments: In FY 2009: Execute Mode 5 IFF flight test preparations and demonstration to assess system operational capacity, interoperability, and equipment integration. Studies and demonstrations will include those directed by Joint Staff and OSD to research and evaluate a family of CID systems, linkage between airborne and ground-based non-cooperative CID technologies/systems, and quantify the relationship between CID and improved combat effectiveness.						
FY 2010 Plans: In FY 2010: Continuation of above listed activities.						
FY 2011 Base Plans: In FY 2011: Continuation of above listed activities.						
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						

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B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: X-Patch consists of software code refinement based on feedback from the X-Patch user community. <i>FY 2009 Accomplishments:</i> In FY 2009: Priority is given to the needs of the JSSD Pathfinders and other signature production teams. It will also consist of configuration management, S/W protection, maintenance, and support. The JSSD Pathfinders 1 and 2 are heavily dependent on X-Patch for the predicting data on threat targets. <i>FY 2010 Plans:</i> In FY 2010: Continuation of above listed activities. <i>FY 2011 Base Plans:</i> In FY 2011: Continuation of above listed activities. <i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.						0.000	3.190	3.178	0.000	3.178	
Accomplishments/Planned Programs Subtotals						19.024	25.189	23.557	0.000	23.557	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE Not Provided (4775): <i>Activity Not Provided</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D. Acquisition Strategy											
Award multiple, competitive contract vehicles emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs).											

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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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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603742F: Combat Identification Technology				PROJECT 642597: Noncooperative Identification Subsystems					
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Raytheon Company	C/CPFF	No text provided EI Segundo, CA	24.527	3.795	Dec 2009	4.685	Dec 2010	0.000		4.685	Continuing	Continuing	Continuing	
Northrop Grumman Corporation	C/CPFF	No text provided Linthicum Heights, MD	21.517	4.882	Nov 2009	5.074	Nov 2010	0.000		5.074	Continuing	Continuing	Continuing	
Northrop Grumman Corporation (1)	C/CPFF	Rowling Meadows IL	11.677	3.657	Nov 2009	3.047	Nov 2010	0.000		3.047	Continuing	Continuing	Continuing	
Science Applications Internation Corporation	SS/CPFF	Dayton OH	27.935	0.250	Nov 2009	0.250	Nov 2010	0.000		0.250	Continuing	Continuing	Continuing	
AIMS Program Office	MIPR	Warner Robins GA	6.595	0.000		0.000		0.000		0.000	0.000	6.595	Continuing	
General Dynamcis	C/CPFF	Beavercreek OH	2.447	1.269	Dec 2009	1.150	Dec 2010	0.000		1.150	Continuing	Continuing	Continuing	
Sverdrup Technology	C/CPFF	Ft Walton Beach FL	5.293	0.180	Nov 2009	0.270	Nov 2010	0.000		0.270	Continuing	Continuing	Continuing	
SIREN & Litening Study	MIPR	Dayton OH	1.364	2.600	Dec 2009	0.000		0.000		0.000	0.000	3.964	0.000	
DOE - Sandia National Labs	MIPR	Albuquerque NM	2.837	0.725	Dec 2009	2.150	Dec 2010	0.000		2.150	Continuing	Continuing	Continuing	
Studies	MIPR	WPAFB OH	0.265	0.479	Dec 2009	0.300	Dec 2010	0.000		0.300	Continuing	Continuing	Continuing	
X-Patch	TBD/TBD	WPAFB OH	0.000	3.190	Nov 2009	3.178	Nov 2010	0.000		3.178	Continuing	Continuing	Continuing	
Lockheed Martin	C/CPFF	Eglin AFB FL	0.900	0.000		0.000		0.000		0.000	0.000	0.900	0.000	

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Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			105.357	21.027		20.104		0.000		20.104			
Remarks													
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SPO support	Various	Hanscom ESC	17.716	2.657	Oct 2009	2.409	Oct 2010	0.000		2.409	Continuing	Continuing	Continuing
Air Force Research Laboratory	MIPR	WPAFB OH	4.247	0.340	Oct 2009	0.350	Oct 2010	0.000		0.350	Continuing	Continuing	Continuing
Subtotal			21.963	2.997		2.759		0.000		2.759			
Remarks													

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Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
46th Test Wing	MIPR	Eglin AFB FL	6.461	0.300	Jun 2010	0.500	Jun 2011	0.000		0.500	Continuing	Continuing	Continuing	
Atlantic Test Range	MIPR	Patuxent River MD	0.450	0.000		0.000		0.000		0.000	0.000	0.450	0.000	
Test Wings	MIPR	Edwards AFB CA	2.592	0.615	Jun 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing	
Aberdeen Proving Ground	MIPR	Aberdeen Proving Ground MD	0.162	0.050	Jun 2010	0.050	Jun 2011	0.000		0.050	0.000	0.262	0.100	
MISC	MIPR	Redstone Arsenal AL	1.027	0.200	Apr 2010	0.144	Apr 2011	0.000		0.144	Continuing	Continuing	Continuing	
NASIC	MIPR	WPAFB OH	0.080	0.000		0.000		0.000		0.000	0.000	0.080	0.000	
Yuma	MIPR	Yuma AZ	0.104	0.000		0.000		0.000		0.000	0.000	0.104	0.000	
Subtotal			10.876	1.165		0.694		0.000		0.694				
Remarks														
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			138.196	25.189		23.557		0.000		23.557				

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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Remarks Total Prior Years Cost may include only FY 2009 data.								

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 4: Advanced Component Development & Prototypes (ACD&P)

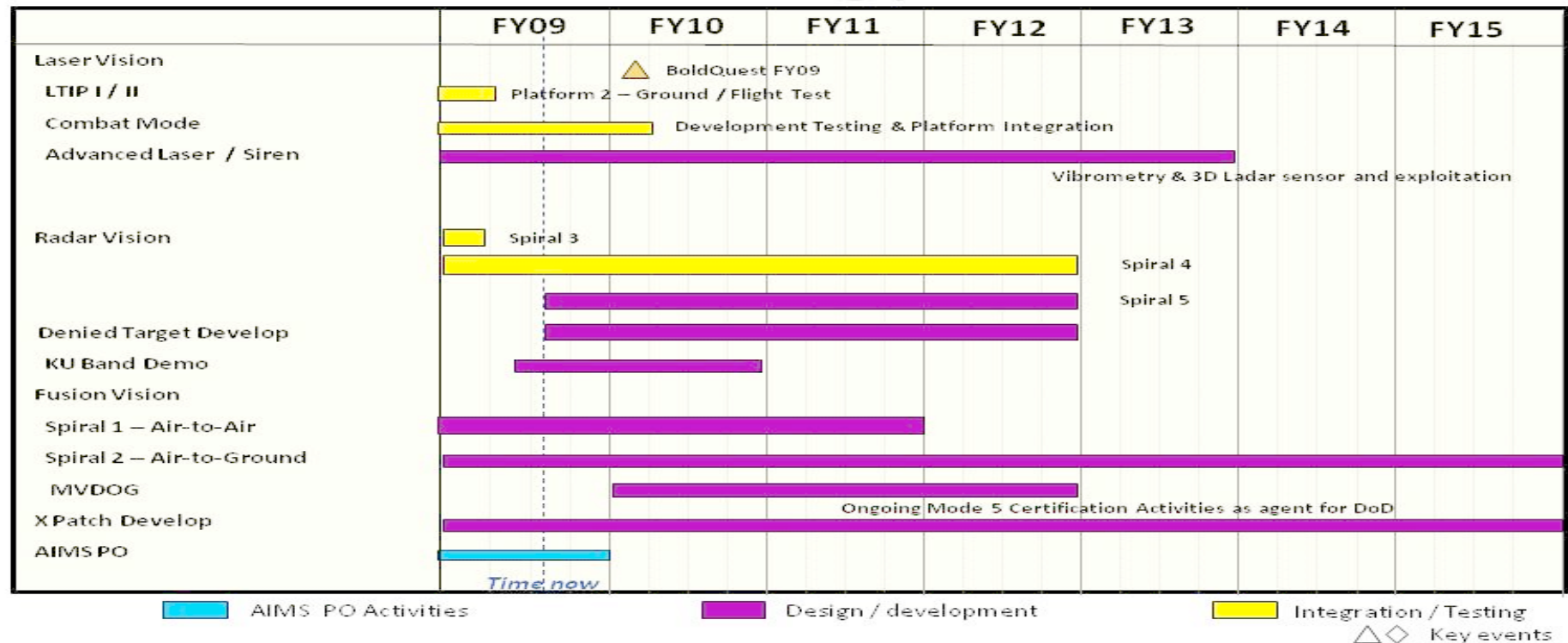
R-1 ITEM NOMENCLATURE

PE 0603742F: Combat Identification Technology

PROJECT

642597: Noncooperative Identification Subsystems

Non-Cooperative CID Technology Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force			DATE: February 2010	
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Schedule Details				
Event	Start		End	
	Quarter	Year	Quarter	Year
LASER VISION - LTIP I / LTIP II Platform 2 Ground / Flt Test	1	2009	1	2009
LASER VISION - Combat Mode Dev Test & Platform Integ	1	2009	1	2010
LASER VISION - Advanced Laser Sensing/Aided Target Recognition	1	2009	4	2011
RADAR VISION - Radar Vision Spiral 3	1	2009	1	2009
RADAR VISION - Radar Vision Spiral 4	1	2009	4	2011
RADAR VISION - Radar Vision Spiral 5	3	2009	4	2011
RADAR VISION - Denied Target Development	3	2009	4	2011
RADAR VISION - Ku-Band Demonstration	2	2009	4	2010
FUSION VISION - Spiral 1 - Air-to-Air	1	2009	4	2011
FUSION VISION - Spiral 2 - Air-to-Ground	1	2009	4	2011
MVDOG	1	2010	4	2011
X-Patch Development	1	2009	4	2011
AIMSPO - IFF Certification Activities	1	2009	4	2009

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>				PROJECT 642599: <i>Cooperative Identification Techniques</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
642599: <i>Cooperative Identification Techniques</i>	9.684	3.610	2.615	0.000	2.615	2.098	1.855	1.883	1.908	0.000	56.165
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification Cooperative CID requires systems that rapidly identify friendly platforms. Utilizing a challenge and response system, platforms in the air-to-air or air-to-surface setting emit a directed electromagnetic challenge to achieve a reaction positively identifying another platform as a friendly. This program element funds growth to Mark XIIA, the next generation Identification Friend or Foe (IFF) standard for the DoD and NATO. Mark XIIA represents a substantial enhancement to the Mark XII IFF system. It is expected to achieve joint initial operational capability in 2014. The "A" denotes the addition of Mode 5 (an encrypted challenge-and-reply mode) to the other Mark XII system modes (Modes 1, 2, 3/A, C, S, and 4). The Mode 5 secure IFF program is a DoD-wide, Navy-led development and acquisition program. The development funded by this program element ensures availability of an upgrade path for implementing ground and air platforms across the Air Force fleet. This program is in Budget Activity 4 - Advanced Component Development and Prototypes because it transitions technologies from laboratory to operational use.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: Continue the Mode 5 upgrade to the APX-119 transponder, the APX-114 interrogator, and the APX-113 Combined Interrogator/Transponder (CIT). <i>FY 2009 Accomplishments:</i> In FY 2009: Continue the Mode 5 upgrade to interrogators such as the UPX-40 interrogator on the AWACS. Provide systems engineering and program management to facilitate planned platform integrations, including interoperability testing. Continue funding Combat Identification technology flight and other engineering support necessary for management of Mode 5 efforts.						5.028	2.280	0.833	0.000	0.833	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603742F: Combat Identification Technology		PROJECT 642599: Cooperative Identification Techniques		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: In FY 2010: Continuation of above listed activities.						
FY 2011 Base Plans: In FY 2011: Continuation of above listed activities.						
FY 2011 OCO Plans: In FY 2011 OCO: Not applicable						
MAJOR THRUST: Fund Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XIIA System (AIMS). FY 2009 Accomplishments: In FY 2009: Fund Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XIIA System (AIMS) Program Office support of the Mark XIIA system to include current and next generation IFF equipment integration, including Mode 5 documentation and individual IFF system/box certification. FY 2010 Plans: In FY 2010: Continuation of above listed activities. FY 2011 Base Plans: In FY 2011: Continuation of above listed activities. FY 2011 OCO Plans: In FY 2011 OCO: Not applicable		1.447	1.330	1.782	0.000	1.782
MAJOR THRUST: X-Patch consists of software code refinement based on feedback from the X-Patch user community.		3.209	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)			R-1 ITEM NOMENCLATURE PE 0603742F: Combat Identification Technology			PROJECT 642599: Cooperative Identification Techniques					
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
<i>FY 2009 Accomplishments:</i> In FY 2009: Priority is given to the needs of the JSSD Pathfinders and other signature production teams. It will also consist of configuration management, S/W protection, maintenance, and support. The JSSD Pathfinders 1 and 2 are heavily dependent on X-Patch for the predicting data on threat targets.											
<i>FY 2010 Plans:</i> In FY 2010: Not applicable											
<i>FY 2011 Base Plans:</i> In FY 2011: Not applicable											
<i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not applicable											
Accomplishments/Planned Programs Subtotals						9.684	3.610	2.615	0.000	2.615	
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE Not Provided (5387): Activity Not Provided	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D. Acquisition Strategy											
Award multiple, competitive contract vehicles emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs).											
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 2011 Air Force										DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603742F: Combat Identification Technology				PROJECT 642599: Cooperative Identification Techniques					
Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BAE	C/CPFF	Greenlawn NY	1.500	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Boeing/Telephonics	C/CPFF	Farmingdale NY	7.083	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Raytheon	C/CPFF	Baltimore MD	17.384	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
SAIC, X-Patch	SS/CPFF	San Diego CA	3.209	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
General Dynamics	C/CPFF	Beavercreek OH	0.200	0.000		0.000		0.000		0.000	0.000	0.200	0.200
L-3 Comm (Control Panel)	C/CPFF	Greenville TX	0.000	1.557	Dec 2009	0.623	Dec 2010	0.000		0.623	0.000	2.180	2.565
Interrogators	TBD/TBD	TBD TBD	0.000	0.723	Dec 2009	0.210	Dec 2010	0.000		0.210	Continuing	Continuing	Continuing
Subtotal			29.376	2.280		0.833		0.000		0.833			
Remarks													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>				PROJECT 642599: <i>Cooperative Identification Techniques</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering/ Program Management (AIMS PO)AF 616	TBD/TBD	Robins AFB GA	1.447	1.330	Nov 2009	1.782		0.000		1.782	Continuing	Continuing	Continuing
Subtotal			1.447	1.330		1.782		0.000		1.782			
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			30.823	3.610		2.615		0.000		2.615			
Remarks Total Prior Years Cost may include only FY 2009 data.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 4: Advanced Component Development & Prototypes (ACD&P)

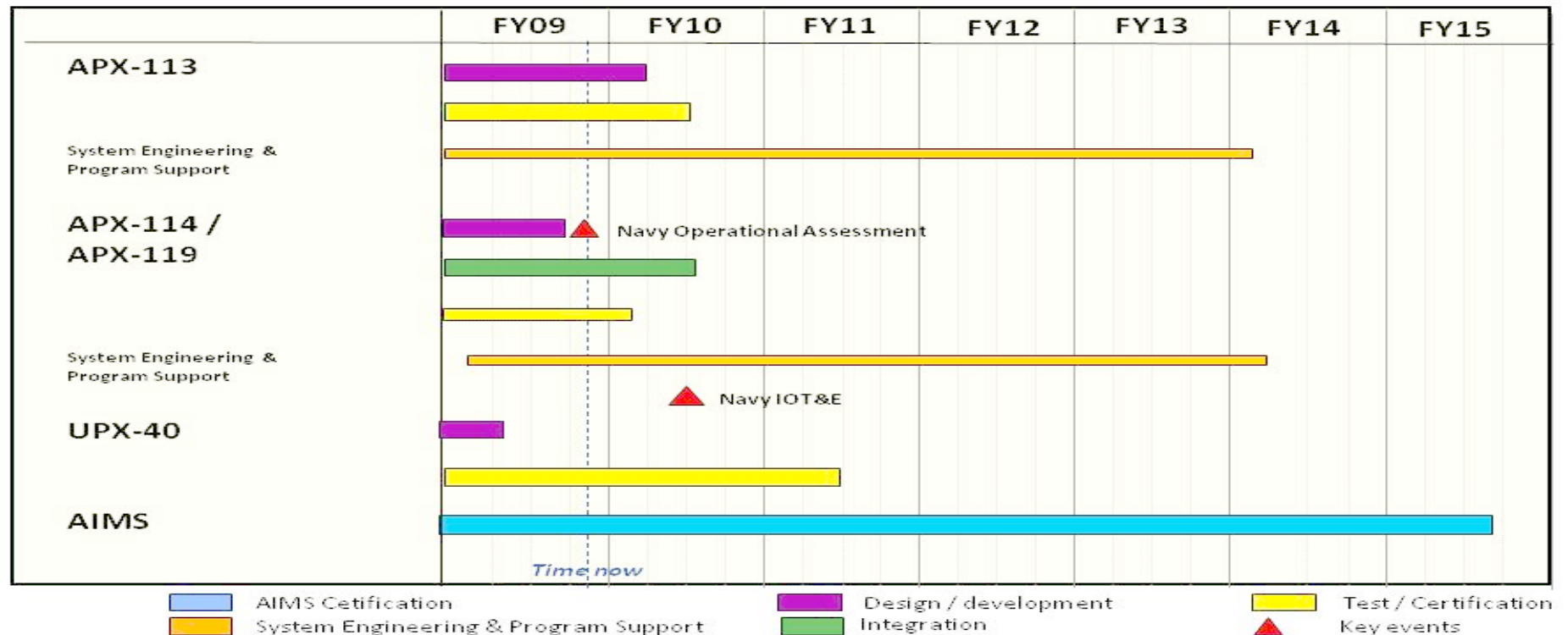
R-1 ITEM NOMENCLATURE

PE 0603742F: Combat Identification Technology

PROJECT

642599: Cooperative Identification Techniques

Cooperative CID Technology Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>	PROJECT 642599: <i>Cooperative Identification Techniques</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
APX-113 - Systems Development/Demonstration	1	2009	1	2010
APX-113 - Test and Evaluation - AIMS Certification	1	2009	4	2009
APX-113 System Engineering & Program Support	1	2009	2	2010
APX-114/APX-119 - Systems Development/Demonstration	1	2009	3	2009
APX-114/APX-119 - Systems Integration	1	2009	3	2010
APX-114/APX-119 - Test and Evaluation - AIMS Certification	1	2009	1	2010
APX-114 /APX-119 System Engineering & Program Support	1	2009	4	2010
UPX-40 - Systems Development/Demonstration	1	2009	2	2009
UPX-40 - Test and Evaluation - AIMS Certification	1	2009	2	2011
AIMS Program Office Support	1	2009	4	2011

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