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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2000			
BUDGET ACTIVITY 04 - Demonstration and Validation				PE NUMBER AND TITLE 0603860F Joint Precision Approach and Landing Systems - Dem/Val				PROJECT 644652		
COST (\$ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
644652	Precision Landing Systems	19,602	16,290	18,092	9,717	13,190	10,162	9,464	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>The objective of the Joint Precision Approach and Landing System (JPALS) is to provide the next generation precision approach and landing system capability that will contribute to a joint operational capability for the U.S. forces in order to perform assigned conventional and special operational missions from fixed base, tactical, shipboard and special mission environments under a wide range of meteorological conditions. Additionally, JPALS will ensure that DoD maintains civil interoperability with current and projected FAA and NATO member country landing systems. This effort will modernize the DoD precision landing architecture by replacing aging ship-board and ground precision landing systems (Instrument Landing System , Precision Approach Radar, Microwave landing System, and Instrument Carrier Landing Systems) which are expected to end their useful life by 2005-2010 and address precision landing deficiencies in the near term. JPALS will be rapidly deployable and have the ability to operate in adverse weather conditions by day or night. JPALS will facilitate DoD mission and training needs by enabling US forces to land on any surface worldwide (land and sea) under peacetime and hostile conditions. Assured landing ability will improve theater closure times for deploying forces, intra-theater logistics throughput, and our ability to fight at night and in bad weather. Furthermore, JPALS will provide precision landing capabilities where they do not currently exist, in special mission areas and aboard naval vessels that are equipped for aircraft but do not have roll-out landing surfaces. It will also enhance interoperability for Naval aircraft landing at shore-based fields operated by other services, and it will ensure interoperability for the Civil Reserve Air Fleet at DoD airfields (especially in the expeditionary environment). This effort may result in modification to avionics in over 15,000 DoD aircraft and will almost certainly include a ground segment. JPALS is a joint service effort with the Air Force designated as lead service.</p> <p>(U) <u>FY 1999 (\$ in Thousands)</u></p> <p>(U) \$2,768 Began Architecture and Requirements Definition (ARD) activities</p> <p>(U) \$1,972 Began aircraft risk reduction studies and integration analyses</p> <p>(U) \$4,977 Began shipboard risk reduction studies and integration analyses</p> <p>(U) \$9,885 Began development of Local Area Differential Global Positioning System (LDGPS) prototypes</p> <p>(U) \$19,602 Total</p>										
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(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2000 (\$ in Thousands)</u>				
(U) \$721	Continue Architecture Definitions			
(U) \$978	Continue aircraft risk reduction studies and integration analyses			
(U) \$7,198	Continue shipboard risk reduction studies and integration analyses			
(U) \$6,878	Continue development of Local Area Differential Global Positioning System prototypes			
(U) \$515	Begin Aircraft Avionic Development			
(U) \$16,290	Total			
(U) <u>FY 2001 (\$ in Thousands)</u>				
(U) \$333	Complete Architecture Definitions			
(U) \$998	Continue aircraft risk reduction studies and integration analyses			
(U) \$8,954	Complete shipboard risk reduction studies and integration analyses			
(U) \$6,986	Complete development of Local Area Differential Global Positioning System prototypes			
(U) \$821	Continue Aircraft Avionic Development			
(U) \$18,092	Total			
(U) <u>B. Budget Activity Justification</u>				
This program is in budget activity 4 - Demonstration and Validation, Research Category 6.4B because supportability and manufacturing process design considerations must be identified and integrated into the precision landing architecture.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2000 PBR)	21,456	16,488	18,253	TBD
(U) Appropriated Value	22,057	16,488		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-601	-198		
b. Small Business Innovative Research	-703			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-1,041			
e. Rescissions	-110			
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(U) C. Program Change Summary (\$ in Thousands) Continued															
					<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>		<u>Total Cost</u>				
	f. Other											TBD			
(U)	Adjustments to Budget Years Since FY 2000 PBR											-161			
(U)	Current Budget Submit/FY 2001 PBR											19,602	16,290	18,092	TBD
(U)	Significant Program Changes:														
	FY 2001 reflects congressional and general reductions of 7.1% (\$1,171) to the overall program and an additional 10% general reduction (\$824) to the portion of this effort funded by the Air Force														
(U) D. Other Program Funding Summary (\$ in Thousands)															
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>Cost to</u>		<u>Total Cost</u>				
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>						
(U)	Not applicable											4,088	4,149	TBD	
(U) E. Acquisition Strategy															
	Demonstration and Validation, multiple contracts, Fixed Price Incentive Fee (FPIF), Firm Fixed Priced contracts (FFP); no Non-Developmental Items (NDI)														
(U) F. Schedule Profile															
				<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>					
				1	2	3	4	1	2	3	4				
(U)	Acquisition Milestones:														
(U)	Milestone 0 (3d Qtr, FY96)														
(U)	Architecture and Requirements Definition Phase														
(U)	Definition studies											*	X	X	
(U)	Integration Analyses											*	X	X	
(U)	Prototype/Avionic Development Contracts														
(U)	LDGPS Contract Award											*			
(U)	SRGPS Contract Award											*			
(U)	Data Link Contract Award											*			
	Milestone 0 was funded under PE35114F														
	* Architecture and requirements Definition Phase authorized by USD(A&T) by memorandum on 18 Sep 1998														
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
04 - Demonstration and Validation				0603860F Joint Precision Approach and Landing Systems - Dem/Val				644652		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>
(U)	Prototype Development					9,885		6,878		6,986
(U)	Integration Studies and Analyses					6,949		8,176		9,952
(U)	Systems Engineering/Technical Support					1,972		663		602
(U)	RTO Activities					240		341		281
(U)	Program Management Support					478		205		228
(U)	Travel					78		27		43
(U)	Total					19,602		16,290		18,092
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Raytheon Systems (LGPS)	CPAF	May 99	TBD	TBD	0	4,582	4,665	4,876	Continuing	TBD
Raytheon Systems (SRGPS)	CPFF	June 99	TBD	TBD	0	2,852	2,900	3,985	Continuing	TBD
ARINC Inc.	FFP	Jan 99	TBD	TBD	0	1,060	706	855	Continuing	TBD
Horizons Technology Inc	IDIQ	Feb 99	TBD	TBD	0	1,811	1,161	1,324	Continuing	TBD
Rockwell Collins Inc.	FFP	Apr 99	TBD	TBD	0	953	728	1,091	0	2,772
Navy PMA21381	Reimbursable	Nov 99	TBD	TBD	0	3,409	3,133	2,784	Continuing	TBD
MITRE Corporation	CPAF	Oct 99	TBD	TBD	0	1,273	883	999	Continuing	TBD
PRC Corporation	FFP	Jan 99	451	451	0	451	0	0	0	451
Pacer Infotech Inc.	FPFF	May 99	TBD	TBD	0	415	376	150	0	941
MCR	IDIQ	Apr 99	TBD	TBD	0	340	112	141	Continuing	TBD
Sierra Nevada Corp	CPFF	Mar 99	TBD	TBD	0	243	129	181	Continuing	TBD
Various	Various	Various	TBD	TBD	0	1,105	587	837	Continuing	TBD

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BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT
04 - Demonstration and Validation					0603860F Joint Precision Approach and Landing Systems - Dem/Val					644652
(U) Performing Organizations Continued:										
<u>Support and Management Organizations</u>										
MITRE Corp	FFP	Various	TBD	TBD	0	310	218	226	Continuing	TBD
Various	FFP	Various	TBD	TBD	0	558	351	362	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
Navy - NAWCAD	Reimbursable	Nov 99	TBD	TBD	0	240	341	281	Continuing	TBD
No Contracts more than \$1.0M										
(U) Government Furnished Property:										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
<u>Test and Evaluation Property</u>										
N/A										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					0	18,494	15,380	17,223	TBD	TBD
Subtotal Support and Management					0	868	569	588	TBD	TBD
Subtotal Test and Evaluation					0	240	341	281	TBD	TBD
Total Project					0	19,602	16,290	18,092	TBD	TBD