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<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>							<b>DATE</b> February 2000		
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E/Defense Wide/BA 1							<b>R-1 ITEM NOMENCLATURE</b> Government/Industry Co-sponsorship of University R <b>PE 0601111D8Z</b>		
<i>COST(In Millions)</i>	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total Program Element (PE) Cost	4.233	6.175	6.715	6.838	9.627	9.830	9.937	Continuing	Continuing
GICUR/P111	4.233	6.175	6.715	6.838	9.627	9.830	9.937	Continuing	Continuing

(U) **A. Mission Description and Budget Item Justification**

(U) **BRIEF DESCRIPTION OF ELEMENT**

(U)A shared commitment between industry and Government continues to be created via the Government/Industry Co-sponsorship of University Research (GICUR) program. It will capitalize on university based research, education and training in technologies of strategic importance to national defense and also to industry. It provides an emphasis on ground-breaking research with a long-term horizon, and education and training in selected research areas which are vital to advancement of technologies. The commitment is a jointly formed pool of funding and a shared management structure for sponsoring this sort of long term basic research at universities. This will provide the military with leading-edge technologies as well as reducing vulnerabilities of industries involved, increase long-term technical growth in these areas, infuse new ideas and approaches, all of which are important for national security. Industry and government share responsibility for research focus area selection and overall direction. This program will also employ advances in information technologies and telecommunications to provide extensive connectivity among the partners and research performers from the outset. Thus, strengths of individual investigators can be effectively linked, taking advantage of geographically disbursed national resources. Mechanisms will be established for personnel exchange and interactions to provide for continuing education of highly qualified researchers already working in leading edge and emerging S&T. One program area implemented is on Complex Adaptive Networks. It meets the program criteria and is vital to DoD needs. The high priority thrust in this area is providing powerful mathematical and computer modeling methods to steer technology such that cascading effects and rapid, catastrophic failure of networks (e.g., battlefield com

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(U) **Project Number and Title: P111 GICUR**

(U) **PROGRAM ACCOMPLISHMENTS AND PLANS**

(U) **FY1999 Accomplishments:**

(U) Evaluated operations of first industry-driven consortia, the research programs supported and set further directions. Continued critical research in the Semiconductor Focus Research Initiative. Ongoing research support revolutionary interconnect technology options and improvements in design productivity, quality and cycle time. Initiative was co-sponsored with Microelectronics Advanced Research Corporation (MARCO). Industry provided matching DoD funding 3:1. Selected and awarded two initial university centers ( University of California, Berkley in design technology and Georgia Technology for interconnect technology). Began research in the fields of applied mathematics and computation focused on secure operation of complex and interactive networks and systems. The Complex Interactive Network/Systems was co-sponsored with EPRI, Electric Power Research Institute. Industry matched DoD funds 1:1. Performed research consortia lead universities include CAL TECH, Cornell, Carnigie Mellon, Harvard, Purdue and University of Washington, Seattle.  
(\$ 4.233 Million)

(U) **FY2000 Plans:**

(U) Continue research through the Semiconductor Focus Research Initiative and the Complex Interactive Network/ Systems projects. For complex adaptive networks, mathematical and computer modeling methods developed will be tested against real world data and situations. For complex circuits, advance design concepts and interconnect schemes will be expressed in prototype devices. For smart structures and smart materials, opportunities will be identified to take concepts and methods achieved and use them in environments which could provide indicators for reliability advances.  
(\$ 6.175 Million)

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**(U) FY2001 Plans:**

(U) Continue research in semiconductor and complex interactive network systems. Theoretical and experimental achievements will be fully documented. Research will continue along lines both needs and opportunity driven, dependent upon success to date.  
(\$ 6.838 Million)

<b>(U) <u>B. Program Change Summary</u></b>	<b><u>FY1999</u></b>	<b><u>FY2000</u></b>	<b><u>FY2001</u></b>	<b><u>Total Cost</u></b>
Previous President's Budget	4.801	6.351	6.762	Continuing
Appropriated Value	0.000	6.351	0.000	Continuing
Adjustments to Appropriated Value				
a. Congressionally Directed Undistributed Reduction	0.000	0.000	0.000	
b. Rescission/Below-threshold Reprogramming, Inflation Adjustment	(.568)	(.018)	(.047)	
c. Other	0.000	(0.158)	0.000	
Current President's Budget	4.233	6.175	6.715	Continuing

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**Change Summary Explanation:**

(U) **Funding:** FY 1999 changes reflect programmatic adjustments. FY 2000 reductions are due to inflation adjustments and government wide rescission. FY 2001 adjustments are due to inflation savings.

(U) **Schedule:** N/A

(U) **Technical:**

(U) C. **OTHER PROGRAM FUNDING SUMMARY COST:** N/A

(U) D. **ACQUISITION STRATEGY:** N/A

(U) E. **SCHEDULE PROFILE:** N/A

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