

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE June 2001		
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation						
COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
Total Program Element (PE) Cost	20,209	17,859	25,345	22,144	20,458	18,459	13,495	9,705	Continuing	TBD	
1008 National Air and Space Warfare Model (NASM)	14,749	12,196	17,180	14,392	12,641	11,593	6,462	2,527	Continuing	TBD	
4567 Joint Modeling and Simulation System (JMASS)	5,460	5,663	6,940	6,426	6,464	5,484	5,619	5,734	Continuing	TBD	
5004 Joint Model Transition (JMT)	0	0	395	405	413	422	424	430	Continuing	TBD	
5005 Executive Agent For Air /Space Natural Environment	0	0	830	921	940	960	990	1,014	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0	

*FY03-07 budget numbers do not reflect the DoD Strategic Review Results
 Note: Prior to FY02, Joint Model Transition (formerly known as Legacy Model Transition) and Executive Agent For Air/Space Natural Environment were executed in PE 0308601F - Modeling & Simulation Support. This action was taken to provide a more cohesive, manageable Modeling, Simulation and Analysis effort.

(U) **A. Mission Description**
 Provides RDT&E funding for major USAF Modeling and Simulation efforts such as the National Air and Space [Warfare] Model (NASM)-the air and space element of the Joint Simulation System (JSIMS); and the Joint Modeling and Simulation System (JMASS). JSIMS will be the sole readiness training simulation used by all CINCs, Services, NAFs and at all simulation centers to train Joint Force Commanders, Joint Task Force staffs, Components and their staffs, including Joint Force Air Component Commanders and Air Operations Center personnel. JMASS provides High Level Architecture (HLA)-compliant architecture for engagement level simulations.

This PE also includes funding to support an organized growth and management of modeling and simulation (M&S) systems as the Air Force transitions from numerous legacy models and simulations to emerging DoD standard models and architecture. Numerous models currently exist and are being modified or developed for a broad range of areas including acquisition, analysis, test and evaluation, and training. The Joint Model Transition (JMT) Program (formerly known as the Legacy Model Transition) funds the upgrades to selected R&D models through a board process. The selection process allows the board to influence the direction of legacy model

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07 - Operational System Development

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0207601F USAF Modeling and Simulation

(U) **A. Mission Description Continued**

development and interaction for the entire modeling and simulation community. Emphasis is placed on joint applicability and acceptance. The Executive Agent for Air & Space Natural Environment (ASNE) serves the M&S community as subject matter experts for ASNE M&S databases (including relevant standards), dynamic processes, and other applications. This 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), Ballistic Missile Defense Organization (BMDO), 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. Primary users will be unified commanders and service components for use in joint or service-specific exercises involving air, ground, sea, and space campaigns.

(U) **B. Budget Activity Justification**

Initiated in FY 94, 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. These funds also support development activities for the AF as executive agent for air/space natural environment and continued development and integration of AF models in the Joint Model Transition (JMT) program.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2001 PBR)	19,299	17,624	25,345	
(U) Appropriated Value	21,249	18,024		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-40			
b. Small Business Innovative Research	-635			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-282			
e. Rescissions	-83	-165		
(U) Adjustments to Budget Years Since FY 2001 PBR				
(U) Current Budget Submit/FY 2002 PBR	20,209	17,859	25,345	TBD

(U) **Significant Program Changes:**

Significant Program Changes: In FY00, funding from PE 0604256F, Threat Simulator Development, was transferred into PE 0207601F in FY00 and FY01 for the Joint Modeling and Simulation (JMASS) program development.

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BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation					PROJECT 1008	
COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
1008 National Air and Space Warfare Model (NASM)	14,749	12,196	17,180	14,392	12,641	11,593	6,462	2,527	Continuing	TBD	
<p>FY03-FY07 budget numbers do not reflect DoD strategic review results.</p> <p>(U) <u>A. Mission Description</u> This program provides 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 battle staffs. 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, Commanders in Chief (CINCs), Joint Forces Air Component Commander's (JFACC), and Service components, as supported by the C2 Technology Interoperability Group, KASC, and WPC for use in joint exercises involving air, ground, and sea campaigns.</p> <p>(U) <u>FY 2000 (\$ in Thousands)</u> (U) \$9,205 Continued development of specific air objects to support JSIMS architecture (U) \$3,621 Continued NASM integration effort and operate the program management office (U) \$1,923 Upgraded Synthetic Theater Operations Research Model (STORM) and Powerscene model (U) \$14,749 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$8,976 Continue development of specific air objects to support JSIMS architecture (U) \$2,820 Continue NASM integration effort and operate the program management office (U) \$400 Upgrade Synthetic Theater Operations Research Model (STORM). (U) \$12,196 Total</p> <p>The following net transactions are not reflected in the FY01 program total: BTR=\$2,165K and SBIR=- \$612K. These transactions are not reflected in other sections of the R-docs where an FY01 total is shown.</p>											

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<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$14,506 Continue development of specific air objects to support JSIMS architecture.</p> <p>(U) \$2,674 Continue NASM integration effort and operate the program management office</p> <p>(U) \$17,180 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>FY2001 Congressional Plus-up of \$400K for STORM</p> <p>FY2002-2005 JSIMS \$21.6M added to align NASM program to JSIMS integrated master schedule to meet IOC requirements.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>Cost to</u></th> <th><u>Total Cost</u></th> </tr> <tr> <th></th> <th><u>Actual</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Continuing</td> <td>TBD</td> </tr> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Continuing</td> <td>TBD</td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u></p> <p>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 selection and is a Cost Plus Award Fee (CPAF).</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3"><u>FY 2000</u></th> <th colspan="3"><u>FY 2001</u></th> <th colspan="3"><u>FY 2002</u></th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>(U) Version 1.0 VRM Ready-for-Test</td> <td></td> <td>X</td> </tr> <tr> <td>(U) IOC Version 1.0 Release 1QFY03</td> <td></td> </tr> <tr> <td>(U) Version 2.0 VRM Ready-for-Test 1QFY03</td> <td></td> </tr> <tr> <td>(U) Version 2.0 Release 2QFY04</td> <td></td> </tr> </tbody> </table> <p>NASM development schedule is aligned with the Joint Simulation System (JSIMS) Acquisition Program Baseline (APB) development schedule required to achieve Initial Operational Capability (IOC) in FY03 and Full Operational Capability (FOC) in FY05.</p>										<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>		(U) AF RDT&E									Continuing	TBD	(U) Other APPN									Continuing	TBD		<u>FY 2000</u>			<u>FY 2001</u>			<u>FY 2002</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Version 1.0 VRM Ready-for-Test												X	(U) IOC Version 1.0 Release 1QFY03													(U) Version 2.0 VRM Ready-for-Test 1QFY03													(U) Version 2.0 Release 2QFY04																		
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001				
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation			PROJECT 1008			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>	
(U)	Software development					9,205		8,976		14,506	
(U)	Program Management/Contractor Support					3,621		2,820		2,674	
(U)	Congressional Add; Synthetic Theater Operations Research Model (STORM) upgrade					1,923		400		0	
(U)	Total					14,749		12,196		17,180	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Raytheon (NASM)	TRN	3 Mar 97	74,541	74,541	17,135	9,055	8,976	14,506	Continuing	TBD
	Raytheon (AWSIM/R)	TRN	7 Apr 94	9,876	9,876	11,454	0	0	0	0	11,454
	Hughes (AWSIM/R)	TRN	2 Jun 94	4,676	4,676	4,059	0	0	0	0	4,059
	TRW (AFSOM)	TRN	12 Dec 97	39	39	39	0	0	0	0	39
	TRW (JSB)	Contract Mod	1 Nov 00	150	150	0	150	0	0	0	150
	SysSimSolutions (STORM)	Task Order	11 Aug 00	1,623	1,623	0	1,223	400	0	0	1,623
	Powerscene	Contract	Sep 00	700	700	0	700	0	0	0	700
<u>Support and Management Organizations</u>											
	Tech Eng Mgt Spt (TEMS)	Del Order	Various	15,413	15,413	8,082	2,079	1,769	1,282	Continuing	TBD
	/ITSP										
	MITRE	Contract Mod	Various	13,200	13,200	5,869	1,410	775	1,142	Continuing	TBD
	Other*	Various	Various	19,180	19,180	17,112	132	276	250	Continuing	TBD
*Includes Prototype Contracts											
<u>Test and Evaluation Organizations</u>											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE June 2001	
BUDGET ACTIVITY			PE NUMBER AND TITLE			PROJECT
07 - Operational System Development			0207601F USAF Modeling and Simulation			1008
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development	32,687	11,128	9,376	14,506	TBD	TBD
Subtotal Support and Management	31,063	3,621	2,820	2,674	TBD	TBD
Subtotal Test and Evaluation						
Total Project	63,750	14,749	12,196	17,180	TBD	TBD

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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation	PROJECT 4567
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COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4567 Joint Modeling and Simulation System (JMASS)	5,460	5,663	6,940	6,426	6,464	5,484	5,619	5,734	Continuing	TBD

FY03-FY07 budget numbers do not reflect DoD strategic review results.

(U) **A. Mission Description**

The Joint Modeling & Simulation System (JMASS) is a simulation support environment for the development, configuration, execution, and analysis of high fidelity, repeatable 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, configure the models in a complete simulation, execute the simulation, and post process the simulation data. JMASS tools assist users in developing fully compliant objects; users concentrate on the models and analysis, not computer science.

(U) **FY 2000 (\$ in Thousands)**

- (U) \$1,989 JMASS Model Space Object (MSO) development (computer representations of individual DoD weapon systems)
- (U) \$1,500 Joint JMASS Architecture development (Environment, Terrain, Human interaction, background models and simulations)
- (U) \$1,651 JMASS Model Integration with Other Service Simulations
- (U) \$320 JMASS Customer Support
- (U) \$5,460 Total

(U) **FY 2001 (\$ in Thousands)**

- (U) \$3,313 JMASS Legacy Model Space Object (MSO) transition
- (U) \$2,100 Joint JMASS Architecture development (Environment, Terrain, Human interaction, background models and simulations)
- (U) \$250 JMASS Integration with Other Service Simulations
- (U) \$5,663 Total

(U) **FY 2002 (\$ in Thousands)**

- (U) \$4,840 JMASS Model Space Object (MSO) transition
- (U) \$2,100 Joint JMASS Architecture development (Environment, Terrain, Human interaction, background models and simulations)
- (U) \$6,940 Total

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<p>(U) <u>B. Project Change Summary</u> PE 64256F, Threat Simulator Development, transferred \$2.1M in FY00 and FY01 for JMASS Joint Program Development.</p> <p>Also, JMASS funding was increased \$12.59M from FY02-FY07 to develop Blue and Threat system models and transition legacy functionality into the JMASS system.</p>																																																																																																				
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<p>(U) <u>D. Acquisition Strategy</u> All major contracts for JMASS model development will be awarded after full and open competition.</p>																																																																																																				
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001			
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation			PROJECT 4567		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>
(U)	JMASS: Software Development					5,325		5,513		6,790
(U)	JMASS: Travel					135		150		150
(U)	Total					5,460		5,663		6,940
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Various (JMASS)	Various					5,460	5,663	6,940	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>										
Subtotal Product Development						5,460	5,663	6,940	TBD	TBD
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project						5,460	5,663	6,940	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE June 2001	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation					PROJECT 5004	
COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5004 Joint Model Transition (JMT)	0	0	395	405	413	422	424	430	0	0
<p>*FY03-07 budget numbers do not reflect the DoD Strategic Review Results</p> <p>Note: Prior to FY02, Joint Model Transition (formerly known as Legacy Model Transition) was executed in PE 0308601F - Modeling & Simulation Support. This action was taken to provide a more cohesive, manageable Modeling, Simulation and Analysis effort.</p> <p>(U) <u>A. Mission Description</u> Numerous models are being developed for a broad range of areas including acquisition, analysis, test and evaluation, and training. The Joint Model Transition (JMT) Program (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.</p> <p>(U) <u>FY 2000 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$156 Develop and integrate service analysis models into next generation joint models. (U) \$157 Requirements/cost-benefit analysis for Next Generation Mission Model (NGMM). (U) \$82 Develop comprehensive Digital System Models (DSMs) to support Analysis of Alternatives (AoAs) for potential development programs. DSMs 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 AoAs using DSMs are used as a decision tool to determine future weapon system developments and/or upgrades. (U) \$395 Total</p> <p>(U) <u>B. Project Change Summary</u> Project transferred from PE 0308601F in FY02</p>										
Project 5004	Page 10 of 15 Pages					Exhibit R-2A (PE 0207601F)				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE June 2001				
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation				PROJECT 5004			
(U) C. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</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>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E											
(U) Other APPN											
(U) D. Acquisition Strategy											
The funds are provided to the Office of Aerospace Studies (OAS), GSA-Heartland Contract, and the Sherikon Corp for the development of the Next Generation Mission Model (NGMM), Joint Model Transition Plan, and Analysis of Alternatives (AoA) studies for analysis models and digital system models. AF/XOCA will oversee a prioritization process for contract selection and development effort.											
(U) E. Schedule Profile											
				<u>FY 2000</u>			<u>FY 2001</u>		<u>FY 2002</u>		
				1	2	3	4	1	2	3	4
(U) Joint Accreditation Support Activity (Phase 1)								X			
(U) Joint Accreditation Support Activity (Phase 2)										X	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001			
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation			PROJECT 5004		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2000</u>		<u>FY 2001</u>			<u>FY 2002</u>
(U)	Contractor Support				0		0			316
(U)	Program Management Suppor				0		0			32
(U)	Travel				0		0			47
(U)	Total				0		0			395
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Various	Various	Various						395	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development								395	TBD	TBD
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project								395	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE June 2001
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation	PROJECT 5005
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COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5005 Executive Agent For Air /Space Natural Environment	0	0	830	921	940	960	990	1,014	0	0

*FY03-07 budget numbers do not reflect the DoD Strategic Review Results
 Note: Prior to FY02, Executive Agent For Air/Space Natural Environment was executed in PE 0308601F - Modeling & Simulation Support. This action was taken to provide a more cohesive, manageable Modeling, Simulation and Analysis effort.

(U) **A. Mission Description**
 Air Force Director of Weather (AF/XOW) is designated as the 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.

(U) **FY 2000 (\$ in Thousands)**

(U) \$0 No Activity
 (U) \$0 Total

(U) **FY 2001 (\$ in Thousands)**

(U) \$0 No Activity
 (U) \$0 Total

(U) **FY 2002 (\$ in Thousands)**

(U) \$135 Space Weather Prototyping and Integration
 (U) \$536 Production Center Integration
 (U) \$159 Air/Land Battlefield Integration
 (U) \$830 Total

(U) **B. Project Change Summary**

Project transferred from PE 38601F in FY02

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE June 2001				
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation			PROJECT 5005			
(U) C. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</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>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E											
(U) Other APPN											
(U) D. Acquisition Strategy											
The Executive Agent for Air & Space Natural Environment will develop, prototype, and integrate the current suite of production and research grade models for Service and Joint distributed simulation models. The majority of efforts are executed and managed through the DoD laboratory system.											
(U) E. Schedule Profile											
				<u>FY 2000</u>			<u>FY 2001</u>		<u>FY 2002</u>		
				1	2	3	4	1	2	3	4
(U) ESG IOC										X	
(U) CSSMS FOC											X
(U) Warfighter Weather Effects IOC									X		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE June 2001				
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation			PROJECT 5005			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2000</u>		<u>FY 2001</u>			<u>FY 2002</u>	
(U)	Software Development				0		0			425	
(U)	Lab Overhead/Management				0		0			90	
(U)	Prototyping				0		0			290	
(U)	Travel				0		0			25	
(U)	Total				0		0			830	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Product Development Organizations</u>										
	Various	Various	Various					830	Continuing	TBD	
	<u>Support and Management Organizations</u>										
	<u>Test and Evaluation Organizations</u>										
						<u>Total Prior to FY 2000</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Subtotals</u>										
	Subtotal Product Development								830	TBD	TBD
	Subtotal Support and Management										
	Subtotal Test and Evaluation										
	Total Project								830	TBD	TBD