PE NUMBER: 0603840F PE TITLE: Global Broadcast Service (GBS)

	Exhil	bit R-2, RDT	&E Budget	ttem Justi	fication			DATE	February	2004
BUDGET ACTIVITY PE NUMBER AND TITLE IS System Development and Demonstration (SDD) 0603840F Global Broadcast Service (GBS)										
	Cost (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to	Total
		Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
	Total Program Element (PE) Cost	20.910	37.823	33.447	9.685	2.441	2.229	5.506	0.000	146.07
887	Global Broadcast Service (GBS)	20.910	37.823	33.447	9.685	2.441	2.229	5.506	0.000	146.0
	who will receive the broadcast directly or Requirements Oversight Council in Apr 1	997 and updated	(with limits) i	n May 01. GB	S broadcast dat	a includes imag	gery, logistics a near-worldwide	and weather da e service, augm	ta, maps, opera entation by cor	tional nmercial
	orders, and video. GBS space segment in leased Ku-band packages, and throughput which integrate with Service fixed- and ta networks are funded in other PEs. The program has been rebaselined to incor requirements. The IP architecture will pr continuation of the previous architecture	orporate a comme ovide enhanced t that required sign	quipment throu ercial-off-the-sl hroughput (cap ificant use of o	igh standard co nelf (COTS)-ba pacity), and gre obsolete and pr	mmercial inter used Internet Pr atly reduce ope oprietary softw	faces. Service otocol (IP) arch erational and ma are and comput	production Rec hitecture that w aintainability li ter hardware bo	ceive Suite and fill facilitate sat abilities that w	integration integration integration integration integration of IO	c 2 and 3
	leased Ku-band packages, and throughput which integrate with Service fixed- and ta networks are funded in other PEs. The program has been rebaselined to inco requirements. The IP architecture will pr	orporate a comme ovide enhanced t that required sign Development and	quipment throu ercial-off-the-sl hroughput (cap ificant use of o	igh standard co nelf (COTS)-ba pacity), and gre obsolete and pr	mmercial inter used Internet Pr atly reduce ope oprietary softw	faces. Service otocol (IP) arch erational and ma are and compu- re-production ed	production Rec hitecture that w aintainability li ter hardware bo quipment.	ceive Suite and fill facilitate sat abilities that w pards.	integration integration of IO ould have result	C 2 and 3 Ited from
U)]	leased Ku-band packages, and throughput which integrate with Service fixed- and ta networks are funded in other PEs. The program has been rebaselined to incorrequirements. The IP architecture will pr continuation of the previous architecture Funding is in Budget Activity 5, System I B. Program Change Summary (\$ in Mi	orporate a comme ovide enhanced t that required sign Development and	quipment throu ercial-off-the-sl hroughput (cap ificant use of o	igh standard co nelf (COTS)-ba pacity), and gre obsolete and pr	mmercial inter used Internet Pr atly reduce ope oprietary softw	faces. Service otocol (IP) arch erational and ma are and compu- re-production ed	production Rec hitecture that w aintainability li ter hardware bo quipment. FY 2003	ceive Suite and fill facilitate sat abilities that w pards. <u>FY 2</u>	integration integration integration of IO ould have resul	C 2 and 3 Ited from
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1 (U	leased Ku-band packages, and throughput which integrate with Service fixed- and ta networks are funded in other PEs. The program has been rebaselined to inco- requirements. The IP architecture will pr continuation of the previous architecture f Funding is in Budget Activity 5, System I B. Program Change Summary (\$ in Mi Previous President's Budget Current PBR/President's Budget	orporate a comme ovide enhanced t that required sign Development and	quipment throu ercial-off-the-sl hroughput (cap ificant use of o	igh standard co nelf (COTS)-ba pacity), and gre obsolete and pr	mmercial inter used Internet Pr atly reduce ope oprietary softw	faces. Service otocol (IP) arch erational and ma are and compu- re-production ed	hitecture that w aintainability li ter hardware bo quipment. <u>FY 2003</u> 22.253 20.910	ceive Suite and fill facilitate sat abilities that w bards. <u>FY 2</u> 38 37	integration integration integration of IO ould have result 2004 .147 .823	C 2 and 3 Ited from
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	leased Ku-band packages, and throughput which integrate with Service fixed- and tan networks are funded in other PEs. The program has been rebaselined to incorrequirements. The IP architecture will pr continuation of the previous architecture for Funding is in Budget Activity 5, System I B. Program Change Summary (\$ in Mi Previous President's Budget Current PBR/President's Budget Total Adjustments Congressional Program Reductions Congressional Increases Reprogrammings	orporate a comme ovide enhanced t that required sign Development and	quipment throu ercial-off-the-sl hroughput (cap ificant use of o	igh standard co nelf (COTS)-ba pacity), and gre obsolete and pr	mmercial inter used Internet Pr atly reduce ope oprietary softw	faces. Service otocol (IP) arch erational and ma are and compu- re-production ed	hitecture that w aintainability li ter hardware bo quipment. FY 2003 22.253 20.910 -1.343	ceive Suite and fill facilitate sat abilities that w bards. <u>FY 2</u> 38 37 -0	integration integration integration of IO ould have result 2004 .147 .823 .324	C 2 and 3 Ited from <u>FY 2005</u> 33.490
U) 1 U) 1 U) 0 U) 0 U) 0 U) 0	leased Ku-band packages, and throughput which integrate with Service fixed- and ta networks are funded in other PEs. The program has been rebaselined to inco- requirements. The IP architecture will pr continuation of the previous architecture of Funding is in Budget Activity 5, System I B. Program Change Summary (\$ in Mi Previous President's Budget Current PBR/President's Budget Total Adjustments Congressional Program Reductions Congressional Rescissions Congressional Increases	orporate a comme ovide enhanced t that required sign Development and	quipment throu ercial-off-the-sl hroughput (cap ificant use of o	igh standard co nelf (COTS)-ba pacity), and gre obsolete and pr	mmercial inter used Internet Pr atly reduce ope oprietary softw	faces. Service otocol (IP) arch erational and ma are and compu- re-production ed	hitecture that w aintainability li ter hardware bo quipment. <u>FY 2003</u> 22.253 20.910	ceive Suite and fill facilitate sat abilities that w bards. <u>FY 2</u> 38 37 -0	integration integration integration of IO ould have result 2004 .147 .823 .324	C 2 and 3 Ited from <u>FY 2005</u> 33.490

Exhibit R-2a, RDT&E Project Justification February 2004										2004	
05 System Development and Demonstration (SDD)				C					JECT NUMBER AND TITLE 7 Global Broadcast Service (GBS)		
	Cost (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to	Total	
	Cost (\$ in Millions)		Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete		
4887	Global Broadcast Service (GBS)	20.910	37.823	33.447	9.685	2.441	2.229	5.506	0.000	146.076	
	Quantity of RDT&E Articles	0	0	0	0	0	0	0			

(U) A. Mission Description and Budget Item Justification

Global Broadcast Service provides DoD with efficient, high data rate broadcast of information provided by many distributed information sources to dispersed warfighters who will receive the broadcast directly on small, inexpensive user terminals in accordance with the GBS Operational Requirements Document (ORD) validated by the Joint Requirements Oversight Council in Apr 1997 and updated (with limits) in May 01. GBS broadcast data includes imagery, logistics and weather data, maps, operational orders, and video. GBS space segment includes packages on Navy operational satellites UFO 8, 9, and 10 providing near-worldwide service, augmentation by commercial leased Ku-band packages, and throughput on future wideband satellites. GBS Broadcast Management and Terminal segments include uplink sites and receive equipment which integrate with Service fixed- and tactical-network equipment through standard commercial interfaces. Service production Receive Suite and integration into service networks are funded in other PEs.

The program has been rebaselined to incorporate a commercial-off-the-shelf (COTS)-based Internet Protocol (IP) architecture that will facilitate satisfaction of IOC 2 and 3 requirements. The IP architecture will provide enhanced throughput (capacity), and greatly reduce operational and maintainability liabilities that would have resulted from continuation of the previous architecture that required significant use of obsolete and proprietary software and computer hardware boards. Funding is in Budget Activity 5, System Development and Demonstration, since program is fielding pre-production equipment.

(U)	FY 2004	FY 2005											
(U)	<u>2003</u> 3.653	23.750	18.104										
(U) Continue System Development and Test13.65323.750(U) Continue Phase 2 Government System Integration3.37110.457													
(U)	Continue System Test & Evaluation	Support					(0.980	1.342	1.116			
(U)	Continue Program Office and other r	elated support a	ctivities					2.906	2.274	3.131			
(U)	Total Cost						20	0.910	37.823	33.447			
(U)	C. Other Program Funding Summ	ary (\$ in Millio	ons)										
		<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	FY 2006	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	Cost to	Total Cost			
		<u>Actual</u>	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	<u>Complete</u>	<u>Total Cost</u>			
(U)	Other APPN												
(U)	OPAF, PE 0303600F, WGS PIPs	15.142	11.776	0.000	0.000	0.000	0.000	0.000	0.000	26.918			
(U)	OPAF, PE 0303601F, Receive Suites/TIPs	14.801	15.898	11.662	14.682	0.423	2.600	1.570	Continuing	TBD			
(U)	D. Acquisition Strategy												
Pro	Project 4887 R-1 Shopping List - Item No. 62-2 of 62-6												
				Project 4887 R-1 Shopping List - Item No. 62-2 of 62-6 Exhibit R-2a (PE 0603840F) 746									

	^{TE} February 2004
	JMBER AND TITLE al Broadcast Service (GBS)
	grated Product Team (IPT)
Project 4887 R-1 Shopping List - Item No. 62-3 of 62-6	

Ex	hibit R-3, RD	T&E Project Cost	Analysi	S					DATE		arv 201	۸۱
BUDGET ACTIVITY 05 System Development and Demonstra	PE NUMBER AND TITLE PRO						February 2004 ROJECT NUMBER AND TITLE 887 Global Broadcast Service (GBS)					
(U) <u>Cost Categories</u>	Contract Method	Performing Activity &	Total	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	Total	Target
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>& Туре</u>	Location	Prior to FY 2003 Cost	<u>2003</u> <u>Cost</u>	2003 Award Date	<u>2004</u> <u>Cost</u>	<u>2004</u>	<u>2005</u> <u>Cost</u>	2005 Award Date	<u>Complete</u>	Cost	Value of Contrac
(U) <u>Product Development</u>			<u>Cosi</u>		Date		Date		Date			
Raytheon System Corp	CPAF		25.807	13.653		23.750		18.104		14.674	95.988	
Phase 2 Government System Integration	Various		2.668	3.371		10.457		11.096		2.098	29.690	
Subtotal Product Development Remarks:			28.475	17.024		34.207		29.200		16.772	125.678	0.000
(U) <u>Support</u>			2 490	2 000		2 274		2 1 2 1		1 000	12 700	
Program Support - Various			2.480	2.906		2.274		3.131		1.999	12.790	
Fielding - Various Sustainment (Vendor TBD)			1.200 0.000								1.200 0.000	
Subtotal Support			3.680	2.906		2.274		3.131		1 000	13.990	
Remarks:			5.000	2.900		2.274		5.151		1.999	13.990	0.000
(U) <u>Test & Evaluation</u>												
Various System Test & Evaluation Support	-		1.880	0.980		1.342		1.116		1.090	6.408	
Subtotal Test & Evaluation	LI		1.880	0.980		1.342		1.116		1.090		
Remarks:			1.000	0.900		1.542		1.110		1.070	0.400	0.000
(U) <u>Management</u>												
(0) Management											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		
Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U) Total Cost			34.035	20.910		37.823		33.447		19.861	146.076	0.000
Project 4887		R-1 Shopping List	<u>- Item No. 62-</u> 748	4 of 62-6						Exhibit F	R-3 (PE 0	603840F)

	R-4, RDT&E	E Schedule	-				ebruary 2004
ACTIVITY tem Development and Demonstration (SD	PE NUMBER AND 0603840F GIO (GBS)		PROJECT NUMBER AND TITLE 4887 Global Broadcast Servic				
	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Key Program Events			Beyond LRIP decision	IOC 2 & 3 (Threshold			
Block 1: ATM-based Broadcast Mgmt (BM)	Developme Production/Fi	elding					
Ops using UFO satellite GBS payloads	Operate u	ising ATM-bas	mbined developr ed BM	nental/operatio	onal test (DT	/OT) events	
Block 2: IP-based			velopment				
Broadcast Mgmt			Productio	on/Fielding			ed DT/OT
Ops using UFO & WGS GBS payloads				wigs laund		Management	
 IOC 1: PIPs operational on UFO8, 9, 10 full satellite broadcast mgmt capability; IOC 2: Field 90% of DoD receive suites IOC 3: Tactical Transportable Ground F 	independently (86 units); clas Receive Suite(2	assess capabil ssified video; re 2-person lift); p	ities; satisfy inte mote receive su rotect all info fro	roperability Ke ite enable/disa	y Perform an Ible	ce Parameter	stics support
ATM: Asynchronous Transfer Mode LRIP: Low Rate Initial Production UFO: Ultra High Frequency (UHF) Follow	OR	D: Operational	tional Capability Requirements [Gapfiller Satellite		IP: Internet PIP: Prima	Protocol ry Injection Point	
Concept activities Production / fielding			ı / developme tions / sustain		Z	Integratio ∆⊘ Key event	

UNCLASSIFIED									
Exhibit R-4a, F	DATE February 2004								
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)	PROJECT NUMBER AND TITLE 4887 Global Broadcast Service (GBS)							
 (U) <u>Schedule Profile</u> (U) Previous effort performed under PE0603854F 	<u>FY 2003</u>	<u>FY 2004</u> <u>FY 2005</u>							
 (U) Initial Operational Capability (IOC) 1 (U) Beyond Low Rate Initial Production (LRIP) decision 		1Q 3Q							
Project 4887	R-1 Shopping List - Item No. 62-6 of 62-6	Exhibit R-4a (PE 0603840F)							