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Exhibit R-2, RDT&E Budget Item Justification								DATE: June 2001	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07				R-1 ITEM NOMENCLATURE Support of the National Communications System/P.E. 0303127K					
COST (in millions)	FY00	FY01	FY02					Cost to Complete	Total Cost
Total Program Element	3.373	4.235	4.968					Contg	Contg
Enhanced Satellite Capability/N092	.822	0*	0					Contg	Contg
Interoperability/N088	1.079	1.642	.989					Contg	Contg
Information Assurance/N094	.050	0*	0					Contg	Contg
Advanced Intelligent Network/N091	1.365	0*	0					Contg	Contg
NS/EP Telecommunications Integration Support/N095	.057	0*	0					Contg	Contg
NS/EP Programs/N709	0	2.593*	3.979					Contg	Contg
<p>A. <u>Mission Description and Budget Item Justification:</u> This program element supports Executive Order 12472 of 3 April 1984 which assigns the National Communications System (NCS) the mission of assisting the President, the National Security Council, the Office of Science and Technology Policy, and the Office of Management and Budget in exercising their wartime and non-wartime telecommunications functions and responsibilities, and coordinating the planning for, and provisioning of, National Security and Emergency Preparedness (NS/EP) telecommunications for the federal government under all circumstances. To attain this objective, there are several National Security Decision Directives which require that initiatives be developed to improve the survivability and interoperability of the commercial telecommunications systems that support national security and emergency preparedness, to enhance the potential NS/EP functionality of U.S. commercial satellites, and to provide communications support for Government agencies which have responsibilities to carry out essential functions in any emergency. Interoperability supports the Federal Telecommunications Standards Program, and ensures interoperability</p>									

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<p>among emerging government communications systems. Effective FY 2001, NS/EP Programs develops and implements evolutionary NS/EP capabilities for an enduring and effective telecommunications infrastructure. It consolidates Enhanced Satellite Capability, Information Assurance, Advanced Intelligent Network and includes an evolutionary initiative called the Information Sharing and Analysis System (ISAS). Enhanced Satellite Capability explores evolving telecommunications technologies and applications and produces proof-of-concept solutions to satisfy current and future NS/EP needs, with emphasis on the investigation of potential wireless solutions for specialized NS/EP needs. Advanced Intelligent Network employs newly developed processing capabilities that tailor the extensive telecommunications resources of the Public Switched Network to enhance connectivity and survivability of services for essential government users during periods of emergency. The Information Sharing and Analysis System (ISAS) involves an industry-government sharing of information to help ensure reliable, restorable, and secure communications supporting National Security and Emergency Preparedness. This initiative is evolving from a manual process of collection and sharing of network outage information in the National Coordinating Center (NCC) to an automated process which includes a telecommunications ISAS. The NCC, which is a government/industry partnership, has been designated by the National Security Council as an Information Sharing and Analysis Center (ISAC) in accordance with the criteria of Presidential Decision Directive 63 and the National Plan for Information Systems Protection. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.</p> <p>* Effective FY 2001, Project N092 (Enhanced Satellite Capability), Project N094 (Information Assurance), Project N091 (Advanced Intelligent Network) and Project N095 (NS/EP Telecommunications Integration Support) were merged into Project N709 (NS/EP Programs).</p> <p>This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.</p>		
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B. <u>Program Change Summary:</u>			
	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>
Previous President's Budget (FY 2001)	4.242	5.019	5.088
Appropriated Value	4.274	5.019	
Adjustments to Appropriated Value	-.901	-.784	
Adjustments to Budget Year Since FY 2001 President's Budget			-.120
Current Budget Submit/President's Budget (FY 2002)	3.373	4.235	4.968
Change Summary Explanation:			
Funding: FY 2000 change due to below threshold reprogramming.			
FY 2001 adjustment is due to congressional rescission and below threshold reprogramming.			
FY 2002 change due to revised fiscal guidance.			
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Exhibit R-2a, RDT&E Project Justification									DATE: June 2001	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Support of the NCS/PE 0303127K				Interoperability/N088				
COST (in millions)		FY00	FY01	FY02					Cost to Complete	Total Cost
Project Cost		1.079	1.642	.989					Contg	Contg
<p>A. <u>Mission Description & Budget Item Justification:</u> This project analyzes new communications technologies and their effects on interoperability, reliability, and security of government communications and conducts related technical evaluations and standards and implementation agreements; supports the Federal Telecommunications Standards Program; ensures interoperability among emerging government communication systems, including related information systems, by providing the required analyses to the NCS member organizations and other government agencies for specific types of communication and related information systems; and performs analyses to support priority treatment of NS/EP communications in commercial networks, including the Internet and wireless systems.</p> <p><u>FY2000 Accomplishments:</u></p> <ul style="list-style-type: none"> o Continued to develop technology, methods, and strategies to help ensure reliability of NS/EP communications through congested networks, with emphasis on emerging Internet, wireless, and ATM technologies. (\$488K) (1st Qtr - 4th Qtr) o Continued to develop procedures for analyzing interoperability and reliability of NS/EP communications in various stress scenarios and with various information formats. (e.g. voice, video, messaging, conferencing). (\$341K) (1st Qtr - 4th Qtr) o Continued to assess, evaluate, and extend advanced wireless communications technology and service for NS/EP communications. (\$250K) (1st Qtr - 4th Qtr) o Total \$1.079M <p><u>FY2001 Plans:</u></p> <ul style="list-style-type: none"> o Continue to develop technology, methods, and strategies to support development of industry standards and implementation agreements incorporating specific features to help ensure reliability of NS/EP communications through congested networks. (\$350K) (1st Qtr - 4th Qtr) 										

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COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost																		
Project Cost	1.079	1.642	.989						Contg	Contg																		
<p>o Continue to develop procedures for analyzing interoperability of NS/EP communications and related information systems in various stress scenarios. (\$390K) (1st Qtr - 4th Qtr)</p> <p>o Assess advanced, emerging technology for its use by or impact on security and reliability of NS/EP communications (e.g., photonic switching). (\$571K) (1st Qtr - 4th Qtr)</p> <p>o Continue to assess, evaluate, and extend advanced wireless communications technology and services for NS/EP communications. (\$331K) (1st Qtr - 4th Qtr)</p> <p>o Total \$1.642M</p> <p><u>FY2002 Plans:</u></p> <p>o Continue analyzing technology underlying emerging communications (e.g., Internet) to develop methods of inserting features into networks to support priority service for NS/EP communications. (\$589K) (1st Qtr - 4th Qtr)</p> <p>o Continue analyzing emerging wireless and other significantly capacity-limited technologies to develop ways of obtaining NS/EP priority treatment in public networks. (\$400K) (1st Qtr - 4th Qtr)</p> <p>o Total \$.989M</p> <p><u>B. Other Program Funding Summary:</u></p> <table border="0"> <tr> <td></td> <td></td> <td></td> <td></td> <td>To</td> <td>Total</td> </tr> <tr> <td></td> <td><u>FY2000</u></td> <td><u>FY2001</u></td> <td><u>FY2002</u></td> <td><u>Complete</u></td> <td><u>Cost</u></td> </tr> <tr> <td>O&M,DW</td> <td>3.236</td> <td>2.134</td> <td>2.033</td> <td>Contg</td> <td>Contg</td> </tr> </table>															To	Total		<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>Complete</u>	<u>Cost</u>	O&M,DW	3.236	2.134	2.033	Contg	Contg
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APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07		PROGRAM ELEMENT Support of the NCS/PE 0303127K				PROJECT NAME AND NUMBER Interoperability/N088				
COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	1.079	1.642	.989						Contg	Contg
<p>C. <u>Acquisition Strategy</u>:</p> <p>Work will continue under existing contract vehicles and new reimbursable orders.</p> <p>D. <u>Schedule Profile</u></p> <p>FY00 - 4th quarter: Receive reports and assessments of emerging technology (e.g., Internet, wireless for NS/EP applications that provide rationale for special NS/EP features in commercial networks.</p> <p>FY01 - 4th quarter: Receive reports that begin to define the expected technology of Next Generation Networks.</p> <p>FY02 - 4th quarter: Receive reports on strategies for mitigating impact of congestion on NS/EP communications in high-speed networks (e.g., priority services, intelligent network rerouting in emerging integrated, packet-based, commercial networks).</p>										
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Exhibit R-3 Cost Analysis									DATE: June 2001	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT					PROJECT NAME AND NUMBER			
RDT&E, Defense-Wide/07		Support of the NCS/PE 0303127K					Interoperability/N088			
Cost Category	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Technical Support	FFRDC/Mipr	Mitre McLean, Va	.400	.210	10/00	TBD		0	.610	.610
Technical Support	RO	NTIA Boulder, CO	0	.531	10/00	.405	10/01	3.000	3.936	3.936
Technical Support	CPFF/C	SW Research Kelly AFB, Tex	.200	.206	06/01	.119	12/01	Contg	Contg	.525
Technical Support	RO	NIST Gaithersburg, MD	.179	.190	04/01	.129	02/02	Contg	Contg	.498
Technical Support	FFP/C	SAIC San Diego, CA	.100	.100	TBD	.188	12/01	Contg	Contg	.388
Technical Support	FFP	Gartner Group Stanford, CT	0	.305	01/01	TBD			TBD	TBD
Subtotal Support Costs			.879	1.542		.841				
Report Development	CPAF/8(a)	Comtec Herndon, VA	.200	.100	02/01	.148	08/02	1.050	1.498	1.498
Subtotal Product Development			.200	.100		.148				
Total Cost			1.079	1.642		.989				

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NAME AND NUMBER				
RDT&E, Defense-Wide/07		Support of the NCS/PE 0303127K				NS/EP Programs/N709				
COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	0	2.593	3.979						Contg	Contg
<p>A. <u>Mission Description & Budget Item Justification:</u> This project is required to employ newly developed processing capabilities to tailor the extensive telecommunications resources of the existing Public Switched Network (PSN), which includes the Local Exchange Carrier (LEC) and Inter Exchange Carrier (IEC) networks, thus enhancing connectivity and survivability of services for essential government users during periods of emergency. Advanced Intelligent Network (AIN) is an evolving PSN capability consisting of signaling systems, switches, computer processing, databases, and transmission media. This research will result in the utilization of these components, in a customized set of network services that can be flexibly, rapidly, and cost effectively configured by customers upon request. Enhanced Satellite Capability explores evolving telecommunications technologies and applications and produces proof-of-concept solutions to satisfy current and future NS/EP needs, with emphasis on the investigation of potential wireless solutions for specialized NS/EP needs. Information Sharing and Analysis System initiatives will develop and evolve a telecommunications Information Sharing and Analysis System (ISAS) for the National Coordinating Center (NCC), providing a means for industry and government to share information relating to the security of the nation's critical telecommunications infrastructure. In addition, ISAS tasking will develop modeling and analysis tools used in the Network Design and Analysis Center (NDAC) System.</p> <p><u>FY2000 Accomplishments:</u></p> <ul style="list-style-type: none"> o Effort previously funded under Projects N092, N091, and N095. <p><u>FY2001 Plans:</u></p> <ul style="list-style-type: none"> o Evaluate AIN capabilities and implementation for NS/EP. (\$300K) (1st Qtr - 4th Qtr) o Assess Wireless Priority Services across cellular and satellite systems. (\$511K) (1st Qtr - 4th Qtr) o Define, develop, demonstrate and test NS/EP techniques and features for NS/EP enhancements. (\$450K) (1st Qtr - 4th Qtr) o Develop future service plans for Government Emergency Telecommunications Service (GETS) full operational capability. (\$488K) (1st Qtr - 4th Qtr) 										

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RDT&E, Defense-Wide/07		Support of the NCS/PE 0303127K				NS/EP Programs/N709				
COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	0	2.593	3.979						Contg	Contg
<ul style="list-style-type: none"> o Integrate enhancements, including NS/EP priorities and security, into current NCS Programs. (\$844K) (1st Qtr - 4th Qtr) o Total \$2.593M <p>FY2002 Plans:</p> <ul style="list-style-type: none"> o Develop proof-of-concept hardware and software to demonstrate potential solutions for specialized NS/EP needs. (\$135K) (1st Qtr - 4th Qtr) o Explore emerging telecommunications technologies for applications that will enhance National Security and Emergency Preparedness (NS/EP). Also define, develop, demonstrate and test such enhancements. (\$800K) (1st Qtr - 4th Qtr) o Evaluate potential enhancements to the Information Sharing and Analysis System (ISAS) that is used to share industry government information in support of NS/EP using the development of modeling and analysis tools. (\$200K) (1st Qtr - 4th Qtr) o Evaluate the security needs and vulnerabilities on National telecommunication networks that are needed for NS/EP applications for networks' protection. (\$200K) (1st Qtr - 4th Qtr) o Evaluate the potential for Government Emergency Telecommunications Service (GETS) enhancements in light of Advanced Intelligent Network (AIN) developments to improve GETS performance. (\$204K) (1st Qtr - 4th Qtr) o Develop analyses of technology and techniques to evolve the ISAS from emphasis on switched circuits to include multiple technologies, such as data, wireless, new transmission media and methods, network access, and Internet services. (\$480K) (1st Qtr - 4th Qtr) o Develop techniques and methods of analyzing, demonstrating, and testing security systems for the ISAS. (\$1,280K) (1st Qtr - 4th Qtr) o Develop techniques and tools for correlating and analyzing data, including testing and evaluating commercial off-the-shelf tools in the ISAS environment to improve correlation of events to identify network attacks, to more rapidly analyze events and predict effects on networks. (\$680K) (1st Qtr - 4th Qtr) o Total \$3.979M 										

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RDT&E, Defense-Wide/07			Support of the NCS/PE 0303127K				NS/EP Programs/N709			
Cost Category	Contract Method & Type	Performing Activity & Location	Total PY's Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Technical Assistance	CPAF/C	BAH McLean, VA	0	.300	Various	1.253	Various	Contg	Contg	1.553
Technical Assistance	FFRDC/Mipr	Mitre McLean, Va	0	.844	04/01	.844	04/02	Contg	Contg	1.688
Technical Assistance	8a	TBD	0	0	N/A	.600	12/01	Contg	Contg	.600
Technical Assistance	CPAF	Dyncorp Chantilly, Va		.224	04/01	.296	04/02	Contg	Contg	.520
Subtotal Support Costs			0	1.368		2.993				
Technical Reports	CPFF/SS	Telcordia Morristown, NJ	0	.938	03/01	.686	03/02	Contg	Contg	1.624
Technical Reports	RO	JPL Pasadena, CA	0	.287	06/01	.300	03/02	Contg	Contg	.587
Subtotal Product Development			0	1.225		.986				
Total Cost			0	2.593		3.979				

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