

## UNCLASSIFIED

PE NUMBER: 0207028F

PE TITLE: Joint Expeditionary Force Experiment

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2005

## BUDGET ACTIVITY

## 07 Operational System Development

## PE NUMBER AND TITLE

## 0207028F Joint Expeditionary Force Experiment

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	54.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
4373 JEFX	43.950	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	108.800
4991 Joint Distributed Engineering Plant (JDEP)	10.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

FY05, project 674373, Joint Expeditionary Force Experiments (JEFX) work transfers to Program Element (PE) 0207449F, Command and Control (C2) Constellation, project 675140 (JEFX). In addition, project 674991, Joint Distributed Engineering Plant (JDEP) work transfers to PE 0207601F, USAF Modeling and Simulation, project 674991.

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

The Joint Expeditionary Force Experiments (JEFX) are large-scale warfighter experiments that address emerging operational challenges and are part of the total Air Force (AF) experimentation effort. They combine live-fly forces and simulations into an operationally representative warfighter environment. These experiments provide a vehicle for experimentation with operational concepts and attendant new technologies to evolve and transform our aerospace forces and capabilities for the 21st century. They are part of a broader effort to implement the Joint Vision 2020, exploit the Revolution in Military Affairs, demonstrate emerging Air Force capabilities to deploy and employ decisive aerospace power for the Joint Force Commander, and are important enablers of innovation and transformation.

This program is in Budget Activity 7 - Operational System Development because it provides a vehicle for developers, testers and warfighters to experiment, analyze, and explore operational concepts and new technologies to enhance operational system developments and improve capabilities of the 21st century aerospace force.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	50.931	0.000	0.000	0.000
(U) Current PBR/President's Budget	54.108	0.000	0.000	0.000
(U) Total Adjustments	3.177	0.000		
(U) Congressional Program Reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings	4.693			
SBIR/STTR Transfer	-1.516			
(U) <u>Significant Program Changes:</u>				

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

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BUDGET ACTIVITY <b>07 Operational System Development</b>					PE NUMBER AND TITLE <b>0207028F Joint Expeditionary Force Experiment</b>			PROJECT NUMBER AND TITLE <b>4373 JEFX</b>		
Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4373 JEFX	43.950	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	108.800
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

In FY05, project 674373 work transfers to Program Element (PE) 0207449F, Command and Control Constellation (C2 Constellation), project 675140, Joint Expeditionary Force Experiments (JEFX).

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

The Joint Expeditionary Force Experiments (JEFX) are large-scale warfighter experiments that address emerging operational challenges and are part of the total Air Force (AF) experimentation effort. They combine live-fly forces and simulations into an operationally representative warfighter environment. These experiments provide a vehicle for experimentation with operational concepts and attendant new technologies to evolve and transform our aerospace forces and capabilities for the 21st century. They are part of a broader effort to implement the Joint Vision 2020, exploit the Revolution in Military Affairs, demonstrate emerging Air Force capabilities to deploy and employ decisive aerospace power for the Joint Force Commander, and are important enablers of innovation and transformation.

This program is in Budget Activity 7 - Operational System Development because it provides a vehicle for developers, testers and warfighters to experiment, analyze, and explore operational concepts and new technologies to enhance operational system developments and improve capabilities of the 21st century aerospace force.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Select and begin developing initiatives to introduce new technologies and operational capabilities into the AEF CONOPS.	0.000	0.000		
(U) Develop systems architecture, systems engineering, and integration of initiatives into a cohesive system of systems. Integration of systems and processes is the major reason JEFX is an experiment and not simply a demonstration or exercise.	8.594	0.000		
(U) Plan , design, coordinate, assess, and report the experiment. Provide expertise to support SPO functions of initiative selection, acquisition, program management, communications and systems planning.	0.000	0.000		
(U) Implement architectural configuration, conduct M&S, install and test the communications infrastructure and execute the APTX 03 experiment.	0.000	0.000		
(U) Transition the integration of new initiatives and legacy systems into an integrated C2ISR baseline. (This funding is in the odd years only.)	0.000	0.000		
(U) Develop initiatives to introduce new technologies and operational capabilities into the AEF CONOPS and develop and install C2 center upgrades.	12.227	0.000		
(U) Plan , design, coordinate, assess, and report the JEFX 04 experiment. Provide expertise to support SPO functions of initiative selection, acquisition, program management, communications and systems planning.	8.400	0.000		

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## PROJECT NUMBER AND TITLE

4373 JEFX

(U)	Implement architectural configuration, conduct M&S, install and test the communications infrastructure and execute the JEFX 04 experiment.	14.729	0.000		
(U)	Total Cost	43.950	0.000	0.000	0.000

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

	<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>FY 2010</u>	<u>FY 2011</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) Not Applicable

(U) **D. Acquisition Strategy**

Electronic Systems Center (ESC), Hanscom AFB, MA and Air Force C2ISR Center, Langley AFB, VA will manage the acquisition and development for the experimentation, integration, and fielding of selected technologies and processes with legacy systems into an integrated C2ISR baseline.

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Exhibit R-3, RDT&E Project Cost Analysis												DATE February 2005		
BUDGET ACTIVITY 07 Operational System Development						PE NUMBER AND TITLE 0207028F Joint Expeditionary Force Experiment						PROJECT NUMBER AND TITLE 4373 JEFX		
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &amp;</u> <u>Type</u>	<u>Performing</u> <u>Activity &amp;</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Award</u> <u>Date</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u> MITRE	FFRDC	AFC2ISRC, Langely AFB, VA		3.500	Dec-03	0.000						Continuing	TBD	TBD
GSA	Multiple	Various		2.975	Dec-03	0.000						Continuing	TBD	TBD
ACS Defense	C/IDIQ	AFC2ISRC, Langely AFB, VA		2.907	Mar-04	0.000						Continuing	TBD	TBD
MIT/LL	Various	ESC Hanscom AFB, MA		3.923	Dec-03	0.000						Continuing	TBD	TBD
Northrup	Time & Material	ESC Hanscom AFB, MA		0.275	Mar-04	0.000						Continuing	TBD	TBD
Lockheed Martin	C/CPAF	ESC Hanscom AFB, MA		3.500	Mar-04	0.000						Continuing	TBD	TBD
ASC/RAB	MIPR	Various		0.870	Mar-04	0.000						Continuing	TBD	TBD
CITPAD	C/Time & Material	AFC2ISRC, Langely AFB, VA		0.435	Mar-04	0.000						Continuing	TBD	TBD
Logicon	C/Time & Material	AFC2ISRC, Langely AFB, VA		0.290	Dec-03	0.000						Continuing	TBD	TBD
General Dynamics	C/Time & Material	AFC2ISRC, Langely AFB, VA		0.290	Oct-03	0.000						Continuing	TBD	TBD
SPO/Other	MIPR	ESC Hanscom AFB, MA		6.984	Oct-03	0.000						Continuing	TBD	TBD
L3 Comm	C/GSA	Various		1.000	Mar-04	0.000						Continuing	TBD	TBD
TRW	C/GSA	Various		0.300	Mar-04	0.000						Continuing	TBD	TBD
TRW	C/GSA	Various		0.270	Dec-03	0.000						Continuing	TBD	TBD
AFC2TIG	MIPR	AFC2ISRC, Langely AFB, VA		7.287	Oct-03	0.000						Continuing	TBD	TBD
Alion	C/GSA	Various		1.811	Dec-03	0.000						Continuing	TBD	TBD
ACS Defense	C/GSA	Various		0.475	Oct-03	0.000						Continuing	TBD	TBD
SAIC	C/GSA	Various		0.970	Dec-03	0.000						Continuing	TBD	TBD
L3 Comm	C/GSA	Various		1.037	Mar-04	0.000						Continuing	TBD	TBD
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Exhibit R-3 (PE 0207028F)

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## Exhibit R-3, RDT&amp;E Project Cost Analysis

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4373 JEFX

TRW	C/GSA	Various	0.300	Oct-03	0.000			Continuing	TBD	TBD
Various	Various	Various	3.931	Oct-03	0.000			Continuing	TBD	TBD
Zel Tech	C/GSA	Various	0.220	Dec-03	0.000			Continuing	TBD	TBD
Subtotal Product Development			0.000	43.550	0.000	0.000	0.000	Continuing	TBD	TBD
Remarks:										
(U) <u>Support</u>									0.000	
Subtotal Support			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Remarks:										
(U) <u>Test &amp; Evaluation</u>										
46th Test Squadron	Project Order	Various	0.400	Dec-03				Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.400	0.000	0.000	0.000	Continuing	TBD	TBD
Remarks:										
(U) <u>Management</u>									0.000	
Subtotal Management			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Remarks:										
(U) Total Cost			0.000	43.950	0.000	0.000	0.000	Continuing	TBD	TBD

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Exhibit R-4, RDT&E Schedule Profile		DATE <b>February 2005</b>
BUDGET ACTIVITY <b>07 Operational System Development</b>	PE NUMBER AND TITLE <b>0207028F Joint Expeditionary Force Experiment</b>	PROJECT NUMBER AND TITLE <b>4373 JEFX</b>
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Project 4373

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Exhibit R-4 (PE 0207028F)

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## Exhibit R-4a, RDT&amp;E Schedule Detail

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

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Experiment

PROJECT NUMBER AND TITLE

4373 JEFX

(U) Schedule ProfileFY 2004FY 2005FY 2006FY 2007

(U) Conduct Spiral I

2Q

(U) Conduct Spiral II

3Q

(U) Conduct Spiral III

3Q

(U) Conduct JEFX 04

4Q

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

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## BUDGET ACTIVITY

07 Operational System Development

## PE NUMBER AND TITLE

0207028F Joint Expeditionary Force  
Experiment

## PROJECT NUMBER AND TITLE

4991 Joint Distributed Engineering  
Plant (JDEP)

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4991 Joint Distributed Engineering Plant (JDEP)	10.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

In FY05, JDEP work transferred to PE 0207601F, USAF Modeling and Simulation, project 674991.

(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 test bed to assess Joint Battle Management, Command, Control, Communication, Computers and Intelligence. It's 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.

JDEP will link existing Service and Joint combat system engineering and test sites, such as 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.

The Air Force Center for Domain Integration (CDI) will coordinate JDEP activities involving Air Force engineering and test sites. CDI will ensure that accurately represented C4I networks are established for system development and testing activities and will evaluate those systems for interoperability and integration into a joint environment.

This project is in Budget Activity 7 - Operational System Development because it provides a vehicle to developers, testers, and warfighters for experimentation, analysis, operational concepts, and new technologies to enhance operational system developments and improve capabilities of the 21st century aerospace forces.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue site activation support. This includes hardware, software and activation cost for each site.	1.820			
(U) Continue communication architectures, links and engineering and support for site activities.	1.068			
(U) Continue existing JDEP support activities to include operations & maintenance support along with contracted personnel to assist in event activities.	1.275			
(U) Continue development of systems architecture and integration, including engineering, for the JDEP repeatable environment.	0.490			
(U) Continue experiment implementation and analysis to participant in various events during pre, during and post exercise events.	1.240			
(U) Continue development of a simulation/stimulation environment for JDEP events.	4.265			
(U) Total Cost	10.158	0.000	0.000	0.000



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07 Operational System Development

PE NUMBER AND TITLE

0207028F Joint Expeditionary Force  
Experiment

PROJECT NUMBER AND TITLE

4991 Joint Distributed Engineering  
Plant (JDEP)(U) **C. Other Program Funding Summary (\$ in Millions)**

<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>FY 2010</u>	<u>FY 2011</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) Not applicable

(U) **D. Acquisition Strategy**

Electronic Systems Center (ESC), Hanscom AFB, MA manages the acquisition and development process for the experimentation, integration and site activation activities for all Air Force JDEP activities. JDEP will provide and opportunity to perform integration activities with joint users from a single location for system integration, development and risk reduction activities.

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## Exhibit R-3, RDT&amp;E Project Cost Analysis

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## 07 Operational System Development

## PE NUMBER AND TITLE

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Experiment

## PROJECT NUMBER AND TITLE

4991 Joint Distributed Engineering  
Plant (JDEP)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &amp;</u> <u>Type</u>	<u>Performing</u> <u>Activity &amp;</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Award</u> <u>Date</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>														
ESC	MIPR	ESC Hanscom AFB, MA		0.350	Oct-03	0.000						Continuing	TBD	TBD
Boeing	MIPR	ESC Hanscom AFB, MA		0.350	Oct-03	0.000						Continuing	TBD	TBD
ESC	Various	Various		0.200	Dec-03	0.000						Continuing	TBD	TBD
DISA	MIPR	Various		1.218	Dec-03	0.000						Continuing	TBD	TBD
ASC	ITSP	ESC Hanscom AFB, MA		0.790	Oct-03	0.000						Continuing	TBD	TBD
MITRE	FFRDC	ESC Hanscom AFB, MA		0.675	Oct-03	0.000						Continuing	TBD	TBD
DARPA/DISA	MIPR	Various		2.090	Oct-03	0.000						Continuing	TBD	TBD
ESC	Various	ESC Hanscom AFB, MA		4.485	Dec-03	0.000						Continuing	TBD	TBD
Subtotal Product Development			0.000	10.158		0.000		0.000		0.000		Continuing	TBD	TBD
Remarks:														
(U) <u>Support</u>													0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) <u>Test &amp; Evaluation</u>														
Subtotal Test & Evaluation	MIPR		0.000	0.000		0.000		0.000		0.000		Continuing	TBD	TBD
Remarks:												Continuing	TBD	TBD
(U) <u>Management</u>													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			0.000	10.158		0.000		0.000		0.000		Continuing	TBD	TBD

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Exhibit R-4, RDT&E Schedule Profile		DATE <b>February 2005</b>
BUDGET ACTIVITY <b>07 Operational System Development</b>	PE NUMBER AND TITLE <b>0207028F Joint Expeditionary Force Experiment</b>	PROJECT NUMBER AND TITLE <b>4991 Joint Distributed Engineering Plant (JDEP)</b>
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## Exhibit R-4a, RDT&amp;E Schedule Detail

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PROJECT NUMBER AND TITLE

4991 Joint Distributed Engineering  
Plant (JDEP)(U) Schedule ProfileFY 2004FY 2005FY 2006FY 2007

(U) Event Planning

1-4Q

(U) Conduct Homeland Defense Testbed event

3Q

(U) Implement JDEP/CDI and node connectivity events at Air Force site

2-4Q

(U) Support other events using JDEP/CDI infrastructure

1-4Q