Exhibit R-2, RDT&E Budget Item Justification								DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07					**R-1 ITEM NOMENCLATURE** Long Haul Communications/0303126K					
COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Total Program Element (PE)	13.387	11.510	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg
DISN Systems Engineering Support/T82	0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg
Leading Edge Pilot Info. Technologies/E26	2.930	0*	0	0	0	0	0	0	0	Contg
MILSATCOM & DII Planning/E61	3.887	0**	0	0	0	0	0	0	0	Contg
Defense Information Systems Network Acquisition/H20	6.119	10.286	0	0	0	0	0	0	0	16.405
White House Situation Support Staff/W90	0.451	0***	0	0	0	0	0	0	0	0.451

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.

Exhibit R-2, RDT&E Budget Item Justification	**DATE:** February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	**R-1 ITEM NOMENCLATURE** Long Haul Communications/0303126K

B. Program Change Summary:

	FY98	FY99	FY00	FY01
Previous President's Budget (FY 1999)	13.693	11.561	1.338	1.450
Appropriated Value	14.520	11.561		
Adjustments to Appropriated Value	-1.133	-.051		
Adjustments to Budget Year since FY 1999 President's Budget			-.022	-.025
Current Budget Submission/President's Budget (FY 2000)	13.387	11.510	1.316	1.425

Change Summary Explanation:
FY 1998 reduction is due to undistributed congressional adjustments to Defense-wide RDT&E appropriation and below threshold reprogramming.
FY 1999 reduction is due to undistributed congressional adjustments to Defense-wide RDT&E appropriation.
FY 2000 and FY 2001 changes are due to revised inflation rates.

* Beginning in FY 1999, Project E26, Leading Edge Pilot Information Technologies is realigned to PE 0604764K, Advanced Information Technology Services Joint Program Office.

** Beginning in FY 1999, Project E61, MILSATCOM & DII Planning is incorporated into Project E62, Modeling & Simulation in PE 0302019K, Defense Information Infrastructure Engineering and Integration.

*** Beginning in FY 1999, Project W90, White House Situation Support Staff is realigned to the O&M appropriation.

Exhibit R-2a, RDT&E Project Justification			DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	**PROGRAM ELEMENT** Long Haul Communications/0303126K		**PROJECT NAME AND NUMBER** DISN Systems Engineering Support/T82

COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg

A. Mission Description and Budget Item Justification: 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.

FY99 Plans:

- Engineer the insertion of technology into the Defense Information Infrastructure (DII)(1st Qtr – 4th Qtr; $350K).
- Engineering support for Network Engineering Assessment Facility (NEAF) (1st Qtr – 4th Qtr, $232K).
- Develop a DISN Objective ATM private line network topology design and analysis (1st Qtr –4th Qtr; $135K).
- Upgrade workstations, LAN, and WAN hardware & system software (1st Qtr – 4th Qtr; $200K).
- Develop 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) (1st Qtr – 4th Qtr; $307K)
- Total $1.224M

FY00 Plans:

- Engineer the insertion of technology into the DII (1st Qtr –4th Qtr; $458K).
- Engineering support for Network Engineering Assessment Facility (NEAF) (1st Qtr – 4th Qtr; $250K).
- Upgrade workstations, LAN, and WAN hardware & system software (1st Qtr – 4th Qtr; $200K).
- 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) (1st Qtr – 4th Qtr; $408K).
- Total $1.316M

Exhibit R-2a, RDT&E Project Justification			DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	**PROGRAM ELEMENT** Long Haul Communications/0303126K		**PROJECT NAME AND NUMBER** DISN Systems Engineering Support/T82

COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg

FY01 Plans:

- Engineer the insertion of technology into the DII (1st Qtr – 4th Qtr; $497K)
- Engineering support for Network Engineering Assessment Facility (NEAF) (1st Qtr – 4th Qtr; $275K)
- Upgrade workstations, LAN, and WAN hardware & system software (1st Qtr - 4th Qtr; $200K).
- Develop network topology design algorithms, heuristics and software based on a government prioritized list (e.g., wavelength multiplexing and optical switching) (1st Qtr – 4th Qtr; $453K)
- Total $1.425M

B. Other Program Funding Summary:

	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
Operation & Maintenance	1.485	1.514	1.544	1.501	1.521	1.551	1.587	1.625

C. Acquisition Strategy: General Services Administration, Washington, DC; SETA Corporation, McLean, VA

D. Schedule Profile:

FY99	4th Qtr	Voice over ATM technology implementation into DII
	4th Qtr	ATM Cell Encryption technology implementation into DII
	4th Qtr	Release #1 of ATM COTS computer-aided network topology design, analysis and modeling tool
FY00	4th Qtr	High Bandwidth Network Extension capability implementation into DII
	4th Qtr	Release #2 of ATM COTS computer-aided network topology design, analysis and modeling tool
FY01	4th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)
FY02	4th Qtr	Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)

Exhibit R-2a, RDT&E Project Justification			DATE: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	**PROGRAM ELEMENT** Long Haul Communications/0303126K	**PROJECT NAME AND NUMBER** DISN Systems Engineering Support/T82	

COST (in millions)	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	Cost to Complete	Total Cost
Project Cost	0	1.224	1.316	1.425	1.450	1.481	1.515	1.551	Contg	Contg

FY03 4th Qtr Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)

FY04 4th Qtr Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)

FY05 4th Qtr Future Technology design, analysis and modeling tools (e.g., wavelength multiplexing & optical switching)

Exhibit R-3 Cost Analysis		**DATE:** February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	**PROGRAM ELEMENT** Long Haul Communications/PE 0303126K	**PROJECT NAME AND NUMBER** DISN Systems Engineering Support/T82

Support Costs:

Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	CPAF/ CPIF	Multiple	0	1.224	10/98	1.316	10/99	1.425	10/00	Contg	Contg	N/A