

Exhibit R-2, RDT&E Budget Item Justification							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07				R-1 ITEM NOMENCLATURE Joint Spectrum Center (JSC) / PE 0303153K				
COST (in millions)		FY03	FY04	FY05	FY06	FY07	FY08	FY09
Joint Spectrum Center/JS1		15.667	16.565	18.941	14.253	14.423	14.755	15.102

A. Mission Description and Budget Item Justification:

The Joint Spectrum Center's (JSC) mission is to ensure the Department of Defense's effective use of the electromagnetic spectrum in support of national security and military objectives. The JSC serves as the DOD center of excellence for electromagnetic (EM) spectrum management matters in support of the Unified Commands, Joint Staff, Assistant Secretary of Defense for Networks and Information Integration (ASD (NII)), Military Departments, and Defense Agencies. The JSC supports the Electronic Protect missions of Information Warfare (IW) as they relate to spectrum supremacy. It is responsible for developing and maintaining DOD standard information systems that support DoD spectrum related activities and processes. Specifically, the Center designs, develops, and maintains DOD automated spectrum management systems, evaluation tools, and databases employed by the Unified Commands, Military Departments, and Defense Agencies. The JSC databases are the prime sources of information for DOD use of the EM spectrum. The JSC provides technical assistance to the Office of Assistant Secretary of Defense (OASD) NII, the Joint Staff, DOD activities and the Unified Commands in support of spectrum policy decisions and ensuring the development, acquisition, and operational deployment of systems that are compatible with other spectrum dependent systems operating within the same electromagnetic environment. The Center is the DOD focal point for technical spectrum related support, Electromagnetic Environmental Effects (E<sup>3</sup>), and EM interference resolution assistance to operational units including deployable support to CINC Joint Task Forces. The JSC mission is integral to other vital activities such as Information Operations (IO), Command and Control (C2) Protect and other defensive IW activities as directed by the Joint Staff. This program element is under Budget Activity 07 because it supports operational systems development.

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<u>Accomplishments/Planned Program:</u>								
				<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>		
Subtotal Cost				\$7.223	\$7.191	\$7.245		
<p>Spectrum management and information systems support - Includes development and updates of DoD systems such as the Frequency Resource Record System (FRRS), the Spectrum Certification System (SCS), and the Spectrum Requirements System (SRS) which provide critical frequency assignment and equipment data that is necessary in predicting and avoiding spectrum conflicts. This area also includes development and updates of the SPECTRUM XXI, the joint standard DoD spectrum management system. This system ensures DoD has adequate spectrum access to accomplish its missions by addressing the regulatory requirements of host nation spectrum administrations and by ensuring that a common operating picture of the spectrum is available to the warfighter. SPECTRUM XXI Version 4.0 was released in FY03, and Version 4.1 is planned for FY04 with periodic releases thereafter.</p>								
				<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>		
Subtotal Cost				\$1.556	\$1.677	\$1.689		
<p>DoD Joint E3 Program - Encompasses developing algorithms and tools for functions such as Hazards of Electromagnetic Radiation to Ordnance (HERO) risk assessments for the combatant commands (COCOMs) and the Joint Task Force (JTF); evaluation and assessment of acquisition documents for the Milestone Decision Authority (MDA); reviewing and assessing test concepts and plans for DOT&amp;E; developing E3 training; and participating in standardization activities.</p>								
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Subtotal Cost				<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>		
				\$6.888	\$7.697	\$10.007		
<p>Technical analysis tools - The JSC mission includes the production of necessary tools for conducting technical analyses of next-generation technologies in support of efficient DoD use of the spectrum. Deliverables include the development of models, algorithms, and measurement tools for use in analyzing ultra-wideband technologies, software defined radios, and high-power and directed-energy weapons. In software defined radios, the parameters (frequency range, modulation type, or maximum power) can be altered by making a software modification without changing hardware components that can affect the radio frequency emissions. As for directed energy weapons, these systems will be evaluated with respect to E3, and measurements conducted to assist in modifying Military Standards and to ensure compatible coexistence of these systems with legacy systems.</p>								
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<p>B. <u>Program Change Summary:</u></p> <table border="0"> <thead> <tr> <th></th> <th><u>FY 03</u></th> <th><u>FY 04</u></th> <th><u>FY 05</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td>18.525</td> <td>18.850</td> <td>18.989</td> </tr> <tr> <td>Current President's Budget</td> <td>15.667</td> <td>16.565</td> <td>18.941</td> </tr> <tr> <td>Total Adjustments</td> <td>-2.858</td> <td>-2.285</td> <td>-0.048</td> </tr> </tbody> </table> <p>Change Summary Explanation: FY03 funds decreased due to below threshold reprogramming. FY04 funding changes are due to below threshold reprogramming as well as undistributed congressional reductions to the Defense-wide RDT&amp;E appropriation. The FY05 program includes outreach and engagement activities (key to identification and initial assessment of Emerging Spectrum Technologies (EST)), activities to develop the capabilities necessary to evaluate and manage the use of EST on the battlefield, and expansion of test and measurement capabilities to characterize EST systems and validate modeling capabilities.</p> <p>C. <u>Other Program Funding Summary:</u></p> <table border="0"> <thead> <tr> <th></th> <th><u>FY 03</u></th> <th><u>FY 04</u></th> <th><u>FY 05</u></th> <th><u>FY 06</u></th> <th><u>FY 07</u></th> <th><u>FY 08</u></th> <th><u>FY 09</u></th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>O&amp;M, DW</td> <td>13.584</td> <td>13.414</td> <td>14.152</td> <td>14.297</td> <td>14.633</td> <td>14.964</td> <td>15.295</td> <td>Contg</td> <td>Contg</td> </tr> </tbody> </table> <p>D. <u>Acquisition Strategy:</u> Engineering support services for the JSC are provided by contract. No in-house government capability exists, nor is it practical to develop one that can provide the expertise necessary to fulfill the mission and responsibilities of the JSC. Full and open competition was used for the acquisition of the current contract that became effective 24 August 2000 with a basic period of two years and three one year options. Preparation has begun for recompetition of this work in FY 2005.</p>										<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>	Previous President's Budget	18.525	18.850	18.989	Current President's Budget	15.667	16.565	18.941	Total Adjustments	-2.858	-2.285	-0.048		<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>	<u>FY 06</u>	<u>FY 07</u>	<u>FY 08</u>	<u>FY 09</u>	To Complete	Total Cost	O&M, DW	13.584	13.414	14.152	14.297	14.633	14.964	15.295	Contg	Contg
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<b>Exhibit R-3 Cost Analysis</b>	<b>DATE:</b> February 2004
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<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/07	<b>PROGRAM ELEMENT</b> Joint Spectrum Center/PE 0303153K	<b>PROJECT NAME AND NUMBER</b> Joint Spectrum Center/JS1
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Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering/Technical Spt	C/CPAF	IIT Research Inst Annapolis, MD	13.408					0	13.408	13.408
GFE	C/CPAF	IIT Research Inst Annapolis, MD	.800					0	.800	.800
Engineering/Technical Support	C/TBD	TBD	.500	.500	10/03	.500	10/04	0	1.500	1.500
Engineering/Technical Support	MIPR	Various	1.730					0	1.730	1.730
Contractor Engineering/Technical Spt	C/CPFF	Various	1.619					0	1.619	1.619
Contractor Engineering/Technical Spt	C/CPAF	ALION Annapolis, MD	28.973	15.195	10/03	17.571	10/04	0	61.739	61.739
GFE	C/CPAF	ALION Annapolis, MD	2.699	.870	10/03	.870	10/04	0	4.439	4.439
Subtotal Test & Evaluation			49.729	16.565		18.941				
Total			49.729	16.565		18.941				

Remarks: Current contract with ALION was competitive acquisition and began on 24 August 2000 (2 year basic with 3 option years), and will be recompleted for FY 2005.

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Exhibit R-4 Schedule Profile														Date: February 2004																											
Appropriation/Budget Activity RDT&E, Defense -Wide/07														Program Element Number and Name Joint Spectrum Center/PE 0303153K														Project Number and Name Joint Spectrum Center/JS1													
Fiscal Year	2003				2004				2005				2006				2007				2008				2009																
	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													
Spectrum XXI Version 4.0 Release		△																																							
Contract Option Year 2 Award				△																																					
Contract Option Year 3 Award								△																																	
Recompete Current Engineering Support Services Contract (ESSC)								△																																	
New ESSC Contract Award												△																													
Spectrum XXI Version 4.1 Development and Testing				△	△	△																																			

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Exhibit R-4 Schedule Profile													Date: February 2004																									
Appropriation/Budget Activity RDT&E, Defense-Wide/07													Program Element Number and Name Joint Spectrum Center/PE 0303153K													Project Number and Name Joint Spectrum Center/JS1												
Fiscal Year	2003				2004				2005				2006				2007				2008				2009													
	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										
Spectrum XXI Version 4.1 Release							△																															
Spectrum XXI Versions 5.0, 6.0, 7.0 Develop and Test							△	△	△				△	△	△				△	△	△																	
Spectrum XXI Versions 5.0, 6.0, 7.0 Released											△				△								△															
Initial Technology Tracking Database		△																																				
Prototype EST Repository			△																																			
High-power High- energy Assessment							△																															

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Exhibit R-4 Schedule Profile													Date: February 2004																									
Appropriation/Budget Activity RDT&E, Defense -Wide/07													Program Element Number and Name Joint Spectrum Center/PE 0303153K													Project Number and Name Joint Spectrum Center/JS1												
Fiscal Year	2003				2004				2005				2006				2007				2008				2009													
	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										
Cosite Modeling Capability							△																															
Software Defined Radio Modeling in OPNET											△																											
Cosite Capability for EST															△																							

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Exhibit R-4a Schedule Detail						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07	Joint Spectrum Center PE 0303153K			Joint Spectrum Center / JS1			
<u>Schedule Profile</u>	<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>
Contract Option Year 2 Award	4Q						
Contract Option Year 3 Award		4Q					
Recompete Current Engineering Support Services Contract (ESSC)		4Q					
New ESSC Contract Award			4Q				
SPECTRUM XXI Version 4.1 Development and Testing	4Q	1-2Q					
SPECTRUM XXI Version 4.1 Release		3Q					
SPECTRUM XXI Versions 5.0, 6.0, 7.0 Development and Testing		3-4Q	1Q 4Q	1-2Q	2-4Q		

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Exhibit R-4a Schedule Detail						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT			PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07	Joint Spectrum Center PE 0303153K			Joint Spectrum Center / JS1			
<u>Schedule Profile</u>	<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>
SPECTRUM XXI Versions 6.0, 7.0, 8.0 Released			1Q	3Q		1Q	
Initial Technology Tracking Database	2Q						
Prototype EST Repository	4Q						
High-power High-energy assessment		3Q					
Cosite modeling capability		3Q					
Software Defined Radio modeling in OPNET			3Q				
Cosite Capability for EST				3Q			

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