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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 04 - Demonstration and Validation				PE NUMBER AND TITLE 0603791F International Space Cooperative R&D				PROJECT 5035	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5035 Intl Space Coop R&D	0	0	643	657	661	692	697	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>In FY 2003, this is a new PE. In FY 2003, from PE 0603790F, 64NATO, NATO Coop R&D, space-related efforts transferred to PE 0603791F, 645035, Intl Space Coop R&D, in order to clearly identify space-related projects and funding.</p> <p>(U) <u>A. Mission Description</u> These funds will be used to help implement space-related international cooperative research, development, and acquisition (ICRD&A) agreements with North Atlantic Treaty Organization (NATO) member states and major non-NATO allies (Argentina, Australia, Egypt, Israel, Japan, Jordan, and Rep. of Korea (South Korea)). The program implements the provisions of Title 10 U.S. Code, Section 2350a on NATO Cooperative Research and Development (R&D). The program was established to improve cooperation among NATO nations, and later major non-NATO allies, in research, development, and acquisition. The legislation authorized funds to significantly improve United States (US) and allied conventional defense capabilities by leveraging the best defense technologies, eliminating costly duplication of R&D efforts, accelerating the availability of defense systems, and promoting US and allied interoperability or commonality. The program will be reported as required by Title 10 U.S. Code, Section 2350a(f). This program element funds the implementation of space-related Air Force ICRD&A agreements in (1) Basic Research (2) Applied Research (3) Advanced Technology Development (4) Demonstration and Validation (5) Engineering and Manufacturing Development and (6) RDT&E Management Support.</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) \$0 No Activity (U) \$0 Total</p>									
Project 5035			Page 1 of 6 Pages				Exhibit R-2 (PE 0603791F)		

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(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2003 (\$ in Thousands)</u>					
(U) \$200	Hyperspectral Data Exploitation Algorithm Development and Assessment (Air Force Research Lab (AFRL)/ Australia) - Planned cooperative project to develop approaches and technologies for improved space-based hyperspectral sensors. In FY03, data collection, data analysis, and algorithm validation will begin.				
(U) \$300	Impacts of the Space Environment on Communications, Navigation, and Surveillance Systems (AFRL/ The United Kingdom (UK)) - Planned cooperative project to develop space weather specification, forecasting techniques, and data displays to provide reliable, timely warning of ionospheric disturbances that will seriously disrupt the performance of space-based communication, navigation and surveillance systems, as well as ground-based surveillance systems such as those employed for early missile warning and missile defense. In FY03, data collection will begin.				
(U) \$100	Space Radiation Sensors (AFRL/ UK) - Planned cooperative project to validate the performance of a key Air Force spacecraft instrument for the measurement of space environment radiation hazards. The instrument's capability of issuing real-time space hazard warnings will be tested under a variety of conditions encountered in space aboard a joint US/UK satellite mission. Prior year (FY01, FY02) funding was provided from PE 0603790F, NATO Cooperative R&D. In FY03, the project will complete the development of the final radiation database.				
(U) \$43	Space Vehicle Orbit Prediction (AFRL/ France) - Planned cooperative project to use data from a French accelerometer experiment currently on orbit to improve the accuracy of upper atmospheric aerodynamic drag models. This will include solving for short term geomagnetic activity variations. In FY03, modeling algorithms to use the new data will be developed.				
(U) \$643	Total				
(U) <u>B. Budget Activity Justification</u>					
This PE is designated in Budget Activity 4 because most of the ICRD&A projects support specific systems, include all efforts necessary to evaluate integrated technologies in as realistic an operating environment as possible to assess the performance or cost reduction potential of advanced technology, and help expedite technology transition from the laboratory to operational use.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget		0	0	0	
(U) Appropriated Value					
(U) Adjustments to Appropriated Value					
a. Congressional/General Reductions					
Project 5035					

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(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	
b. Small Business Innovative Research								
c. Omnibus or Other Above Threshold Reprogram								
d. Below Threshold Reprogram								
e. Rescissions								
(U) Adjustments to Budget Years Since FY 2002 PBR						643		
(U) Current Budget Submit/FY 2003 PBR						643		
(U) <u>Significant Program Changes:</u>								
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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>Cost to</u>	<u>Total Cost</u>
							<u>Complete</u>	
(U) AF RDT&E								
(U) Other APPN								
(U) <u>E. Acquisition Strategy</u>								
<p>A principal goal of the International Space Cooperative R&D program is to effectively utilize the aggregate resources invested by the US and our allies in space-related R&D. This program element provides the critical funding incentive needed to pursue space-related ICRD&A agreements and helps to (a) leverage USAF and allied resources through cost sharing and economies of scale; (b) exploit the best US and allied technologies for equipping coalition forces; (c) demonstrate areas of commonality or interoperability with our allies; and (d) accelerate the availability of defense technology and systems. Candidate projects are reviewed and approved by the USD(AT&L). An international agreement defining project objectives, responsibilities and costs is required prior to release of funds. To obtain these funds and ensure service commitment, projects are selected from existing or new space-related RDT&E programs funded in the Future Years Defense Plan (FYDP). Project offices must show matching funds and contributions from associated program elements and equitable allied funding. As appropriate, funding responsibility for out-year requirements and follow-on efforts are transferred to the project office and associated program elements. Most contracts are awarded after full and open competition.</p>								
(U) <u>F. Schedule Profile</u>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		

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(U) <u>F. Schedule Profile Continued</u>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	Hyperspectral Data Exploitation Algorithm Development and Assessment											
(U)	- Project Agreement signed											
(U)	- Data collection											
(U)	- Data analysis and algorithm validation											
(U)	- Interim report											
(U)	Impacts of the Space Environment on Comm, Nav, and Surv Sys											
(U)	- Project Agreement signed											
(U)	- Data collection											
(U)	Space Radiation Sensors											
(U)	- Project Agreement signed											
(U)	- Calibration review											
(U)	- Preliminary data base											
(U)	- Verification of calibration											
(U)	- Final data base											
(U)	Space Vehicle Orbit Prediction											
(U)	- Project Agreement signed											
(U)	- Algorithm development											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
04 - Demonstration and Validation				0603791F International Space Cooperative R&D				5035		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	Hyperspectral Data Exploitation Algorithm Development and Assessment				0		0			200
(U)	Impacts of the Space Environment on Communications, Navigation, and Surveillance Systems				0		0			300
(U)	Space Radiation Sensors				0		0			100
(U)	Space Vehicle Orbit Prediction									43
(U)	Total				0		0			643
Complete information regarding the use of International Space Cooperative R&D funds is not available for all proposed agreements, since some are still being negotiated or were recently signed. In addition, information on the use of future funding for agreements is not available in all instances because the funds are used as needed to supplement a project office's related 6.1 through 6.5 RDT&E appropriations.										
(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 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
AFRL Hanscom AFB, MA	TBD	TBD			0	0	0	643	Continuing	TBD
<u>Support and Management Organizations</u>										
TBD	TBD	TBD			0	0	0	0	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
TBD	TBD	TBD			0	0	0	0	Continuing	TBD
(U) Government Furnished Property:										
<u>Item Description</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							

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(U) Government Furnished Property Continued:									
	<u>Contract</u>	<u>Award or</u>							
<u>Item</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>or Funding</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
				<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 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				0	0	0	643	TBD	TBD
Subtotal Support and Management				0	0	0	0	TBD	TBD
Subtotal Test and Evaluation				0	0	0	0	TBD	TBD
Total Project				0	0	0	643	TBD	TBD