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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 0604283F: BMC2 Sensor Development							
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	0.000	22.612	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
645363: MP-RTIP	0.000	22.612	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A. Mission Description and Budget Item Justification											
<p>Program Element (PE) 0207450F (E-10 Squadrons) developed a family of advanced Multi Platform-Radar Technology Insertion Program (MP-RTIP) airborne sensors for multiple platform applications. The MP-RTIP large array Wide Area Surveillance (WAS) version of this sensor, and its intended platform the E-10A, were included in this effort. The E-10A was terminated Feb 07, but termination direction allowed a bridge effort to accomplish WAS radar hardware verification. Additional funding was provided in FY08 and FY09 in PE 0207581F, Joint STARS, to continue WAS radar risk reduction and analysis.</p> <p>Direction to terminate did not impact the smaller version of the Radar, MP-RTIP on Global Hawk Block 40.</p> <p>PE 0604283F funds investigation and development of improved WAS capabilities to support future potential platforms including, but not limited to, E-8C Joint STARS. This includes risk reduction and technology maturation in areas such as Cruise Missile Defense (CMD), improved Kill Chain performance (processing, exploitation, and dissemination of sensor data), and improved and concurrent Ground Moving Target Indicator (GMTI) and Synthetic Aperture Radar (SAR). This also includes installed air mode capabilities, electronic protection, technology refresh and assessment, antenna scaling design, mode software development, and installed system performance assessments.</p> <p>Battle Management Command and Control (BMC2) activities under this PE will focus on operation and control of any sensor (e.g., WAS or Global Hawk). These activities include risk reduction, architecture analysis, modeling and simulation, and prototype designs related to sensor and data management, data fusion and security, and computing architecture analysis to support mission execution capabilities. Modifications to large WAS radar platforms require risk reduction and technology maturation associated with the sensor, operation and control of the sensor, and integration of the sensor. Specific platform integration activity (e.g., E-8C Joint STARS) will focus on weapon system integration analysis and risk reduction to address airframe areas such as thermal analysis, electrical power analysis, structural analysis and sensor radome design, and power generation baseline assessment.</p> <p>Activities also include studies and analysis to support both current program planning and execution and future program planning.</p> <p>This program is categorized as Budget Activity (BA) 4 which requires proving components and subsystem maturity prior to integration into major/complex systems.</p>											

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0604283F: BMC2 Sensor Development			
BA 4: Advanced Component Development & Prototypes (ACD&P)					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	0.000	22.612	0.000	0.000	0.000
Current President's Budget	0.000	22.612	0.000	0.000	0.000
Total Adjustments	0.000	0.000	0.000	0.000	0.000
• 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	0.000	0.000	0.000	0.000	0.000
Change Summary Explanation					
In FY 2010, Project 5363 MP-RTIP efforts were transferred from PE 0207581F, PE Joint STARS, Project 0003, in order to continue risk reduction on a Wide Area Surveillance (WAS) radar and supporting Battle Management Command and Control (BMC2). Funding was added by the AF corporate structure to this PE since PE 0207450F (E-10) was terminated and the verification effort is platform independent (i.e. not specific to PE 0207581F JSTARS or PE 0305220F RQ-4 UAV).					

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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 0604283F: <i>BMC2 Sensor Development</i>				PROJECT 645363: <i>MP-RTIP</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
645363: <i>MP-RTIP</i>	0.000	22.612	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
<p>Note</p> <p>In FY 2010, Project 5363, MP-RTIP efforts were transferred from PE 0207581F, PE Joint STARS, Project 0003, in order to continue risk reduction on a Wide Area Surveillance (WAS) radar and supporting Battle Management Command and Control (BMC2).</p> <p>A. Mission Description and Budget Item Justification</p> <p>Program Element (PE) 0207450F (E-10 Squadrons) developed a family of advanced Multi Platform-Radar Technology Insertion Program (MP-RTIP) airborne sensors for multiple platform applications. The MP-RTIP large array Wide Area Surveillance (WAS) version of this sensor, and its intended platform the E-10A, were included in this effort. The E-10A was terminated Feb 07, but termination direction allowed a bridge effort to accomplish WAS radar hardware verification. Additional funding was provided in FY08 and FY09 in PE 0207581F, Joint STARS, to continue WAS radar risk reduction and analysis.</p> <p>Direction to terminate did not impact the smaller version of the Radar, MP-RTIP on Global Hawk Block 40.</p> <p>PE 0604283F funds investigation and development of improved WAS capabilities to support future potential platforms including, but not limited to, E-8C Joint STARS. This includes risk reduction and technology maturation in areas such as Cruise Missile Defense (CMD), improved Kill Chain performance (processing, exploitation, and dissemination of sensor data), and improved and concurrent Ground Moving Target Indicator (GMTI) and Synthetic Aperture Radar (SAR). This also includes installed air mode capabilities, electronic protection, technology refresh and assessment, antenna scaling design, mode software development, and installed system performance assessments.</p> <p>Battle Management Command and Control (BMC2) activities under this PE will focus on operation and control of any sensor (e.g., WAS or Global Hawk). These activities include risk reduction, architecture analysis, modeling and simulation, and prototype designs related to sensor and data management, data fusion and security, and computing architecture analysis to support mission execution capabilities. Modifications to large WAS radar platforms require risk reduction and technology maturation associated with the sensor, operation and control of the sensor, and integration of the sensor. Specific platform integration activity (e.g., E-8C Joint STARS) will focus on weapon system integration analysis and risk reduction to address airframe areas such as thermal analysis, electrical power analysis, structural analysis and sensor radome design, and power generation baseline assessment.</p>											

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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 0604283F: BMC2 Sensor Development		PROJECT 645363: MP-RTIP	
Activities also include studies and analysis to support both current program planning and execution and future program planning.					
This program is categorized as Budget Activity (BA) 4 which requires proving components and subsystem maturity prior to integration into major/complex systems.					
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Risk Reduction Effort FY 2009 Accomplishments: In FY 2009: N/A FY 2010 Plans: In FY 2010: Investigation and development of improved Wide Area Surveillance capabilities in areas such as Cruise Missile Defense, improved Kill Chain performance, and improved and concurrent Ground Moving Target Indicator and Synthetic Aperture Radar. In addition, includes risk reduction, architecture analysis, modeling and simulation and prototype designs related to sensor and data management, data fusion and security, and computing architecture analysis to support mission execution capabilities. FY 2011 Base Plans: In FY 2011: N/A FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.	0.000	16.546	0.000	0.000	0.000
MAJOR THRUST: AoA Support FY 2009 Accomplishments: In FY 2009: N/A	0.000	2.000	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 2010 Plans: In FY 2010: Studies and analysis to support an Analysis of Alternatives for future GMTI, SAR and Battle Management capabilities. Includes analysis of current platforms and technologies as well as potential replacement platforms and technologies.					
FY 2011 Base Plans: In FY 2011: N/A					
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.					
MAJOR THRUST: Program Management FY 2009 Accomplishments: In FY 2009: N/A FY 2010 Plans: In FY 2010: Program management of associated contractor activity. FY 2011 Base Plans: In FY 2011: N/A FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.	0.000	4.066	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	0.000	22.612	0.000	0.000	0.000

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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 0207581F: <i>JOINT STARS, (RDT&E)</i>	20.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D. Acquisition Strategy
This acquisition strategy implements risk reduction and technology maturation efforts to produce analyses, reports, and software that can be leveraged if/when any future development program is approved.

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: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0604283F: <i>BMC2 Sensor Development</i>				PROJECT 645363: <i>MP-RTIP</i>																																																													
Product Development (\$ in Millions) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> <tr> <td>Risk Reduction Effort</td> <td>TBD/TBD</td> <td>TBD TBD</td> <td align="right">0.000</td> <td align="right">16.546</td> <td align="center">Mar 2010</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">16.546</td> <td align="right">0.000</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td> <td align="right">0.000</td> <td align="right">16.546</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">16.546</td> <td align="right">0.000</td> </tr> </table>																		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	Risk Reduction Effort	TBD/TBD	TBD TBD	0.000	16.546	Mar 2010	0.000		0.000		0.000	0.000	16.546	0.000	Subtotal			0.000	16.546		0.000		0.000		0.000	0.000	16.546	0.000
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total																																																											
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Risk Reduction Effort	TBD/TBD	TBD TBD	0.000	16.546	Mar 2010	0.000		0.000		0.000	0.000	16.546	0.000																																																								
Subtotal			0.000	16.546		0.000		0.000		0.000	0.000	16.546	0.000																																																								
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				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																																																								
AoA Support	TBD/TBD	TBD TBD	0.000	2.000	Mar 2010	0.000		0.000		0.000	0.000	2.000	0.000																																																								
Subtotal			0.000	2.000		0.000		0.000		0.000	0.000	2.000	0.000																																																								
Remarks																																																																					

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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
Program Management Support	Various/ Various	Various Boston MA	0.000	4.066	Jan 2010	0.000		0.000		0.000	0.000	4.066	0.000
Subtotal			0.000	4.066		0.000		0.000		0.000	0.000	4.066	0.000
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			0.000	22.612		0.000		0.000		0.000	0.000	22.612	0.000
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

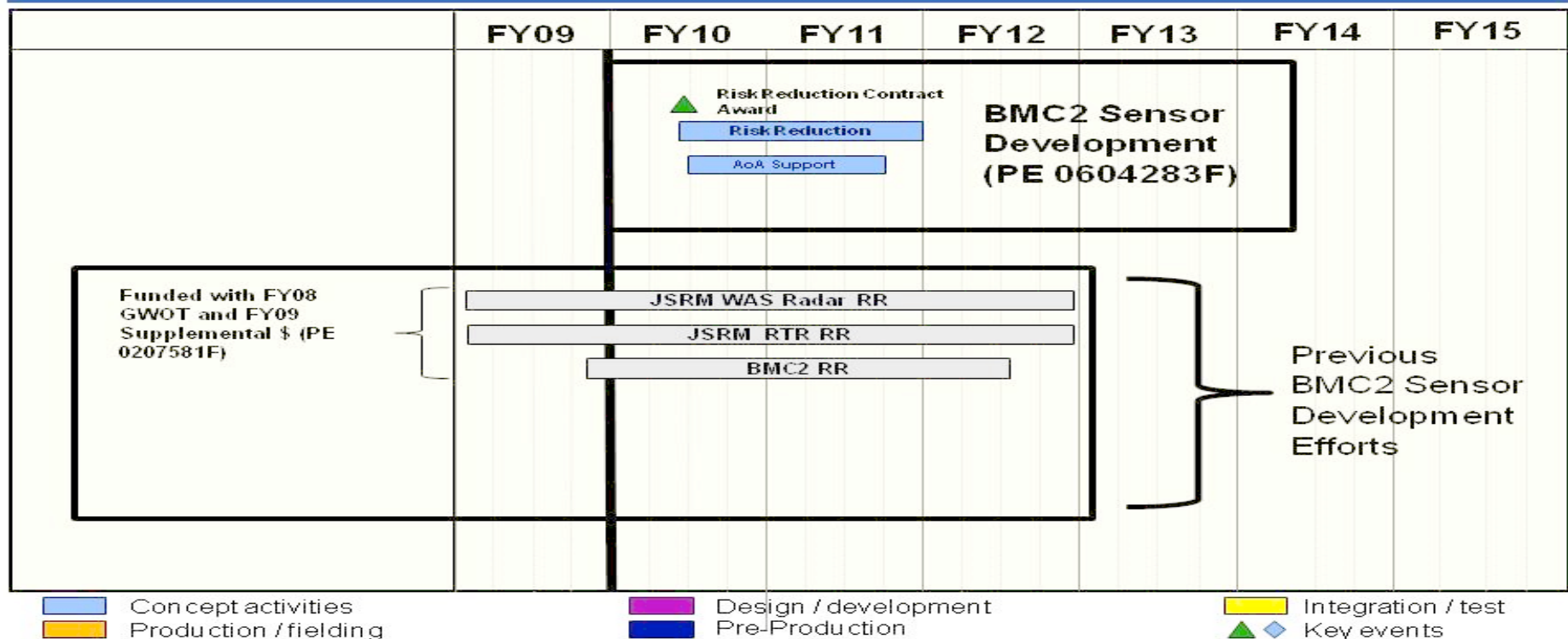
PE 0604283F: BMC2 Sensor Development

PROJECT

645363: MP-RTIP



BMC2 Sensor Development Program Schedule



PB11 R-Docs

Depicted by installation/production flow

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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 0604283F: <i>BMC2 Sensor Development</i>		PROJECT 645363: <i>MP-RTIP</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Risk Reduction Contract Award	2	2010	2	2010
Risk Reduction	2	2010	4	2011
AoA Support	2	2010	3	2011

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