

**UNCLASSIFIED**

PE NUMBER: 0207601F  
 PE TITLE: USAF Modeling and Simulation

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	DATE <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0207601F USAF Modeling and Simulation</b>
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	25.540	12.873	18.693	11.475	11.583	11.932	12.062	Continuing	TBD
1008 National Air and Space Warfare Model (NASM)	17.980	0.000	0.000	0.000	0.000	0.000	0.000	0.000	97.510
4567 Joint Synthetic Battlespace (JSB) Environment	6.250	11.563	6.190	6.280	6.390	6.972	7.132	Continuing	TBD
4991 Joint Distributed Engineering Plant (JDEP)	0.000	0.000	6.530	4.810	4.790	4.960	4.930	Continuing	TBD
5004 Joint Model Transition (JMT)	0.400	0.400	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5005 Executive Agent For Air /Space Natural Environment	0.910	0.910	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5122 C4ISR Warfighting Integration	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	TBD
5133 Joint Distribute Engineering Plant (JDEP)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5135 Distributed Mission Operations (DMO)	0.000	0.000	5.973	0.385	0.403	0.000	0.000	Continuing	TBD

In FY05, Project Number 675135, Distributed Mission Operations (DMO), includes new start efforts.

**(U) A. Mission Description and Budget Item Justification**

Provides RDT&E funding for major USAF Modeling and Simulation (M&S) efforts such as Distributed Mission Operations (DMO), Joint Synthetic Battlespace-AF (JSB-AF), and Joint Distributed Engineering Plant (JDEP). DMO leverages JDEP, JSB-AF and Distributed Mission Training (DMT) programs to create the most efficient robust, collaborative M&S environment available. JSB-AF provides realistic representations of friendly and threat warfighting capabilities, realistic representations of the natural environment where the warfighting capabilities exists, and an architecture framework to support developing representations that allow the easy and rapid integration of those representations into synthetic battlespaces. JDEP connects combat system engineering sites and replicates the Joint Force Combat system to create a network test-bed to assess Joint Battle Management, Command, Control, Communication, Computers and Intelligence. Its objective is to improve interoperability of weapons systems and platforms through more rigorous interoperability evaluation in a replicated battlefield environment. JDEP will provide the capability both to improve Service and Joint system performance in a system-of-systems environment.

This Program Element (PE) also supports the Joint Model Transition (JMT) project (formerly known as the Legacy Model Transition). JMT is incorporated into the DMO project which funds the upgrades of selected R&D models through a board process. JMT fully supports the next generation of modeling and simulation (M&S) systems as the Air Force during transition from legacy M&S and fulfills emerging models/architecture capabilities. Numerous models exist and are being modified or developed for a broad range of areas including acquisition, analysis, test and evaluation, and training.

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0207601F USAF Modeling and Simulation

Air Force is the Executive Agent for Air & Space Natural Environment (ASNE) which serves the M&S community as subject matter expert for ASNE M&S databases (including relevant standards), dynamic processes, and other applications. ASNE is incorporated into the JSB Environment project and enables the major Joint simulation systems (i.e., Joint Warfare Simulation (JWARS), Joint Simulation System (JSIMS), Joint Modeling and Simulation System (JMASS), and Joint and Service component programs (i.e., Joint Strike Fighter (JSF), Missile Defense Agency (MDA), etc.) to represent the air and space natural environment rapidly, thoroughly, and consistently in a manner that promotes cost-effectiveness, ready access, interoperability, re-use, and confidence.

In addition, this PE enables the development of the Synthetic Theater Operations Research Model (STORM). STORM will replace the current Air Force theater level campaign model, THUNDER, with enhanced capability to feed aerospace representation in the Joint Warfare System (JWARS) and support Quadrennial Defense Reviews. In addition, the Intelligent Flight Control System Simulation Research and Oklahoma City Air Logistics Command (ALC) M&S projects are in this PE.

This program is in Budget Activity 7 - Operational System Development because it provides RDT&E funding for major USAF Modeling and Simulation efforts.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	22.396	8.483	8.577
(U) Current PBR/President's Budget	25.540	12.873	18.693
(U) Total Adjustments	3.144	4.390	
(U) Congressional Program Reductions		-0.110	
Congressional Rescissions			
Congressional Increases		4.500	
Reprogrammings	3.850	0.374	
SBIR/STTR Transfer	-0.706	-0.374	

(U) **Significant Program Changes:**

In FY04, Congress added \$1 million for STORM and \$3.5 million for Joint Synthetic Battlespace. The Congressional funds are in Project Number 674567.

In FY05, Project 674567 incorporates \$0.910 M project 675005 efforts. \$6.530 M of Project 674991 work transferred in from PE 0207028F. Project 675135 incorporates \$0.400 M of project 675004 work. These changes support best management practices to ensure the highest quality of work for the next generation of Modeling & Simulation (M&S) in USAF M&S.

**Exhibit R-2a, RDT&E Project Justification**

DATE  
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BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0207601F USAF Modeling and Simulation</b>			PROJECT NUMBER AND TITLE <b>1008 National Air and Space Warfare Model (NASM)</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
1008 National Air and Space Warfare Model (NASM)	17.980	0.000	0.000	0.000	0.000	0.000	0.000	0.000	97.510
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY03, the Joint Simulation System (JSIMS) was cancelled which caused the Air Force to terminate the National Air & Space Warfare Model (NASM) project.

**(U) A. Mission Description and Budget Item Justification**

This project provided funds for Air Force and Joint wargaming architecture and model development, primarily in support of battlestaff training, education, and military operations. New simulation federate components are being developed by the NASM program to replace the existing Air Force standard Air Warfare Simulation (AWSIM) within the JSIMS system. NASM will expand the use and role of modeling and simulation (M&S) in support of operational and acquisition decision making, and increase the interoperability between Air Force and joint efforts such as Joint Synthetic Battlespace (JSB). NASM includes, but is not limited to, representation of the full range of AFM 1-1 missions to meet the needs of USAF MAJCOMs and Unified/Specified Command air components to train Air Component Commanders and their battlestuffs. Additionally, NASM provides the JSIMS Civil Environment for accurate portrayal of strategic and cascading effects. Also, NASM is providing additional common components under JSIMS Alliance resources. Primary users will be the unified command air components, Combatant Commanders, Joint Forces Air Component Commander's (JFACC), and Service components, as supported by the Command and Control Technology Interoperability Group, the Korean Air Simulation Center (KASC), and the Warrior Preparation Center (WPC) for use in Joint exercises involving air, ground, and sea campaigns.

This program is in Budget Activity 7 - Operational System Development because it provides RDT&E funding for major USAF Modeling and Simulation efforts.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Completed Version Release Milestone (VRM) 1.0 Validation Test; continue development of VRM 2.0 air and space objects and process models to meet JSIMS integrated master development schedule; initial development of VRM 3.0 air and space objects and process models	15.722	0.000	0.000
(U) Continued NASM integration effort and operate the program management office	2.258	0.000	0.000
(U) Total Cost	17.980	0.000	0.000

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Not applicable									

**(U) D. Acquisition Strategy**

NASM provides the Air and Space software components of the Joint Simulation System (JSIMS). Resources are reviewed and measured against an Alliance program baseline, with the Earned Value and Performance Measurement reporting against the baseline accomplished on a monthly basis. The contract was selected by source

**Exhibit R-2a, RDT&E Project Justification**

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BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0207601F USAF Modeling and Simulation**

PROJECT NUMBER AND TITLE

**1008 National Air and Space Warfare Model (NASM)**

selection and is a Cost Plus Award Fee (CPAF).

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**Exhibit R-3, RDT&E Project Cost Analysis**

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BUDGET ACTIVITY			PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
<b>07 Operational System Development</b>			<b>0207601F USAF Modeling and Simulation</b>					<b>1008 National Air and Space Warfare Model (NASM)</b>				
<u>(U) Cost Categories</u>	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)			<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
			<u>2003</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
			<u>Cost</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
<u>(U) Product Development</u>												
Raytheon (NASM)	C/CPAF	Various	17.135	16.722	Mar-97	0.000		0.000		0.000	33.857	
Raytheon (AWSIM/R)	C/CPAF	ESC Hanscom AFB, MA	11.454	0.000	Apr-94	0.000		0.000		0.000	11.454	
Hughes (AWSIM/R)	C/CPAF	ESC Hanscom AFB, MA	4.059	0.000	Jun-94	0.000		0.000		0.000	4.059	
TRW (AFSOM)	C/CPAF	Various	0.039	0.000	Dec-97	0.000		0.000		0.000	0.039	
SysSimSolutions (STORM)	C/FFP	Various	0.000	0.000	Mar-03	0.000		0.000		0.000	0.000	
Oklahoma City ALC Modeling and Simulation Task	Various	Tinker AFB, OK	0.000	0.000	Mar-03	0.000		0.000		0.000	0.000	
Subtotal Product Development			32.687	16.722		0.000		0.000		0.000	49.409	0.000
Remarks:												
<u>(U) Support</u>												
Tech Eng Mgt Spt (TEMS) /ITSP	Del Order	ESC Hanscom AFB, MA	8.082	1.008	Dec-02	0.000		0.000		0.000	9.090	
MITRE	Contract Mod	ESC Hanscom AFB, MA	5.869	0.250	Dec-02	0.000		0.000		0.000	6.119	
Other*	Various	Various	17.112	0.000		0.000		0.000		0.000	17.112	
Subtotal Support			31.063	1.258		0.000		0.000		0.000	32.321	0.000
Remarks: *Includes Prototype Contracts												
<u>(U) Test &amp; Evaluation</u>												
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			63.750	17.980		0.000		0.000		0.000	81.730	0.000

**Exhibit R-4, RDT&E Schedule Profile**

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BUDGET ACTIVITY  
**07 Operational System Development**

PE NUMBER AND TITLE  
**0207601F USAF Modeling and Simulation**

PROJECT NUMBER AND TITLE  
**1008 National Air and Space Warfare Model (NASM)**

Acquisiton Milestones	FY03	FY04	FY05	FY06	FY07	FY09	FY10	FY11
IOC Vs 1.0	1Q							
Vs 1.0 Validation Table	3Q							

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<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>		DATE <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0207601F USAF Modeling and Simulation</b>	<b>PROJECT NUMBER AND TITLE</b> <b>1008 National Air and Space Warfare Model (NASM)</b>
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	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <u>Schedule Profile</u>			
(U) Initial Operating Capability (IOC) Version 1.0 Release	1Q		
(U) Version 1.0 Validation Test	3Q		

## Exhibit R-2a, RDT&amp;E Project Justification

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BUDGET ACTIVITY		PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
<b>07 Operational System Development</b>		<b>0207601F USAF Modeling and Simulation</b>					<b>4567 Joint Synthetic Battlespace (JSB) Environment</b>			
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total	
4567 Joint Synthetic Battlespace (JSB) Environment	6.250	11.563	6.190	6.280	6.390	6.972	7.132	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0			

In FY05, the project was renamed to the Joint Synthetic Battlespace (JSB) Environment (formerly the Joint Modeling and Simulation System) to incorporate work being accomplished in the Joint Synthetic Battlespace-Air Force (JSB-AF), the Joint Modeling and Simulation Systems (JMASS), and Air and Space Natural Environment (ASNE).

(U) **A. Mission Description and Budget Item Justification**

The Joint Synthetic Battlespace (JSB) Environment incorporates the Joint Modeling and Simulation System (JMASS) and Air and Space Natural Environment (ASNE) programs to add additional capability by applying the techniques in support of distributed simulations, including Distributed Mission Operations (DMO). Individual users will continue to develop models, simulations and documents based on Joint Synthetic Battlespace-Air Force (JSB-AF) standards definition and interfaces. JSB-AF will provide the capability to rapidly create realistic and accurate synthetic operational battlespaces to support the full spectrum of activities associated with mission preparation and acquisition of warfighting capabilities by providing appropriate component representations. Users will access readily available repositories of reusable, validated, and integrated synthetic components. Synthetic components will include representations of operational battlespace entities such as friendly and enemy assets and representations of the natural environment that include the terrain, atmospheric and space weather effects, and energy and signal propagation effects. The rapid composition will be based on a durable common architecture framework and common standards. JSB-AF will also provide mechanisms to capture and distribute information generated by the JSB-AF to support training, mission rehearsal, decision support, acquisition, deployment, operations, tactics/strategy development for deployment, security, and the sustainment of warfighting capabilities.

Air Force Director of Weather (AF/XIW) is designated as the DoD Modeling and Simulation Executive Agent (MSEA) for Air and Space Natural Environment (ASNE). This program also provides funds for MSEA joint wargaming architecture, data base, model development support for Joint Warfare Simulation (JWARS), Joint Simulation System (JSIMS), Joint Modeling and Simulation System (JMASS), and other joint M&S program offices. Primary users will be unified commanders and service components for use in joint exercises involving air, ground, sea, and space campaigns. ASNE MSEA enables Joint and Service M&S customers to present weather rapidly, thoroughly, and consistently. Promotes cost-effectiveness, ready access, interoperability, re-use, and confidence. ASNE MSEA provides leadership and initiative crucial to provision of authoritative representation of the natural environment in M&S. Manages programs that provide air and space environmental data for DoD M&S. Strong support from AF/XI and OSD/PA&E for environmental M&S programs. Environmental scenarios necessary for robust "What-if" mission planning & rehearsal. Realistic data essential for valid Training, Analysis, and Acquisition simulations. Integral component of JWARS--supports expanding Combatant Commanders and customer base. Imperative for accurate JSIMS Verification, Validation and Accreditation (VV&A)-key part of SECDEF-directed Analysis of Alternatives (AoA). Keen interest from Defense Threat Reduction Agency (DTRA)--ready to enhance high-resolution HAZMAT dispersion model. Provides no-cost environmental scenarios for DoD simulations/exercises/wargames. Adheres to, develops, and promotes environmental database standards. Leads development/execution of DoD Integrated Natural Environment Authoritative Representation Process (INEARP) Concept of Operations (CONOPS).

Joint Modeling & Simulation System (JMASS) is a simulation support environment for the development, configuration, execution, and analysis of high fidelity, repeatable



**Exhibit R-2a, RDT&E Project Justification**

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BUDGET ACTIVITY <b>07 Operational System Development</b>	PE NUMBER AND TITLE <b>0207601F USAF Modeling and Simulation</b>	PROJECT NUMBER AND TITLE <b>4567 Joint Synthetic Battlespace (JSB) Environment</b>
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simulations with re-usable models-focus is tactical/engagement level simulations with the present concentration on electronic combat. JMASS is a full system software implementation of a modern object based simulation architecture. JMASS provides users with the tools to develop objects, assemble these objects into models, and configuration controls.

This program is in Budget Activity 7 - Operational System Development because it provides RDT&E funding for major USAF Modeling and Simulation efforts.

(U) <b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Continued model transition and development	4.145	6.713	0.000
(U) Continued architecture development (environment, terrain, human interaction, background models and simulation)	2.105	0.350	0.000
(U) JSB-AF concept exploration/development	0.000	3.500	5.234
(U) STORM implementation	0.000	1.000	0.000
(U) Develop ASNE natural environment representations	0.000	0.000	0.956
(U) Total Cost	6.250	11.563	6.190

(U) <b><u>C. Other Program Funding Summary (\$ in Millions)</u></b>	<u>FY 2003</u> <u>Actual</u>	<u>FY 2004</u> <u>Estimate</u>	<u>FY 2005</u> <u>Estimate</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) Not Applicable									

(U) **D. Acquisition Strategy**  
 All major contracts for model development will be awarded after full and open competition.

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**Exhibit R-3, RDT&E Project Cost Analysis**

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BUDGET ACTIVITY			PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
<b>07 Operational System Development</b>			<b>0207601F USAF Modeling and Simulation</b>					<b>4567 Joint Synthetic Battlespace (JSB) Environment</b>				
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
<u>(U) Product Development</u>												
JSB-AF	Various	ESC, Hanscom AFB, MA	0.000	0.000		2.670	Jun-04	3.434	Oct-04	Continuing	TBD	
JMASS	Various	ASC, Wright Patterson AFB, OH	6.830	6.250	Oct-02	7.063	Oct-03	0.000		Continuing	TBD	
STORM	Various	Pentagon, Washington DC	0.000	0.000		1.000	Apr-04	0.000		Continuing	TBD	
ASNE	Various	Various	0.000	0.000		0.000		0.956	Oct-04	Continuing	TBD	
Subtotal Product Development			6.830	6.250		10.733		4.390		Continuing	TBD	0.000
Remarks:												
<u>(U) Support</u>												
Subtotal Support			0.000	0.000		0.000	Mar-04	0.900	Mar-05	Continuing	TBD	
Remarks:												
<u>(U) Test &amp; Evaluation</u>												
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Management</u>												
JSB SPO Support	Various	ESC Hanscom AFB, MA				0.830	Mar-04	0.900	Mar-05		1.730	
Subtotal Management			0.000	0.000		0.830		0.900		0.000	1.730	0.000
Remarks:												
<u>(U) Total Cost</u>			6.830	6.250		11.563		6.190		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

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07 Operational System Development

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PROJECT NUMBER AND TITLE  
4567 Joint Synthetic Battlespace (JSB) Environment

Exhibit R-4: Joint Synthetic Battlespace (JSB)

	FY04				FY05				FY06				FY07				FY08				FY09				FY10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones	██████████																															
			△	☆																												
Concept Refinement			☆																													
Technology Development						☆				☆				☆				☆				☆				☆				☆		
Test & Eval										△				△				△				△				△				△		
Delivery										☆				☆				☆				☆				☆				☆		
Support																																

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**Exhibit R-4a, RDT&E Schedule Detail**

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**0207601F USAF Modeling and Simulation**

PROJECT NUMBER AND TITLE

**4567 Joint Synthetic Battlespace (JSB) Environment**

(U) **Schedule Profile**

FY 2003

FY 2004

FY 2005

(U) Final delivery of JMASS

1Q

(U) Develop/Extend enhanced AF system models

1-4Q

1-4Q

1-4Q

(U) JSB-AF Concept Exploration/Development

1-4Q

1-3Q

(U) JSB-AF IOC Block 1

4Q

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BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0207601F USAF Modeling and Simulation</b>			PROJECT NUMBER AND TITLE <b>4991 Joint Distributed Engineering Plant (JDEP)</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
4991 Joint Distributed Engineering Plant (JDEP)	0.000	0.000	6.530	4.810	4.790	4.960	4.930	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY05, work transferred in from PE 0207028F, Joint Expeditionary Force Experiment, project number 674991, Joint Distributed Engineering Plant (JDEP).

**(U) A. Mission Description and Budget Item Justification**

The Joint Distributed Engineering Plant (JDEP) connects combat system engineering sites and replicates Joint Force Combat Systems to create a network testbed to assess Joint Battle Management, Command, Control, Communication, Computers and Intelligence (C4I). Its objective is to improve interoperability of weapons systems and platforms through more rigorous interoperability evaluation in a replicated battlefield environment. JDEP will provide the capability to improve both Service and Joint system performance in a System-of-Systems environment.

JDEP will link existing Service and Joint combat system engineering and test sites, such as Command, Control, Communications, Computers, & Intelligence (C4I) hardware in the loop and computer-program-in-the-loop engineering sites (including Design Activities, software support activities, test & evaluation facilities and training commands) located around the country.

This project is in Budget Activity 7 - Operational System Development because it enhances operational system developments.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Continue site activation and operations support; includes hardware, software and activation cost for each site	0.000	0.000	0.840
(U) Continue communication architectures, links, and engineering and support for site activities	0.000	0.000	2.462
(U) Continue existing JDEP support activities to include operations & maintenance support along with contracted personnel to assist in event activities	0.000	0.000	1.151
(U) Continue experiment implementation and analysis to participant in various events	0.000	0.000	1.677
(U) Continue development/operation of a simulation/stimulation environment for JDEP events	0.000	0.000	0.400
(U) Total Cost	0.000	0.000	6.530

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Not Applicable									

**(U) D. Acquisition Strategy**

The Electronic Systems Center (ESC) at Hanscom AFB, MA, will manage the acquisition and development process for the experimentation, integration and site activation

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Exhibit R-2a, RDT&E Project Justification

DATE

February 2004

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207601F USAF Modeling and Simulation

PROJECT NUMBER AND TITLE

4991 Joint Distributed Engineering Plant (JDEP)

activities for all Air Force JDEP activities. JDEP will provide an opportunity to perform integration activities with joint users from a single location for system integration, development and risk reduction activities. All major contracts for model development will be awarded after full and open competition.

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**Exhibit R-3, RDT&E Project Cost Analysis**

DATE  
**February 2004**

BUDGET ACTIVITY <b>07 Operational System Development</b>			PE NUMBER AND TITLE <b>0207601F USAF Modeling and Simulation</b>					PROJECT NUMBER AND TITLE <b>4991 Joint Distributed Engineering Plant (JDEP)</b>				
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> Prior to FY 2003 Cost	<u>FY</u> 2003 Cost	<u>FY</u> 2003 Award Date	<u>FY</u> 2004 Cost	<u>FY</u> 2004 Award Date	<u>FY</u> 2005 Cost	<u>FY</u> 2005 Award Date	<u>Cost to Complete</u>	<u>Total</u> Cost	<u>Target</u> Value of Contract
<u>(U) Product Development</u>												
ESC	Various	Various	0.000	0.000		0.000		0.800	Mar-05	Continuing	TBD	
BOEING	Various	ESC Hanscom AFB, MA	0.000	0.000		0.000		0.350	Nov-04	Continuing	TBD	
NORTHROP GRUMMAN	T&M	ESC Hanscom AFB, MA	0.000	0.000		0.000		0.300	Feb-05	Continuing	TBD	
Defense Information Systems Agency (DISA)	MIPR	Various	0.000	0.000		0.000		1.250	Nov-04	Continuing	TBD	
Aeronautical Systems Center (ASC)	ITSP	Various	0.000	0.000		0.000		1.200	Dec-04	Continuing	TBD	
Defense Advanced Research Projects Agency (DARPA)	MIPR	Various	0.000	0.000		0.000		2.315	Jan-05	Continuing	TBD	
RAYTHEON	C/CPFF	ESC Hanscom AFB, MA	0.000	0.000		0.000		0.315	Dec-04	Continuing	TBD	
Subtotal Product Development			0.000	0.000		0.000		6.530		Continuing	TBD	0.000
Remarks:												
<u>(U) Support</u>												0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Test &amp; Evaluation</u>												0.000
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Management</u>												0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			0.000	0.000		0.000		6.530		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

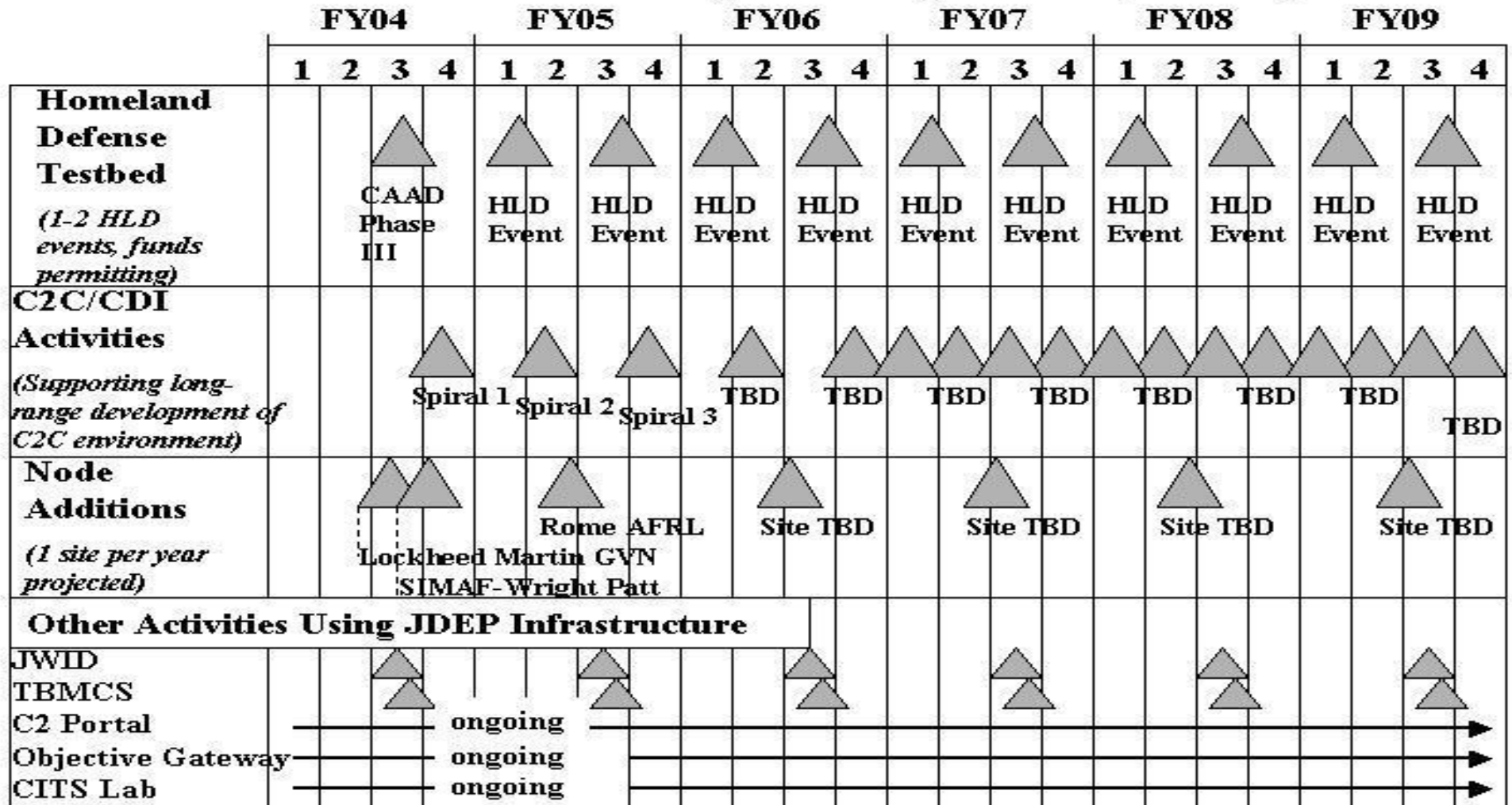
February 2004

BUDGET ACTIVITY  
07 Operational System Development

PE NUMBER AND TITLE  
0207601F USAF Modeling and Simulation

PROJECT NUMBER AND TITLE  
4991 Joint Distributed Engineering Plant (JDEP)

# Joint Distributed Engineering Plant (JDEP)





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**Exhibit R-4a, RDT&E Schedule Detail**

DATE

**February 2004**

BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0207601F USAF Modeling and Simulation**

PROJECT NUMBER AND TITLE

**4991 Joint Distributed Engineering Plant (JDEP)**

(U) Schedule Profile

FY 2003

FY 2004

FY 2005

(U) Event Planning

1Q

(U) Conduct Center for Domain Integration (CDI) Interoperability Event

1-4Q

(U) Implement JDEP connectivity at Hanscom and other Air Force sites

3Q

(U) Critical Area Air Defense (CAAD) Event (Phase V)

4Q

(U) Command and Control (C2) Constellation Event

1Q

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0207601F USAF Modeling and Simulation</b>			PROJECT NUMBER AND TITLE <b>5004 Joint Model Transition (JMT)</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5004 Joint Model Transition (JMT)	0.400	0.400	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

**(U) A. Mission Description and Budget Item Justification**

Numerous models are being developed for a broad range of areas including acquisition, analysis, test and evaluation, and training. The Joint Model Transition (JMT) project (formerly known as Legacy Model Transition) supports the development and upgrade of R&D models selected through a board process. The selection process allows the board to influence the direction of model development and integration for the modeling and simulation community. Emphasis is placed on joint applicability and acceptance.

Digital System Models (DSM) digitally represent weapon system platforms and are used to evaluate existing platform capabilities against new threats, ability to upgrade weapon systems to satisfy new requirements, etc. Results of Analysis of Alternatives (AoA) using DSM are used as a decision tool to determine future weapon system developments and/or upgrades.

This program is in Budget Activity 7 - Operational System Development, Research Category because it provides RDT&E funding for major USAF Modeling and Simulation efforts.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Developed and integrated service models according to M&S architecture roadmap	0.100	0.100	0.000
(U) Developed cost benefit analysis for Next Generation Mission Model	0.218	0.215	0.000
(U) Developed comprehensive Digital System Models (DSMs) and Simulations to support potential development programs	0.082	0.085	0.000
(U) Total Cost	0.400	0.400	0.000

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to Complete</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>		
(U) Not Applicable									

**(U) D. Acquisition Strategy**

The funds are provided to the Office of Aerospace Studies (OAS) and various vendors for the advancement and capability extension of Digital System Models (DSM) and simulations. All major contracts for model development will be awarded after full and open competition.

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**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2004**

BUDGET ACTIVITY			PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
<b>07 Operational System Development</b>			<b>0207601F USAF Modeling and Simulation</b>					<b>5004 Joint Model Transition (JMT)</b>				
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>												
Various	Various	Various	0.000	0.400	Mar-04	0.400	Mar-05	0.000		0.000	0.800	0.000
Subtotal Product Development			0.000	0.400		0.400		0.000		0.000	0.800	0.000
Remarks:												
(U) <u>Support</u>											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Management</u>											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.400		0.400		0.000		0.000	0.800	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2004

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207601F USAF Modeling and Simulation

PROJECT NUMBER AND TITLE

5004 Joint Model Transition (JMT)

### Exhibit R-4: Joint Model Transition (JMT)

	FY05				FY06				FY07				FY08				FY09				FY10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Architecture	██████████																											
Interfaces			Δ																									
DSMs			Δ																									

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**Exhibit R-4a, RDT&E Schedule Detail**

DATE

**February 2004**

BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0207601F USAF Modeling and Simulation**

PROJECT NUMBER AND TITLE

**5004 Joint Model Transition (JMT)**

(U) **Schedule Profile**

- (U) Develop Digital System Models (DSM)
- (U) Develop/Extend Enhance AF Models
- (U) Develop/Implement M&S Architecture

FY 2003

- 1-4Q
- 3Q
- 2Q

FY 2004

- 1-4Q
- 3Q
- 2Q

FY 2005

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0207601F USAF Modeling and Simulation</b>			PROJECT NUMBER AND TITLE <b>5005 Executive Agent For Air /Space Natural Environment</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5005 Executive Agent For Air /Space Natural Environment	0.910	0.910	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY05, work transferred to project 674567.

**(U) A. Mission Description and Budget Item Justification**

Air Force Director of Weather (AF/XIW) is designated as the Department of Defense (DoD) Modeling and Simulation Executive Agent (MSEA) for Air and Space Natural Environment (ASNE). This program provides funds for MSEA joint wargaming architecture, data base, model development support for Joint Warfare Simulation (JWARS), Joint Simulation System (JSIMS), Joint Modeling and Simulation System (JMASS), and other joint M&S program offices. Primary users will be unified commanders and service components for use in joint exercises involving air, ground, sea, and space campaigns.

This program is in Budget Activity 7 - Operational System Development because it provides RDT&E funding for major USAF Modeling and Simulation efforts.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Complete Space Weather Prototyping and Integration	0.350	0.357	0.000
(U) Complete Production Center Integration	0.350	0.343	0.000
(U) Complete Air/Land Battlefield Integration	0.210	0.210	0.000
(U) Total Cost	0.910	0.910	0.000

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to Complete</u>	<u>Total Cost</u>
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate		
(U) Not Applicable									

**(U) D. Acquisition Strategy**

All major contracts under ASNE will be awarded after full and open competition.

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**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2004**

BUDGET ACTIVITY			PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
<b>07 Operational System Development</b>			<b>0207601F USAF Modeling and Simulation</b>					<b>5005 Executive Agent For Air /Space Natural Environment</b>				
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
<u>(U) Product Development</u>												
Various	Various	Various	0.821	0.910	Oct-02	0.910	Oct-03	0.000		Continuing	TBD	0.000
Subtotal Product Development			0.821	0.910		0.910		0.000		Continuing	TBD	0.000
Remarks:												
<u>(U) Support</u>												0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Test &amp; Evaluation</u>												0.000
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Management</u>												0.000
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			0.821	0.910		0.910		0.000		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2004

BUDGET ACTIVITY  
07 Operational System Development

PE NUMBER AND TITLE  
0207601F USAF Modeling and Simulation

PROJECT NUMBER AND TITLE  
5005 Executive Agent For Air /Space Natural Environment

Exhibit R-4: Joint Synthetic Battlespace (JSB)

	FY04				FY05				FY06				FY07				FY08				FY09				FY10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones			△	☆																												
Concept Refinement			☆																													
Technology Development					☆				☆				☆				☆				☆				☆				☆			
Test & Eval									△				△				△				△				△				△			
Delivery									☆				☆				☆				☆				☆				☆			
Support																																



Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2004

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207601F USAF Modeling and Simulation

PROJECT NUMBER AND TITLE

5005 Executive Agent For Air /Space Natural Environment

(U) Schedule Profile

(U) Weather Scenario Production Initial Operating Capability (IOC)

(U) Weather Scenario Production Final Operating Capability (FOC)

(U) Space Environmental Effects IOC

(U) Ionospheric Effects FOC

FY 2003

FY 2004

FY 2005

1Q

1Q

3Q

2Q

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2004

BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation			PROJECT NUMBER AND TITLE 5135 Distributed Mission Operations (DMO)		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5135 Distributed Mission Operations (DMO)	0.000	0.000	5.973	0.385	0.403	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

**(U) A. Mission Description and Budget Item Justification**

Distributive Mission Operations (DMO) is the Air Force's contribution to the Joint National Training Concept (JNTC). The Air Force Modeling & Simulation Training Toolkit (AFMSTT) is the constructive engine for DMO.

In Dec 02, the Joint Simulation System (JSIMS) program decision memorandum cancelled JSIMS, which resulted in the funding being removed at the end of Fiscal Year (FY) 2003. As a result, AFMSTT capabilities need to be modernized to fulfill the Modeling & Simulation (M&S) capability that would have been provided by JSIMS/NASM. AFMSTT has not been updated since 1998. The enhancements will support current and future battlestaff training and Air Force (AF) Title X requirements.

AFMSTT is the AF's contribution to the Joint Training confederation's battlestaff training environment used to support Combatant Commanders, Joint Task Force, and component commander staff readiness training. AFMSTT includes: the Air Warfare Simulation (AWSIM) which interfaces to Command, Control, Communications, Computers, and Intelligence (C4I)-AWSIM to the Theater Battle Management Core System (TBMCS) and the Graphical Input Aggregate Control (GIAC), the Logistics Simulation (LOGSIM), the Intelligence Management Controller Node (IMCN), the AWSIM Analysis Tool (AAT), and the Air Force Synthetic Environment for Reconnaissance and Surveillance (AFSERS). Also, AFMSTT supports Joint/Service exercises; such as: Joint National Training Concept (JNTC), Ulchi Focus Lens, Roving Sands, Union Flash, and Blue Flag. It also supports the Joint Expeditionary Force Experiment (JEFX) and the Distributed Continuous Experimentation Environment (DCEE).

In addition, project 675135 supports the Joint Model Transition (formerly known as Legacy Model Transition) which supports the development and upgrade of models selected through a board process. The selection process allows the board to influence the direction of model development and integration for the modeling and simulation community. Emphasis is placed on standardization, integration, capabilities improvement, joint applicability and acceptance.

This program is in Budget Activity 7 - Operational System Development because it provides RDT&E funding for major USAF Modeling and Simulation efforts.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) AFMSTT Modernization	0.000	0.000	5.600
(U) Perform JMT cost-benefit analysis, develop and integrate models, simulations and interface standards	0.000	0.000	0.373
(U) Total Cost	0.000	0.000	5.973

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2004

BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0207601F USAF Modeling and Simulation**

PROJECT NUMBER AND TITLE

**5135 Distributed Mission Operations (DMO)**

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

(U) D. Acquisition Strategy

All contracts awarded with full and open competition.

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**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2004**

BUDGET ACTIVITY			PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
<b>07 Operational System Development</b>			<b>0207601F USAF Modeling and Simulation</b>					<b>5135 Distributed Mission Operations (DMO)</b>				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>												
AFMSTT	Various	ESC, Hanscom AFB, MA	0.000	0.000		0.000		5.600	Dec-04	Continuing	TBD	
JMT	Various	General Services Administration (GSA) and Office of Aerospace Studies (OAS), Kirtland AFB, NM	0.000	0.000		0.000		0.373	Feb-05	Continuing	TBD	
Subtotal Product Development			0.000	0.000		0.000		5.973		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												0.000
Subtotal Support			0.000	0.000		0.000		0.000			0.000	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u>												0.000
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000			0.000	0.000
Remarks:												
(U) <u>Management</u>												0.000
Subtotal Management			0.000	0.000		0.000		0.000			0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		0.000		5.973		Continuing	TBD	0.000

## Exhibit R-4, RDT&E Schedule Profile

DATE

**February 2004**

BUDGET ACTIVITY  
**07 Operational System Development**

PE NUMBER AND TITLE  
**0207601F USAF Modeling and Simulation**

PROJECT NUMBER AND TITLE  
**5135 Distributed Mission Operations (DMO)**

### AFM&STT

Fiscal Year	FY05				FY06				FY07				FY08				FY09				FY10				FY11							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
System Engineering																																
Development																																
Functional/CM/Documentation																																
Program Tests	★	★			★	★			★	★			★	★			★	★			★	★			★	★			★	★		
Version Release		★				★				★				★				★				★				★				★		
Key:																																
Major Event	★																															
Ongoing																																

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2004

BUDGET ACTIVITY  
07 Operational System Development

PE NUMBER AND TITLE  
0207601F USAF Modeling and Simulation

PROJECT NUMBER AND TITLE  
5135 Distributed Mission Operations (DMO)

Exhibit R-4: Joint Model Transition (JMT)

	FY05				FY06				FY07				FY08				FY09				FY10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Architecture	██████████																											
Interfaces			△																									
DSMs			△																									

<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>	DATE <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0207601F USAF Modeling and Simulation</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5135 Distributed Mission Operations (DMO)</b>
--	--	---

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <b><u>Schedule Profile</u></b>			
(U) AFMSTT Modernization			1-4Q
(U) JMT-perform cost-benefit analysis, develop and integrate models, simulations and interface standards according to Modeling & Simulation Strategic Plan (MSSP) and architecture.			1-4Q