

Exhibit R-2, RDT&E Budget Item Justification									DATE: FEBRUARY 2000	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					R-1 ITEM NOMENCLATURE Long Haul Communications/0303126K					
COST (in millions)		FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element (PE)		11.469	1.306	1.416	1.440	1.470	1.502	1.535	Contg	Contg
DISN Systems Engineering Support/T82		1.609	1.306	1.416	1.440	1.470	1.502	1.535	Contg	Contg
Defense Information Systems Network Acquisition/H20		9.860	0	0	0	0	0	0	0	9.860

A. Mission Description and Budget Item Justification: This program element funds system engineering for the Defense Information Systems Network (DISN) which provides defense-wide communications for the day-to-day operations of the DOD and serves as the core of DOD wartime communications for the National Command Authority (NCA), the Joint Chiefs of Staff (JCS), the Commanders-in Chief (CINCs), and other critical users. It provides for the engineering to consolidate the operational communications networks into DISN. This PE funds the critical and essential engineering required to use commercial equipment and service offerings, to implement the rapidly advancing communications technology, and to update the network design tools so as to continue providing tremendous cost savings, and to continue offering valuable new cost effective information technology capabilities and services to customers. It provides for the cost effective development of needed information technology capabilities by targeting RDT&E efforts to DOD mission needs. This PE supports the military requirements identified by Joint Mission Needs Statement (JMNS) and Joint Capstone Requirements Document (JCRD). The program element is under Budget Activity 07 because it involves efforts supporting operational systems development.

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B. <u>Program Change Summary:</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	
Previous President's Budget (FY 2000)	11.510	1.316	1.425	
Appropriated Value	11.561	1.316		
Adjustments to Appropriated Value	-.092	-.006		
Congressional Rescission		-.004		
Adjustments to Budget Year since FY 2000 President's Budget			-.009	
Current Budget Submission/President's Budget (FY 2001)	11.469	1.306	1.416	
Change Summary Explanation:				
FY 99 and FY 00 changes due to below threshold reprogramming.				
FY 01 reduction due to revised fiscal guidance.				
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Exhibit R-2a, RDT&E Project Justification									DATE: FEBRUARY 2000	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Long Haul Communications/0303126K				DISN Systems Engineering Support/T82				
COST (in millions)		FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost		1.609	1.306	1.416	1.440	1.470	1.502	1.535	Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> This project funds the critical and essential engineering to continue providing cost savings and to offer valuable new cost-effective information technology capabilities and services to customers. It funds systems engineering to reduce the risks and delays of implementing new communications technologies by performing assessments and proof of concept implementations. It also provides engineering to develop/enhance computer-aided network topology design, analysis and modeling tools to: (a) improve performance and/or reduce cost of operational networks to satisfy customer requirements at lowest cost, (b) analyze/solve problems in operational networks and (c) produce cost-efficient designs for future networks using new technologies.</p> <p><u>FY99 Accomplishments:</u></p> <ul style="list-style-type: none"> <li>o Engineered the insertion of technology into the Defense Information Infrastructure (DII)(1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$291K).</li> <li>o Performed Engineering Support for Network Engineering Assessment Facility (NEAF) (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr, \$232K).</li> <li>o Implemented an Information Dissemination Management (IDM)/Global Broadcast System (GBS)/DISN Integration Testbed in the NEAF and Performed Risk Reduction Testing (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$505K).</li> <li>o Upgraded a portion of workstations, LAN, and WAN hardware &amp; system software as requirements/technology dictate (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$120K).</li> <li>o Developed network topology design algorithms, heuristics and software based on a government prioritized list of enhancements (e.g., specific backbone switches and edge devices selected for DISN Objective ATM network). Develop a DISN Objective ATM private line network topology design and analysis (1<sup>st</sup> Qtr -4<sup>th</sup> Qtr; \$461K).</li> <li>o Total \$1.609M</li> </ul>										

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COST (in millions)		FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost																
Project Cost		1.609	1.306	1.416	1.440	1.470	1.502	1.535	Contg	Contg																
<b>FY00 Plans:</b> <ul style="list-style-type: none"> <li>o Engineer the insertion of technology into the DII (1<sup>st</sup> Qtr -4<sup>th</sup> Qtr; \$369K).</li> <li>o Engineering support for Network Engineering Assessment Facility (NEAF) (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$250K).</li> <li>o Upgrade a portion of workstations, LAN, and WAN hardware &amp; system software as requirements/technology dictate. (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$100K).</li> <li>o Develop network topology design algorithms, heuristics and software based on a government prioritized list of enhancements (e.g., specific DISN Service Directory Nodes (SDN) Edge devices) (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$587K).</li> <li>o Total \$1.306M</li> </ul>																										
<b>FY01 Plans:</b> <ul style="list-style-type: none"> <li>o Engineer the insertion of advanced network technology into the DII (e.g., wave division multiplexing and optical switching) (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$395K).</li> <li>o Engineering support for Network Engineering Assessment Facility (NEAF) (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$275K).</li> <li>o Upgrade workstations, LAN, and WAN hardware &amp; system software (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$100K).</li> <li>o Develop network topology design algorithms, heuristics and software based on a government prioritized list (1<sup>st</sup> Qtr - 4<sup>th</sup> Qtr; \$646K).</li> <li>o Total \$1.416M</li> </ul>																										
<b>B. <u>Other Program Funding Summary:</u></b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 10%;"><u>FY99</u></th> <th style="width: 10%;"><u>FY00</u></th> <th style="width: 10%;"><u>FY01</u></th> <th style="width: 10%;"><u>FY02</u></th> <th style="width: 10%;"><u>FY03</u></th> <th style="width: 10%;"><u>FY04</u></th> <th style="width: 10%;"><u>FY05</u></th> </tr> </thead> <tbody> <tr> <td>Operation &amp; Maintenance</td> <td>4.056</td> <td>1.515</td> <td>1.471</td> <td>1.487</td> <td>1.515</td> <td>1.549</td> <td>1.584</td> </tr> </tbody> </table>												<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>	Operation & Maintenance	4.056	1.515	1.471	1.487	1.515	1.549	1.584
	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>FY05</u>																			
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COST (in millions)			FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost			1.609	1.306	1.416	1.440	1.470	1.502	1.535	Contg	Contg
C. <u>Acquisition Strategy</u> : General Services Administration, Washington, DC; SETA Corporation, McLean, VA.											
D. <u>Schedule Profile</u> :											
FY99 4 <sup>th</sup> Qtr Voice over ATM technology implementation into DII											
4 <sup>th</sup> Qtr ATM Cell Encryption technology implementation into DII											
4 <sup>th</sup> Qtr Release #1 of ATM COTS computer-aided network topology design, analysis and modeling tool											
FY00 4 <sup>th</sup> Qtr Release #2 of ATM COTS computer-aided network topology design, analysis and modeling tool											
FY01 4 <sup>th</sup> Qtr Future Technology design, analysis, modeling tools, and technology insertion into the DII (e.g., wavelength multiplexing & optical switching)											
FY02 - FY05											
4 <sup>th</sup> Qtr Future Technology design, analysis, modeling tools, and technology insertion into the DII (e.g., wavelength multiplexing & optical switching)											
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Exhibit R-3 Cost Analysis							DATE: FEBRUARY 2000			
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RDT&E, Defense-Wide/07		Long Haul Communications/PE 0303126K			DISN Systems Engineering Support/T82					
<u>Support Costs:</u>										
<u>Cost Category</u>	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total PYs Cost</u>	<u>FY 00 Cost</u>	<u>FY 00 Award Date</u>	<u>FY 01 Cost</u>	<u>FY 01 Award Date</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
Systems Engineering	CPAF/ CPIF	Multiple	1.609	1.306	10/99	1.416	10/00	Contg	Contg	N/A

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