## **COMMITTEE STAFF PROCUREMENT BACKUP BOOK**

FY2000/2001 BUDGET SUBMISSION

February 1999

**BALLISTIC MISSILE DEFENSE ORGANIZATION** 

						Date:		Echrupy 1000		
								rebluary 1999		
Appropriation / Budget Activity/S	Serial No:			P-1 Item Nomencla	iture:					
PRC	CUREMENT / 3						PATRIOT (TMD)			
Program Elements for Code B I	Items:	Code:	Other Related Pro	gram Elements:						
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty										
Gross Cost	94.2	87.9	98.7	100.8	96.0	87.2	38.3	12.8		615.9
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	94.2	87.9	98.7	100.8	96.0	87.2	38.3	12.8		615.9
Initial Spares	39.3	31.5	19.9	16.0	13.6	13.6	13.7	9.7		157.3
Total Proc Cost	133.5	119.4	118.6	116.8	109.6	100.8	52.0	22.5		773.2
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The modification to the PATRIOT radar, communications equipment and launcher to increase system effectivity, survivability, flexibility of defense design, footprint and detection of low radar cross section targets. Modification of the launcher provides for incorporation of the PAC-3 missile.

JUSTIFICATION: The above funding is required to support the planned PAC-3 PATRIOT system through modification of existing ground support equipment. Modification installation costs are included in the cost of the modification kits.

	Exhibit P-	40M Budget I	tem Justific	ation Sheet			Date		Echrupy 1999		
Appropriation / Rudget Activit		Tom Budgot I				turo			Febluary 1999		
Appropriation / Budget Activity	PROCUREMENT / 3				P-1 tient Nomencia	luie		PATRIOT (TMD)			
Program Elements for Code I	B Items		Code	Other Related Prog	ram Elements						
Description		Fiscal Years	5								
OSIP NO.	Classification	PRIOR	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC	Total
Radar Phase III											
1-89-03-1231		213.2	35.4	35.3	35.0	34.8	34.7	0.0	0.0	0.0	388.4
Classification Disc	crimination Identification (CI	DI) Phase III									
1-92-03-1238		77.6	14.7	14.0	13.8	13.7	13.6	0.0	0.0	0.0	147.4
Remote Launch C	commo Enhanced Upgrade	(RLCEU)									
1-92-03-1233		49.0	18.5	6.8	6.2	6.2	0.0	0.0	0.0	0.0	86.7
Command and La	aunch System										
1-95-03-1245		25.4	19.3	42.6	45.8	41.3	38.9	38.3	12.8	0.0	264.4
Radar Control Uni	t/Signal Processing Group										
1-95-03-1244		43.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.4
Totals		408.6	87.9	98.7	100.8	96.0	87.2	38.3	12.8	0.0	930.3

				INDI	VIDUAL M	ODIFIC	ATIOI						Di	ate		February	1999	
MODIFICATION	<sub>TITLE</sub> Rad	lar Phase III 1	-89-03-12	31														
MODELS OF SYS	STEMS AFFE	CTED Radar																
DESCRIPTION/	JUSTIFICAT	101																
The objective maintainability	e of this mo / of the rada	dification is to ar. Transmitte	increase t er and rece	he avera	age powe	er prov Is will b	iding gre e made	ater m to the	nultifund radar.	ction c	apability	∕ and in	creas	e the rel	iability	y and		
DEVELOPMENT	STATUS / MA	AJOR DEVELOP	PMENT MILE	STONES	3:	Pla	inned		Acco	mplisl	hed							
	Critical D	ary Design Re				2QF	- Y92 = V02		2QF	- Y92								
	Contract	or Test and F	valuation (i			105	- 193 - 793		୰୰	F 195								
	Develop	ment Test and	d Evaluation	n (DTE)	<b>`</b>	20	FY99											
	Initial Op	erational Test	t and Evalu	ation (I	, OTF)	40	=Y99											
Installation School					<i>⊂</i> · ⊏,													
Installation Collect	Pr Yr	FY 19	99		FY 2000	)		FY	2001			FY 200	)2			FY 20	03	
1	Totals	1 2	3 4	1	2	3	4 1	2	3	4	1	2	3	4	1	2	3	4
Inputs	12	1 2	1 2	1	2	1	2 1	2	1	2	1	2	1	2	1	2	1	2
Outputs	9	3 1	2 1	2	1	2	1 2	1	2	1	2	1	2	1	2	1	2	1
		FY 2004		FY 20	005		FY 2	2006			FY 20	007			То		To	tals
	1	2 3	4 1	2	3	4	1 2	3	4	1	2	3	4	Comple	ete			
Inputs	1	2 1	2 1	2	1	2	2											54
		1 2	1 2					F	Months		DRODU	CTIONU			1 14-	ntho		54
		UN: EV 1000	Dec 09			2000		о 1	ivionths		FX 2001			IIVIE: 24	+ IVIC	JULIUS		
Delivery Date:		FY 1000	Nov 00	,	FT 2	2000	Nov 01	,			FY 2001	No	50 00 NV 02					
Derivery Date.		1 1 1 9 9 9	1107 00		114	2000	1107 01				1 2001	INC	V 02					

					IN	IDIVIDU/	AL MOD	IFICATI	OI							Date		Febru	ary 1999	
MODIFICATION TITLE (Cont		Ra	adar Ph	ase III	1-89-	03-123	1													
FINANCIAL PLAN: (\$ in Millions)	-		-																	
	FY.	1998	5)(1)		EV															
	and Otv	Prior \$	E Y 1	\$	Fĭ Otv	2000 \$	Of V	2001 ¢	EY.	\$	F Y	2003	F Y Otv	2004	F Y	2005	Otv	l ¢	Otv	TAL ¢
RDT&E PROCUREMENT Kit Quantity Installation Kits Installation Kits, Nonrecurring Equipment Equipment, Nonrecurring	24	157.1 35.7	6	31.3	6	31.2	6	30.9	6	30.8	6	30.6							54	311.9 35.7
Engineering Change Orders Data Training Equipment Support Equipment Other Interim Contractor Support		55.7																		55.7
Installation of Hardware FY 1998 & Prior Eqpt Kits FY 1999 Eqpt Kits FY 2000 Eqpt Kits FY 2001 Eqpt Kits FY 2002 Eqpt Kits FY 2003 Eqpt Kits FY 2004 Eqpt Kits FY 2005 Eqpt Kits TC Equip-Kits	24	20.4	6	4.1	6	4.1	6	4.1	6	4.0	6	4.1							24 6 6 6 6	20.4 4.1 4.1 4.1 4.0 4.1
Total Installment	24	20.4	6	4.1	6	4.1	6	4.1	6	4.0	6	4.1							54	40.8
Total Procurement Cost		213.2		35.4		35.3		35.0		34.8		34.7								388.4

				INDIV	/IDUAL MC	DIFICA	TIOI						D	ate		Februarv	1999	
MODIFICATION TIT	LF Class	sification Disc	rimination	Identific	ation (CE	DI) Pha	se III 1	-92-0	3-1238				5	*				
MODELS OF SYSTE	MS AFFE	CTED Radar																
DESCRIPTION/JUS	STIFICATIO	20																
	the integ	rotion of ototo	of the ort				(100)	toobr		to the				Thia aa	nohili	م النبي به	rovida	
for Tactical Ballis	stic Missi	ile (TBM)/debr	is discrim	ination a	ind categ	orizatic	n of Air	Brea	athing Ta	argets	(ABT).		lar.	i nis ca	papili	ty will p	lovide	
DEVELOPMENT ST	ATUS / MA	JOR DEVELOPI	MENT MILE	STONES	:													
						Planne	d Ac	com	plished									
F	Prelimina	ry Design Rev	view			2QF	Y94		2QFY94	1								
Crit	tical Desi	gn Review (C	DR)			2Q	FY94		2QFY9	4								
C	Contracto	r Test and Ev	aluation (0	CTE)		1Q	FY99											
[	Developm	nent Test and	Evaluation	n (DTE)		20	QFY99											
	nitial Ope	erational Test	and Evalu	ation (IC	DTE)	40	QFY99											
Installation Schedule:																		
	Pr Yr	FY 199	9		FY 2000			FY	2001			FY 200	2			FY 20	03	
Innuto	I otals	1 2	3 4	1	2	3 4		2	2 3	4	1	2	3	4	1	2	3	4
Outputs	12	I ∠ 3 1	1 2	2	2	2 2	1 1 2	4		2	2	2	2	∠ 1	2	2	2	1
Outputs	3	5 1	2 1	Z		4	2		2	1	2	1	2	- '	2		2	
		FY 2004		FY 200	05		FY 2	006			FY 20	07			То		Тс	otals
	1	2 3	4 1	2	3	4 <sup>-</sup>	1 2	3	3 4	1	2	3	4	Com	plete			
Inputs	1	2 1	2 1	2	1	2												54
Outputs	2	1 2	1 2	1	2	1 2	2											54
METHOD OF IMPLEI	MENTATIC	DN:	-	ADMINIS	TRATIVE	LEADTI	ME:	5	Months		PRODU	CTION LE	ADT	IME:	18 I	Months		
Contract Dates:		FY 1999	Dec 98		FY 20	000	Dec 99				FY 2001	De	c 00					
Delivery Date:		FY 1999	Nov 00		FY 20	000	Nov 01				FY 2001	No	v 02					

					IN	DIVIDUA	L MOD	IFICATI	OI							Date		Febru	ary 1999	
MODIFICATION TITLE (Cont		C	DI Pha	se III 1	-92-03	-1238														
FINANCIAL PLAN: (\$ in Millions)																				
	FY '	1998																		
	and	Prior	FY	1999	FY2	2000	FY:	2001	FY2	2002	FY.	2003	FY	2004	FY	2005	0.4		10	AL
PDT%E	Qıy	Þ	Qly	Þ	Qly	Þ	Qly	Þ	Qly	Þ	Qly	\$	Qiy	Þ	Qiy	¢	Qly	Þ	Qiy	Þ
Kit Quantity	24	63.3	6	12.2	6	12.6	6	125	6	12.4	6	12.2							54	126.4
	24	05.5	0	13.5	0	12.0	0	12.5	0	12.4	0	12.5							54	120.4
Installation Kits Noncourring																				
Fauipment																				
Equipment Nonrecurring		76																		7.6
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
lastelle General Landourne																				
Installation of Hardware	24	6.7																	24	6.7
EV 1990 Eqpt Kits	24	0.7	6	1 /															24	0.7
EX 2000 Eqpt Kits			0	1.4	6	14													6	1.4
FY 2001 Eqpt Kits					Ű	1.4	6	13											6	1.4
FY 2002 Eqpt kits							Ŭ	1.0	6	1.3									6	1.3
FY 2003 Eqpt kits									-		6	1.3							6	1.3
FY 2004 Eqpt kits											_						1		-	
 FY 2005 Eqpt kits																	1			
TC Equip-Kits																	1			
Total Installment	24	6.7	6	1.4	6	1.4	6	1.3	6	1.3	6	1.3					1		54	13.4
Total Procurement Cost		77.6		14.7		14.0		13.8		13.7		13.6								147.4

						INF			IFICA	TIOI							Date		Februar	/ 1999	
MODIFICATION TIT		CEU 1	-92-03	3-123	3												_ 310		, opraal	,	
MODELS OF SYSTE	MS AFFE	ECTED	ICC. E	CS. C	RG																
	STIFICAT																				
The Demote Le						مرا المرم			-11) -4	fam fa							الا مملكة		hattalia	امر ام	1
through the intro to Band IV UHF remote launcher requirements fo interoperability a	through through r farm in r increas	of new nout th excessed ba	w switc e batta ss of 3 attlespa	alion. 60 Km ace, le are s	Additio from tl ethality atisfied	ent op ent an nally, t he par and ra by this	d a ne the pro ent Er te of fi s effor	(RLCE ew com oject wi ngagen ire; ado t.	=0) er imunic ill deve nent C ditiona	cations elop ar Control Ily Ope	proce nd field Syste eration	d a rem d a rem m (EC al Req	t the b note la S). Th uireme	attery le unch ca nis proje	evel in apabili ect is r cument	ty peri equire t (ORI	nction mitting ed to m D) requ	with a empla neet P nireme	convers acemen AC-3 nts for	in level sion t of a	
DEVELOPMENT ST. ( ( [ [	ATUS/M Prelimin Critical E Contract Develop nitial Or	AJOR ary De Desigr tor Te ment peratic	DEVELO esign F n Revie st and Test a onal Te	OPMEI Review ew (Cl Evalu nd Ev	V V DR) ation (0 valuatio	STONE CTE) n (DTE	E)	)	<u>Plar</u> 2QFY 4QF 1QF 2QF 4QF	nned '96 Y96 Y99 Y99 FY99	<u>Acc</u> 3Q 4C	omplis FY96 FY96	<u>hed</u>								
Installation Scheduler		- or all o						/													
installation constalle.	Pr Yr		FY 1	999			FY	2000			FY	2001			FY 2	002			FY 2	003	
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	
Inputs	5							8	3			4	4	6		6	4			4	3
Outputs	5								4	4	3		4	4	3	3	3	3	4		4
		FV	2004			FY	2005			FV	2006			EY 2	007			To		т	otals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Col	mplete			51015
Inputs		-	4	3						-				_							54
Outputs	3			4	3																54
METHOD OF IMPLE	MENTAT	ION:				ADMIN	IISTRA	TIVE LE	ADTIN	ΛE:	3	Months	5	PRODU	JCTION	ILEAD	TIME:	18	Months		
Contract Dates:			FY 199	9	Dec 98	;		FY 200	0	Dec 99	)			FY 200	1	Dec 00	)				
Delivery Date:			FY 199	9	Jun 00			FY 200	0	Jun 01				FY 200	1	Jun 02					

					IN	DIVIDUA	AL MOD	IFICATI	OI							Date		Febru	ary 1999	
MODIFICATION TITLE (Cont		RL	CEU 1	1-92-03	8-1233															
FINANCIAL PLAN: (\$ in Millions)		1000	r																	
	FY and	Prior	EV ·	1000	EV '	2000	EV 2	2001	EV.	2002	EV	2003	ΕV	2004	FV	2005	1 1	TC	TOT	ΓΔΙ
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E PROCUREMENT Kit Quantity	16	45.0	14	16.9	10	6.2	7	5.6	7	5.6									54	79.3
Installation Kits Installation Kits Installation Kits, Nonrecurring Equipment, Nonrecurring Engineering Change Orders Data Training Equipment Support Equipment Other Interim Contractor Support																				
Installation of Hardware FY 1998 & Prior Eqpt Kits FY 1999 Eqpt Kits FY 2000 Eqpt Kits FY 2001 Eqpt Kits FY 2002 Eqpt Kits FY 2003 Eqpt Kits FY 2004 Eqpt Kits FY 2005 Eqpt Kits TC Equip-Kits	16	4.0	14	1.6	10	0.6	7	0.6	7	0.6									16 14 10 7 7	4.0 1.6 0.6 0.6
Total Installment	16	4.0	14	1.6	10	0.6	7	0.6	7	0.6									54	7.4
Total Procurement Cost		49.0		18.5		6.8		6.2		6.2										86.7

						INDIV	/IDUA	L MODI	FICAT	101							Date		February	/ 1999	
MODIFICATION TIT	LE Cor	mmano	d and La	aunch	Syste	m 1-95	-03-1	245													
MODELS OF SYSTE	MS AFFE	ECTED	Launche	r, ECS																	
DESCRIPTION/JUS	TIFICAT	101																			
The Command their associated for the PAC-2 a Expanded Wea	and Lau control nd PAC bon Cor	inch Sy panels -3 mis ntrol Co	ystem m s and the siles. It ompute	nodifica e Laun t also c r (EW(	ations ncher l consis CC) a	combir Missile I sts of th ccepting	ne the Roun le ado g trac	e electr ad Distri dition o ck data	onics ibutor f the and s	s of the r into a Fire Sc supplyii	Laun comn plutior ng tar	cher E non ele n Comp get and	lectron ectroni outer i d laund	nics Mo ics unit n the E ch data	odule, I capab CS wh	Missile le of p nich int	e Mana providir erface	geme ig laur s with	nt Static nch func the PA	n, tions TRIOT	
DEVELOPMENT ST/ Major	ATUS/M	AJOR [	DEVELOF	PMENT	MILES	STONES	:														
Installation Schedule:																					
	Pr Yr		FY 19	99			FY 2	000			FY2	2001			FY 2	002			FY 2	)03	
Innuto	I otals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	
Outputs	10									3	4	4	4	6	6	5	5	6	7	7	ļ
					-					l	-		-		-	-	-	-			
		FY 2	004			FY 200	05			FY 2	006			FY 2	007			То		To	otals
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Cor	nplete			
Inputs	6	7	6	7	6	7	6	7	6	7	6	7	2	_							150
Outputs	7	6	7	6	7	6	7	6	7	6	7	6	7	2							156
		ION:	EV 1000	-	/	ADMINIS	IRAI		ADTIN		5	wonths		FX 200		LEAD	IIME:	8	ivionths		
Delivery Date:			FY 1999	F O	eb 99 Oct 00			FT 2000 FY 2000		Oct 01				FT 200	1	Oct 02					
				0				2000		20101				200		20.02					

					IN	DIVIDUA	LMOD	IFICATIO	01							Date		Febru	iary 1999	
MODIFICATION TITLE (Cont		Co	omman	id and L	aunch	System	n 1-95	-03-124	45											
FINANCIAL PLAN: (\$ in Millions)	EV.	1000	r																	
	FY	1998 Drior	EV	1000	EV	2000	EV	2001	EV	2002	EV	2002	EV	2004	EV	2005	<u> </u>	тс	TOI	
	Otv	\$	Otv	\$	Otv	\$	Otv	\$	Otv	\$	Otv	\$	Otv	\$	Otv	\$	Otv	\$	Otv	S S
RDT&E PROCUREMENT Kit Quantity Installation Kits Installation Kits, Nonrecurring Equipment Equipment Nonrecurring	10	22.9	11	17.4	22	38.4	26	41.3	26	37.2	26	35.0	26	34.5	9	11.5			156	238.2
Equipment, Nonrecurring Engineering Change Orders Data Training Equipment Support Equipment Other Interim Contractor Support																				
Installation of Hardware FY 1998 & Prior Eqpt – Kits FY 1999 Eqpt – Kits FY 2000 Eqpt – Kits FY 2001 Eqpt – Kits FY 2002 Eqpt – kits FY 2003 Eqpt – kits FY 2004 Eqpt – kits FY 2005 Eqpt – kits TC Equip-Kits	10	2.5	11	1.9	22	4.2	26	4.5	26	4.1	26	3.9	26	3.8	9	1.3			10 11 22 26 26 26 26 26 9	2.5 1.9 4.2 4.5 4.1 3.9 3.8 1.3
Total Installment	10	2.5	11	1.9	22	4.2	26	4.5	26	4.1	26	3.9	26	3.8	9	1.3			156	26.2
Total Procurement Cost		25.4		19.3		42.6		45.8		41.3		38.9		38.3		12.8				264.4

					INE	DIVIDU	AL MOE	DIFICA	TIOI						D	)ate		February	1999	
MODIFICATION TI	TLE Rad	dar Contr	rol Group	/Signal	Proce	ssing	Group	1-95-	03-124	14										
MODELS OF SYST	EMS AFFI	ECTED Ra	adar																	
DESCRIPTION/JU	JSTIFICAT	101																		
This modification	on provid 1	les upgra	ades to th	e contr	ol and	signal	proce	essing	groups	s in pre	eparatio	on for	Post D	eploym	ient Bu	uild 5	softwa	re		
DEVELOPMENT ST	TATUS / M	AJOR DE	VELOPME	NT MILE	STONE	S:														
Major mil	lestones	not appli	icable.																	
Installation Schedule	ə:																			
	Pr Yr		FY 1999			FY 2	2000			FY	2001			FY 20	002			FY 20	003	
	Totals	1	2 3	3 4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs	75																			
Outputs	/5			1					I											
		FY 200	)4		FY 2	2005			FY	2006			FY 2	2007			То		Т	otals
	1	2	3 4	l 1	2	3	4	1	2	3	4	1	2	3	4	Co	mplete			
Inputs																				75
Outputs																				75
METHOD OF IMPL	EMENTAT	ION:			ADMIN	IISTRA	TIVE L	EADTIN	ΛE:	6	Months	6	PRODI	JCTION	LEADT	IME:	6	Months		
Contract Dates:		FY	1999				FY 200	00					FY 200	1						
Delivery Date:		FY	(1999				FY 200	00					FY 200	1						

					IN	NDIVIDU	AL MOI	DIFICAT	101							Date		Febru	ary 1999	
MODIFICATION TITLE (Cont		Ra	idar C	ontrol G	Group/S	Signal F	roces	sing Gr	roup 1-	95-03-	1244									
FINANCIAL PLAN: (\$ in Millions)	EV	1000	r																	
	F T and	Prior	ΕV	1000	ΕV	2000	ΕV	2001	ΕV	2002	ΕV	2003	ΕV	2004	ΕV	2005	1 1	TC	TO	ΤΔΙ
	Qtv	\$	Qtv	\$	Qtv	\$	Qtv	\$	Qtv	\$	Qtv	\$	Qtv	\$	Qtv	\$	Qtv	\$	Qtv	\$
RDT&E PROCUREMENT		÷							,											
Kit Quantity Installation Kits Installation Kits, Nonrecurring	75	41.7																	75	41.7
Equipment Equipment, Nonrecurring Engineering Change Orders Data																				
Training Equipment Support Equipment Other																				
Interim Contractor Support																				
Installation of Hardware FY 1998 & Prior Eqpt Kits FY 1999 Eqpt Kits FY 2000 Eqpt Kits FY 2001 Eqpt Kits FY 2002 Eqpt Kits FY 2003 Eqpt Kits	75	1.7																	75	1.7
FY 2004 Eqpt kits FY 2005 Eqpt kits TC Equip-Kits																				
Total Installment	75	1.7																	75	1.7
Total Procurement Cost		43.4																		43.4

					Date:				
P-40, Budge	t Item Justif	ication She	et				February, 1999		
erial No:			P-1 Item Nomencla	ature:					
CUREMENT / 1 /17-	10					PATRIOT			
ems:	Code:	Other Related Pro	gram Elements:						
	А								
FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
20		32	68	90	90	120	90	50	560
183.3	126.1	182.3	251.0	290.6	278.4	314.2	244.4	191.0	2061.3
183.3	126.1	182.3	251.0	290.6	278.4	314.2	244.4	191.0	2061.3
183.3	126.1	182.3	251.0	290.6	278.4	314.2	244.4	191.0	2061.3
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PATRIOT       ITEL</td> <td>P-40, Budget Item Justification Sheet     Date: February, 1999       P-1 Item Nomenclature:     February, 1999       P-1 Item Nomenclature:     PATRIOT       CUREMENT / 1 / 17-10     P-1 Item Nomenclature:     FEBRUARY / 1 / 17-10       P-1 Item Nomenclature:     PATRIOT       PATRIOT       A     PATRIOT       FY 1998     FY 2000     FY 2002     FY 2003     FY 2005     To Complete       20     32     68     90     90     50       FY 1998     FY 2000     FY 2002     FY 2003     FY 2005     To Complete       20     32     68     90     90     120     90     50       183.3     126.1     182.3     251.0     290.6     278.4     314.2     244.4     191.0       Image: tolspan="4"&gt;Image: tolspan="4"&gt;Image: tolspan="4"&gt;Image: tolspan= 4"Image: tolspan="4"  &lt;</td>	P-40, Budget Item Justification Sheet     Date: February, 1999       Filem Nomenclature:       P-1 Item Nomenclature:       CUREMENT / 1 /17-10       P-1 Item Nomenclature:       PATRIOT       CUREMENT / 1 /17-10       P-1 Item Nomenclature:       PATRIOT       CUREMENT / 1 /17-10       Code:     PATRIOT       A     PATRIOT       FY 1999     FY 2000     FY 2002     FY 2003     FY 2005       Q     Q     Q     Q       P1 182.3     251.0     290.6     278.4     314.2     244.4       ITEL     Curements:       ITEL     Curements:       ITEL     Curements:     PATRIOT     PATRIOT       ITEL     PATRIOT     PATRIOT     PATRIOT       ITEL	P-40, Budget Item Justification Sheet     Date: February, 1999       P-1 Item Nomenclature:     February, 1999       P-1 Item Nomenclature:     PATRIOT       CUREMENT / 1 / 17-10     P-1 Item Nomenclature:     FEBRUARY / 1 / 17-10       P-1 Item Nomenclature:     PATRIOT       PATRIOT       A     PATRIOT       FY 1998     FY 2000     FY 2002     FY 2003     FY 2005     To Complete       20     32     68     90     90     50       FY 1998     FY 2000     FY 2002     FY 2003     FY 2005     To Complete       20     32     68     90     90     120     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DESCRIPTION: PATRIOT is an advanced Surface-to-Air guided missile system with a high single shot kill probability capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces during the 90's and beyond. The system utilizes a multifunction Phased Array Radar, a digital computer controlling system function, a guidance system combining command and homing (track-via-missile) features, and provides the operator the ability to control operations. PATRIOT totally replaced Nike Hercules and partially replaced HAWK. It has the advantage of reducing manpower and logistics costs associated with the replaced systems while providing improved high and medium altitude air defense. Deployment is to the field Army and the system is integrated with the U.S. Air Force and U.S. Navy in the overall air defense of the theater of operations. The PATRIOT Advanced Capability (PAC)-3 program is a result of a series of integrated, phased system improvements in combination with the PAC-3 missile which utilizes hit-to-kill technology. Modification to the system, which includes radar enhancements, communication upgrades and increased command, control, and computer capability, will increase PATRIOT's effectivity, survivability, flexibility of defense design, footprint and detection of smaller low radar cross section targets.

JUSTIFICATION: FY00-FY05 includes costs for PAC-3 procurement and delivery.

Exhibit P-5, Weapon		Appropriation/ Bu	dget Activit	y/Serial No:		P-1 Line Ite	m Nomenclature	:		Weapon System	Туре:	Date:	
Missiles Cost Analysis		PROCU	REMENT / '	1 / 17-10			PAC-3					Feb	ruary 1999
Missiles	ID		FY98			FY99			FY00			FY01	
Cost Elements	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
Missile Hardware-Recurring SUBTOTAL		85489 <b>85489</b>	20	4274				88925 <b>88925</b>	32	2779	159461 <b>159461</b>	68	2345
Non-Recurring Costs Initial Prod. Fac. SUBTOTAL					30000 <b>30000</b>								
Ground Support Equipment SUBTOTAL													
Support Cost Contractor Engineering Government/Software Engineering Sys Engr/Proj Mgmt (SEPM) Integrated Logistics Support Depot Maint Plant Eq (DMPE) Fielding SUBTOTAL		31048 21774 18129 14966 3281 8602 <b>97800</b>			31248 21604 17952 13804 2408 9111 <b>96127</b>			31007 20424 17654 12892 1603 9773 <b>93353</b>			31174 19388 17146 12615 1602 9564 <b>91489</b>		
Gross P-1 End Cost Less: Prior Year Adv Proc		183289			126127			182278			250950		
Net P-1 Full Funding Cost Plus: P-1 CY Adv Proc Other Non P-1 Costs		183289			126127			182278			250950		
Initial Spares Mods TOTAL		39300 94200 <b>316789</b>			31453 87914 <b>245494</b>			19948 98672 <b>300898</b>			16036 100776 <b>367762</b>		

Exhi	oit P-5a, Bu	Idget Procuremen	t History a	nd Planning					Date:	February	1999
Appropriation / Budget Activity/Serial No:	Jiel Ga, Be	agerrieearenien	Weapon Sys	tem Type:		P-1 Line Iten	Nomenclatur	re:		,	
0300D / PROCUREMENT / 1 / 1710								PAC-3			
WBS Cost Elements:	(	Contractor and Location	Contract	Location of PCO	Award Date	Date of First	QTY	Unit Cost	Specs	Date	RFP Issue
Fiscal Years			and Type			Delivery	Each	\$000	Now?	Avail	Duio
PAC-3 MISSILE											
FY98 FY 00 FY 01	LMVS LMVS LMVS	Dallas, TX Dallas, TX Dallas, TX	SS/CPIF SS/CPIF SS/CPIF	АМСОМ АМСОМ АМСОМ	Jun-99 Nov-99 Mar-01	Oct-00 Nov-01 Mar-03	20 32 68	4274 2779 2345	N/A N/A N/A		
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P-1 Line Item Nomenclature (Include DODIC for Ammur PAC-3 Buy Summary Unit Cost	ition Items):	FY 1998	Missile Procureme Admin Leadtime 5 Months	ent/ 2 / Other Missiles (after Oct 1):			Prod Leadtime:	February 1999	1
P-1 Line Item Nomenclature (Include DODIC for Ammu PAC-3 Buy Summary Unit Cost	nition Items):	FY 1998	Admin Leadtime 5 Months	(after Oct 1):			Prod Leadtime:		
PAC-3 Buy Summary Unit Cost		FY 1998	5 Months				4		
Buy Summary Unit Cost		FY 1998					13 Months	· · · · · ·	
Buy Summary Unit Cost			FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Unit Cost		20		32	68	90	90	120	90
		4.3		2.8	2.4	2.5	2.2	2.0	2.0
Total Cost		85.5		91.0	163.5	205.6	197.1	234.6	167.0
Asset Dynamics									
Beginning Asset Position					16	12	40	104	190
Deliveries from All Prior Year Funding				20					
Deliveries from: FY 1999	Funding					32			
Deliveries from: FY 2000	Funding	<u>†                                    </u>			I	·	68		
Deliveries from: FY 2001	Funding				<u> </u>	· <u> </u>		90	
Deliveries from Subsequent Years Fund	ls				·!	·'			90
Other Gains					<u> </u>	· <u> </u>	<u> </u>		
Combat Losses / Usage					·!	·'			
Training Losses / Usage					<u> </u>	· <u> </u>	<u> </u>		
Test Losses / Usage		T		2	2	2	2	2	2
Other Losses / Usage									
Disposals/Retirements/Attritions		Γ		2	2	2	2	2	2
End of Year Asset Position				16	12	40	104	190	276
Inventory Objective or Current Authorized	Allowance								
Inventory Objective Actual Train	ing	Other than Trair	ning	Disposals		Vehicles Eligibl	e	Aircraft:	
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Assets Rqd for FY 1997 thr	a	FY 1997 thru		FY 1997 thru	i <b>T</b>	1	Г <b>Г Г</b>	PAA:	
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										F	ebruary 1999	
APPROPRIATION/BU	DGET ACTIVIT 0300D / PROC	Y UREMENT,	DEFENSEV	VIDE / 1 / 17	350	P-1 ITEM I	NOMENCLATU Navy Area The	JRE ater Ballistic M	issile Defense -A	EGIS TBM U	pgrades	
	Prior Years	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	To Complete	Total Program
QUANTITY (BMDO)					1	6	11	8	8	9	36	79
COST (In Millions)	30.8	9.087	14.859	36.489	20.418	45.556	60.469	58.730	71.108	74.823	277.7	700.0
Initial Spares (In M)												
TOTAL (in Millions)	30.8	9.087	14.859	36.489	20.418	45.556	60.469	58.730	71.108	74.823	277.7	700.0
Unit Cost (in Millions)												

DESCRIPTION/JUSTIFICATION:

The Navy Area Theater Ballistic Missile Defense (TBMD) Project builds on the national investment in AEGIS ships, AEGIS Weapon Systems (AWS), and Navy Standard Missile II (SM-2) Block IV missiles. Two classes of ships continue to be deployed with the AEGIS combat system: CG-47 Ticonderoga-Class Cruisers and DDG-51 Burke-Class Destroyers. In addition, four shore-centers will be upgraded with funding in FYs 1999 through 2001: (1) the Combat System Engineering Development Site (CSEDS), (2) the AEGIS Computer Center (ACC), (3) the AEGIS Education Center (AEC) and (4) the AEGIS Combat System Center (ACSC), to properly accommodate the CG-47 and DDG-51 combat system for 79 ships and associated Vertical Launch System (VLS) Modifications. Funds provide for modifications to the AEGIS Combat System (ACS) to include modifications to the command and decision system, the AEGIS Display System, and the Radar System (AN/SPY-1B/D).

FY00-01 reductions to AWS modifications were made to reflect Navy Area TBMD program schedule changes to the developmental program known at the time of the budget submittal. The development schedule was affected due to incorporating lessons learned from AEGIS/CEC integration efforts and recommendations from the Welch Report on Reducing Risk in Ballistic Missile Defense Flight Test Programs. Adjustments in AWS modifications in FY02 and beyond have not yet been resolved. These adjustments will be incorporated into the next budget cycle after the program restructure baseline and new ship fielding schedule is determined.

P-1 SHOP N	PING LIST O. PAGE NO. 1 OF 1	EXHIP	SIT P-40

## PB 00 P40 SM-2 BLK IVA

BUDGET ITEM JUST	TIFICATION SHI	EET					DATE			F	ebruary 1999	
APPROPRIATION/BUI 0300D / PROCUREMEN	DGET ACTIVIT T, DEFENSEWI	Y DE / 1 / 17 3	50			P-1 ITEM N Navy Area Th	NOMENCLATU eater Ballistic M	JRE issile Defense S	M-2 Block IVA	Procurement		
	Prior Years	FY 97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	To Complete	Total Program
QUANTITY (BMDO)					7	4	20	28	33	46	117	255
COST (In Millions)	N/A	0.000	0.000	6.700	33.568	14.981	58.257	72.750	78.108	102.468	211.4	578.2
Initial Spares (In M)					1.016	0.529	2.309	2.899	3.103	4.090	10.0	24
TOTAL (in Millions)		0.000	0.000	6.700	34.584	15.510	60.566	75.649	81.211	106.558	221.4	602.2
Unit Cost (in Millions)					4.941	3.878	3.028	2.702	2.461	2.316	1.892*	2.361*

DESCRIPTION/JUSTIFICATION:

\*Missile pricing is being updated and potential shortfall to buy total missile quantity will be addressed in FY01 POM

The Navy Area Theater Ballistic Missile Defense (TBMD) Project builds on the national investment in AEGIS ships, AEGIS Weapon Systems (AWS), and Navy Standard Missile II (SM-2) Block IV missiles. Missile procurement funds provide for production of the Theater Ballistic Missile Defense version of the Standard Missile (SM-2 Block IVA), with BMDO funded production deliveries beginning in FY 2001. The SM-2 Block IVA will be capable of engaging Theater Ballistic Missiles in the endoatmosphere.

Additional missile procurement funding, under Weapons Procurement, Navy Appropriations is budgeted by the Navy beginning in FY 1999. SM-2 Block IVA procurement funded by both the Navy (Weapons Procurement, Navy Appropriation) and the Ballistic Missile Defense Organization (Procurement, Defense-Wide) beginning in FY 1999. The Navy WPN funding will procure the remaining SM-2 Block IVA variant missiles to achieve the total TBMD/AAW inventory objective. Because the SM-2 Block IVA upgrade is based on the Block IV acquisition strategy, and are produced on the same production line as other SM-2 variant missiles, unit cost, total cost, and cost to complete information are influenced by the Navy procurement of those SM-2 variant missiles (primarily SM-2 Block III and SM-2 Block IV).

D 1 SHODDING I IST	
NO. PAGE NO. 1 OF 1 EXHIBIT P-40	

		A. DA	ATE																	
PROGRAM COST BREAKDOWN (P-5)						February 1999														
B. APPROPRIATION/BUDGET ACTIVITY C. P-1 ITEM NOMENCI					LATU	RE														
0300D / PROCUREMENT, DEFENSE WIDE / 1 Navy Area Theat					Navy Area Theate	r Ballis	tic Missile Defense	e												
COST	ELEMENT OF COST	IDENT			TOT	AL COST IN THO	USANT	S OF DOLLARS												
CODE	ELEMENT OF COST	CODE		FY1997	EV1008		EV1000 EV200		FY2000		EY2001		EY2002		EY2003	EV2004		EY2005		
CODE		CODE		111///	111998		1 1 1 7 7 7		112000		112001		112002		F 1 2005		1 1 2004		1 1 2003	
			QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
	AWS MODIFICATIONS ACS MODIFICATION PRODUCTION SUPPORT INSTALLATION/DESIGN SHIP QUALIFICATIONS			7,091 1,996		13,638 1,221		33,380 3,109		11,333 586 8,499		33,948 3,414 8,194		39,764 8,030 7,837 4,838		23,391 4,719 17,670 12,950		24,243 4,869 23,331 18,665		34,944 6,910 18,261 14,708
	AWS TOTAL			9,087		14,859		36,489	1	20,418	6	45,556	11	60,469	8	58,730	8	71,108	9	74,823
	SM-2 Block IVA HARDWARE INITIAL SPARES NRE PRODUCTION SPT CANNISTERS							6,700		20,317 1,016 6,900 5,243 1,108		10,572 529 1,600 2,161 <b>648</b>		46,183 2,309 8,672 3,402		57,988 2,899 9,865 4,897		62,054 3,103 10,242 5,812		81,790 4,090 12,408 8,270
	SM-2 BLK IVA TOTAL							6700	7	34,584	4	15,510	20	60,566	28	75,649	33	81,211	46	106,558
	TOTAL PROCUREMENT			9087	/	14.859		43,189		55.002		61.066		121.035		134.379		152.319		181.381

## D. REMARKS:

AEGIS Weapon Systems (AWS) procurement funding in FY98/99/00 also includes upgrades to four shore centers to properly accommodate the CG-47 and DDG-51 class combat system upgrades.

FY00-01 reductions to AWS modifications were made to reflect Navy Area TBMD program schedule changes to the developmental program known at the time of the BES submittal. The developmental schedule was affected by incorporating lessons learned from AEGIS Cooperative Engagement Capability (CEC) integration efforts and recommendations from the Welch Report on reducing risk in Ballistic Missile Defense Flight Test Programs. Adjustments in AWS modifications in FY02 and beyond have not been resolved. These adjustments will be incorporated into the next budget cycle after the program restructure baseline and new ship fielding schedule is determined.

FY99 funding has been added to contribute to the costs associated with transition to production of the Standard Missile Blk IVA.

P-1 SHOPPING LIST ITEM NO. Page 1 of 1 Exhibit P-5 Program Cost Breakdown

Exhibit	P-40, Budge	t Item Justi	ication She	Date: February 1999									
Appropriation / Budget Activity/S 0300D / PRC	Serial No: DCUREMENT /01-17/2	205		P-1 Item Nomencla NMD INTEGRATION	1 Item Nomenclature: NMD INTEGRATION								
Program Elements for Code B I	Code: B	Other Related Pro	gram Elements:										
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog			
Proc Qty						18	28	15	CONT	CONT			
Gross Cost	0,000	0,000	0,000	781,372	972,760	861,509	957,825	607,515	CONT	CONT			
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	0,000	0,000	0,000	781,372	972,760	861,509	957,825	607,515	CONT	CONT			
Initial Spares													
Total Proc Cost	0,000	0,000	0,000	781,372	972,760	861,509	957,825	607,515	CONT	CONT			
Flyaway U/C													
Wpn Sys Proc U/C													

DESCRIPTION: The National Missile Defense (NMD) Program was designated a Major Defense Acquisition Program (MDAP) in April 1996. The goal of the NMD program is to develop, demonstrate and maintain an option to deploy a national missile defense system to defend the United States against a limited strategic ballistic missile threat by a rouge nation. The technological maturity of the system will be accessed at a Deployment Readiness Review (DRR) in 3Q/00. Following this review a decision may be made to implement the FY2005 deployment option, which is supported by programmed funds in the FYDP. However, if the threat warrants and the technology has sufficiently matured, a decision maybe made to deploy sooner than FY2005. In that event funds programmed for FY2003-2005 would have to be accelerated.

The NMD system consists of a ground based interceptor, ground based sensors, and a Battle Management Command, Control, and Communications (BMC3) system. The interceptor consists of an Exoatmospheric Kill Vehicle (EKV) atop a Commercial Off-The-Shelf (COTS) booster stack. The ground-based sensors include the development of an X-band radar and the upgrade of existing early warning radars. The BMC3 system includes integration with existing national command and control systems, a ground communication network, and a communication system to transmit data to and from the interceptor while in flight. The NMD system will also use space-based assets for threat launch detection and tracking. The Air Force Space Based Infrared System – Low-Earth Orbit (SBIRS Low) is an integral part of enhancing future NMD capabilities.

				Date:							
Exhibit P-40, Budget I	tem Justifi	cation She	et	February 1999							
Appropriation / Budget Activity/Serial No:			P-1 Item Nomenclature:	-							
0300D / PROCUREMENT /01-17/20	05		NMD INTEGRATION								
Program Elements for Code B Items:	Code:	Other Related Pro	ogram Elements:	gram Elements:							
	В										
and evaluation, deployment plan (Boeing North America) as the L cohesive NMD system. System as prescribed in the Capstone R activities include the execution of and logistics requirements of fiel critical sensor components that Low.	ning, and se ead Syster Engineerin Lequirments f the lethali ding an NM support infr	ensor techno n Integrator g activities i Document ty ground ar D system. <sup>-</sup> ared surveil	ology efforts. NMD inte (LSI). The LSI will dev include development of (CRD), and Operationa nd flight test programs. The sensor technology lance, acquisition, track	egration addresses the activities of a single contractor velop and integrate the individual NMD elements into a system-level performance and integration requirements al Requirements Document (ORD). Test and Evaluation Deployment planning activities focus on the planning efforts include research and development efforts for sing, and discrimination functions to be used in SBIRS							

Exhibit P-5 Weapon		Appropriation/ Bu	Idget Activity	/Serial No:		P-1 Line Ite	em Nomenclature	c		Weapon System	Type:	Date:		
Missiles Cost Analysis		0300-PROC	0300-PROCUREMENT /01-017/205			NMD INTEGRATION						February 1999		
NMD INTEGRATION			FY98		FY99			FY00				FY01		
Cost Elements	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	
Non-Recurring		0,000			0,000			0,000			29,718			
Support		0,000			0,000			0,000			69,051			
Element lest & Evaluation		0,000			0,000			0,000			21,975			
Operational Site Activation		0,000			0,000			0,000			177,613			
SE/PMI		0,000			0,000			0,000			93,210			
Spares		0,000			0,000			0,000			3,908			
NMD SUBIOTAL		0,000			0,000			0,000			395,475			
GBI														
Brime Mission Hardware		0.000			0.000			0.000			107 207			
GRI SUBTOTAI		0,000			0,000			0,000			107,297			
		0,000			0,000			0,000			107,237			
GBR/XBR														
Prime Mission Hardware		0,000			0,000			0,000			212,000			
GBR/XBR SUBTOTAL		0,000			0,000			0,000			212,000			
BMC3														
Prime Mission Hardware		0,000			0,000			0,000			66,600			
BMC3 SUBIOTAL		0,000			0,000			0,000			66,600			
UEWR														
Prime Mission Hardware		0 000			0.000			0.000			00,000			
UEWR SUBTOTAL		0,000			0,000			0,000			00,000			
		0,000			0,000			0,000			00,000			
D&S														
Prime Mission Hardware		0,000			0,000			0,000			00,000			
D&S SUBTOTAL		0,000			0,000			0,000			00,000			
τοται		0 000			0.000			0.000			781 372			
TOTAL		0,000			0,000			0,000			701,372			

Exhibit P-5, Weapon		Appropriation/ Bu	dget Activit	y/Serial No:		P-1 Line Ite	m Nomenclature			Weapon System	Type:	Date:		
Missiles Cost Analysis		0300-PROC	UREMENT	/01-017/205			NMD INTE	GRATION				Feb	uary 1999	
			-			51/00			-			EVAL		
NMD INTEGRATION	ID		FY02			FY03			FY04		-	FY05		
Cost Elements	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	
Non-Recurring Support Element Test & Evaluation Operational Site Activation SE/PM Spares NMD SUBTOTAL		53,630 363,997 18,530 99,700 150,714 08,080 <b>694,651</b>			58,074 323,132 20,790 6,300 157,431 4,300 <b>570,027</b>			19,437 389,884 18,393 6,400 161,877 18,207 <b>614,198</b>			0,000 287,534 11,137 3,800 137,672 14,448 <b>454,591</b>			
GBI Prime Mission Hardware GBI SUBTOTAL		138,549 <b>138,549</b>			189,432 <b>189,432</b>	18		265,265 <b>265,265</b>	28		128,824 <b>128,824</b>	15		
GBR/XBR Prime Mission Hardware GBR/XBR SUBTOTAL		00,000 <b>00,000</b>			00,000 <b>00,000</b>			00,000 <b>00,000</b>			0,000 <b>0,000</b>			
BMC3 Prime Mission Hardware BMC3 SUBTOTAL		128,500 <b>128,500</b>			31,800 <b>31,800</b>			23,400 <b>23,400</b>			23,900 <b>23,900</b>			
UEWR Prime Mission Hardware UEWR SUBTOTAL		3,800 <b>3,800</b>			59,300 <b>59,300</b>			51,200 <b>51,200</b>			200 <b>200</b>			
D&S														
Prime Mission Hardware D&S SUBTOTAL		7,260 <b>7,260</b>			10,950 <b>10,950</b>			3,762 <b>3,762</b>			0,000 <b>0,000</b>			
TOTAL		972,760			861,509			957,825			607,515			