

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0604283F BMC2 Sensor Development
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Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	0.000	22.612	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5363 MP-RTIP	0.000	0.000	22.612	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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).

(U) A. Mission Description and Budget Item Justification

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.

Direction to terminate did not impact the smaller version of the Radar, MP-RTIP on Global Hawk Block 40.

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, 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.

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.

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.

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(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Previous President's Budget	0.000	0.000	0.000
(U) Current PBR/President's Budget	0.000	0.000	22.612
(U) Total Adjustments	0.000	0.000	
(U) Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			

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Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
5363 MP-RTIP	0.000	0.000	22.612	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		

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).

(U) A. Mission Description and Budget Item Justification

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.

Direction to terminate did not impact the smaller version of the Radar, MP-RTIP on Global Hawk Block 40.

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, 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.

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.

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.

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Risk Reduction Effort	0.000	0.000	19.162
(U) Program Management	0.000	0.000	3.450
(U) Total Cost	0.000	0.000	22.612

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PROJECT NUMBER AND TITLE

5363 MP-RTIP

(U) **C. Other Program Funding Summary (\$ in Millions)**

	<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>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) PE 0207581F, Project 0003	85.000	20.000								

(U) **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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
04 Advanced Component Development and Prototypes (ACD&P)				0604283F BMC2 Sensor Development					5363 MP-RTIP			
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> Risk Reduction Effort	TBD	TBD						19.162	Jan-10		19.162	
Subtotal Product Development			0.000	0.000		0.000		19.162		0.000	19.162	0.000
Remarks:												
(U) <u>Support</u> Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test & Evaluation</u> Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Management</u> Program Management Support								3.450	Oct-09		3.450	
Subtotal Management			0.000	0.000		0.000		3.450		0.000	3.450	0.000
Remarks:												
(U) Total Cost			0.000	0.000		0.000		22.612		0.000	22.612	0.000

Exhibit R-4, RDT&E Schedule Profile

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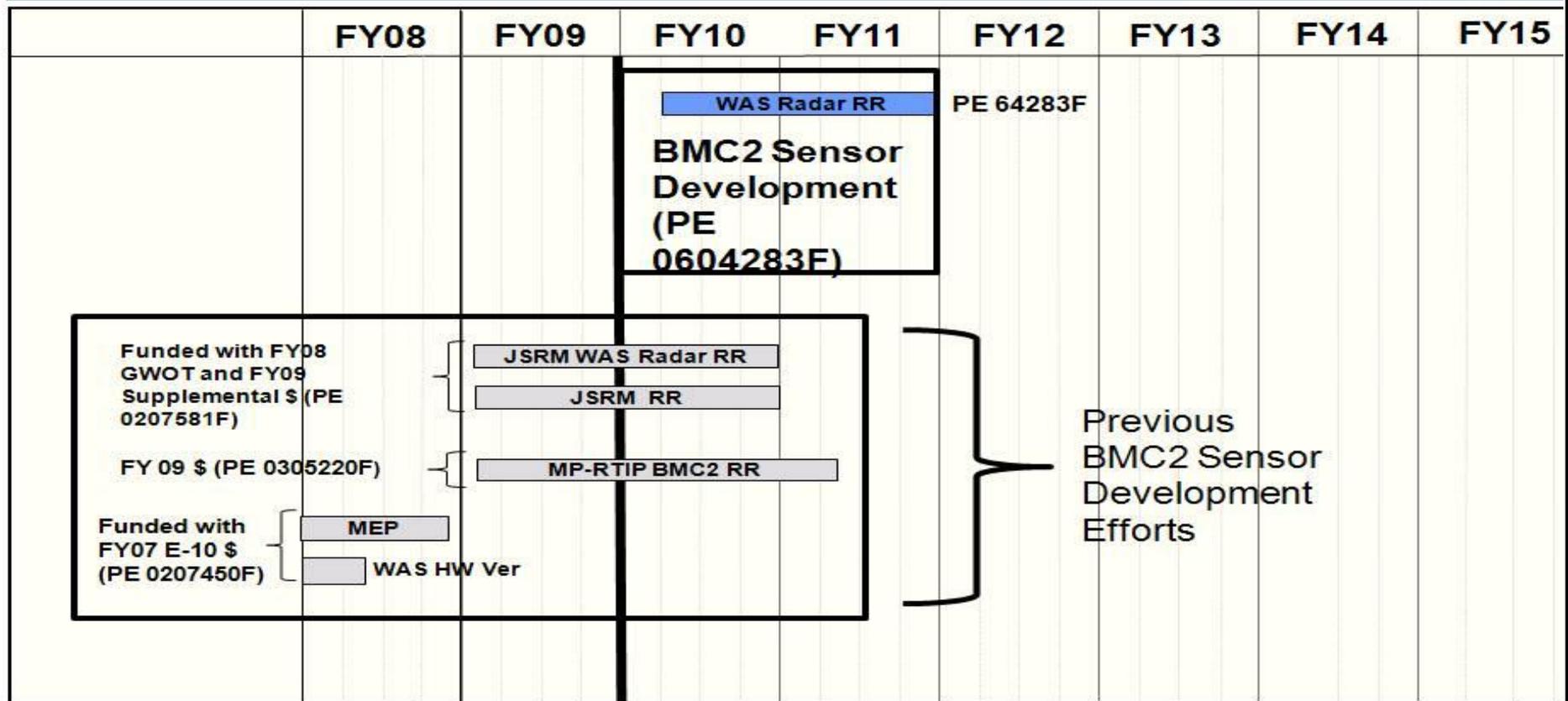
0604283F BMC2 Sensor Development

PROJECT NUMBER AND TITLE

5363 MP-RTIP



Program Schedule



- Concept activities
- Production / fielding
- Design / development
- Pre-Production
- Integration / test
- Key events

Exhibit R-4a, RDT&E Schedule Detail

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PROJECT NUMBER AND TITLE

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(U) Schedule Profile

FY 2008

FY 2009

FY 2010

(U) Risk Reduction Contract Award

2Q

(U) Risk Reduction

2-4Q

Note: Efforts funded by PEs 0207581F and 0207450F and annotated on the chart are not reflected in this listing. The efforts in these PEs are provided for reference only to show a continuity in the work being performed.

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