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PBD 224

TITLE:

Ballistic Missile Defense

DATE:

DECEMBER 9, 2001

DECISION: THE DEPUTY SECRETARY APPROVED THE ALTERNATIVE

ESTIMATE.

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No. 224

SUBJECT: Missile Defense

DOD COMPONENTS: Army, Navy, Air Force, Joint Staff and BMDO

SUMMARY OF ADJUSTMENTS:

	(<u>TOA</u> , <u>Dollars</u>	in Millions)
	FY 2002	FY 2003
Agency Estimate	8,417.2	8,570.8
Alternative Estimate	·	-505.9
Directed Offsets - Army	_	-113.2
Directed Offsets - BMDO		-145.0

SUMMARY OF EVALUATION: This PBD addresses the development and procurement of missile defense systems, headquarters and operational support programs. The alternative makes the following adjustments:

- Joint Staff Transfer: Transfer \$5.0 million from Ballistic Missile Defense Organization (BMDO) to The Joint Staff as directed by the Defense Planning Guidance (no net change).
- PATRIOT Modification Program: Adjust the cost on the Remote Launch Communication Enhancement Upgrade (RLCEU) modification project due to excessive pricing (FY 2003, \$-10.7 million).
- PATRIOT Advanced Capability-3: Direct Army to add 29 PAC-3 missiles and provide funding offset in FY 2003 to maintain steady production schedule (no net change).
- Medium Extended Area Defense System: Rephase funding for Risk Reduction Effort (RRE) based on 10 months slip in award (FY 2003, \$-13.5 million).
- Procurement Funding Transfer: Transfer procurement funding improperly labeled as research and development from BMDO to the Air Force to comply with DoD Financial Management Regulation (no net change).

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- BMDO Execution Under a Continuing Resolution: Remove excess funding from FY 2003 based on receiving an appropriation and authorization for FY 2002 90 days after the beginning of the fiscal year (FY 2003, \$-469.7 million).
- **Program Operations Overhead:** Remove excessive program growth for level of effort support program and allow for inflation only (FY 2003, \$-6.4 million).
- BMDO Military Construction: Realign military construction budget request to accommodate an increase in the Theater High Altitude Area Defense (THAAD) Test Facility, and reduce planning and design funds due to insufficient justification (FY 2003, \$-5.5 million).
- Arrow System Improvement Program (ASIP): Direct BMDO to increase funding to continue Phase 2 and initiate Phase 3 spiral development on the Arrow Weapon System (no net change).
- Japanese Cooperative Program: Direct BMDO to increase funding to continue requirements analysis and design in cooperation with the Government of Japan on selected sea-based midcourse projects (no net change).

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DETAIL OF EVALUATION: This Program Budget Decision (PBD) reflects adjustments to the following programs funded in Research, Development, Test and Evaluation, Defense-Wide (RDT&E, DW); Research, Development, Test and Evaluation, Army (RDT&E, A); Research, Develop, Test and Evaluation, Navy (RDT&E, N); Missile Procurement, Army (MP, A); Weapons Procurement, Navy (WP, N); Other Procurement, Navy (OP, N); Aircraft Procurement, Air Force (AP, AF); Missile Procurement, Air Force (MP, AF) and Military Construction appropriations.

Joint Staff Transfer:

	(TOA, Dollar	s in Millions)
	FY 2002	FY 2003
Agency Estimate (JTAMDO)	26.9	27.2
Alternative Estimate	_	+5.0
BMDO Offset	· -	- 5.0

This adjustment transfers from the Ballistic Missile Defense Organization (BMDO) to The Joint Staff (TJS) \$5.0 million per year adjusted for inflation starting in FY 2003. This amount is agreed to by both organizations and is consistent with the language reflected in the Defense Planning Guidance, and the direction from the Chairman of the Joint Chiefs of Staff.

PATRIOT Modification Program:

	(TOA, Dollars	in Millions)
	FY 2002	FY 2003
Service Estimate (Army)	38.3	204.3
Alternative Estimate	_	-10.7

The Patriot weapon system is undergoing a series of modifications to improve overall system performance with the goal of making it as effective as the PAC-3. One of the modification projects, known as the Remote Launch and Communications Enhancement Upgrade (RLCEU), is to improve communications through the introduction of new switching equipment and processors. This project will also field a remote launch capability that will allow launch equipment to be placed in excess of 30 kilometers from the parent engagement control station.

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The budget reflects 6 kits being procured in FY 2002 for a total cost of \$14.7 million, or unit cost of \$2.45 million. FY 2003 reflects 9 kits being procured for a total cost of \$33.2 million, or \$3.70 million per unit. For FY 2004, the budget reflects 17 kits for a total cost of \$85.3 million, or \$5.02 million per unit. FY 2005 reflects 3 kits for a total of \$8.60 million, or \$2.87 million per unit.

In comparing the number of units each year against the dollars that are budgeted, it appears that the unit cost is overstated. The table below illustrates this. For example, in FY 2002, when the \$2.45 million Cost Per Unit(CPU) is multiplied by the 1.9% standard inflation, it will increase the CPU to \$2.50 million in FY 2003. Next, the CPU is multiplied by the number of units (9) to provide a revised annual estimate (\$22.5 million). The amount of funding budgeted is more than the amount calculated based on standard inflation. The same methodology is applied to FY 2004 and FY 2005.

RLCEU Modification:

					(\$	in Mi	llion	s)				
	FY	20	02	FY	20	03	F	<u>'Y</u> 200	4	FY	200)5
	\$ Q	ty	CPU	\$ Q	tу	CPU	\$	Qty	CPU	\$	Qty	CPU
BES	14.7	6	2.45	33.2	9	3.70	85.3	3 17	5.02	8.6	3	2.87
Inflation	מ					1.9%			2.1%			2.1%
Revised	14.7	6	2.45	22.5	9	2.50	43.3	3 17	2.55	7.8	3	2.60
Alt. Est:	imate			-10.7			-42.0)		-0.8		

PATRIOT Advanced Capability - 3 (PAC-3):

	(TOA, Dollars	in Millions)
	FY 2002	FY 2003
Service Estimate (Army)	783.7	438.3
Alternative Estimate	· —	+113.2
Army Offset	-	-113.2

The PAC-3 is an advanced surface to air missile system with a high single shot kill probability and is capable of operation in the presence of electronic countermeasures. It is designed to conduct simultaneous engagements against high performance air breathing targets and ballistic missiles that would most likely be encountered by U.S. Forces.

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The Army assumed funding responsibility for this program starting in FY 2002 and funded the required missile quantity as directed by the Defense Planning Guidance. However, the budget as submitted does not support an executable production schedule. The Army plans to produce 72 missiles in FY 2002, 43 in FY 2003, and then back up to 72 in FY 2004. It would seem the contractor would incur undue risk in ramping up a production line and then having to ramp it back down only to have to increase it again one year later. The alternative recognizes that it would be in the best interest of the Department to maintain a steady production schedule for this missile.

The alternative adds \$113.2 million and 29 missiles in FY 2003. The Army is directed to provide offsets to finance the approved increases. Identification of specific programs and amounts to be reduced must be provided to USD (Comptroller) on a date to be specified later. The table below illustrates this adjustment.

FY 03 BES Alt. Est. Revised Qty	· ·	FY 02 72 - 72	FY 03 43 +29 72	PAC-3 Q FY 04 72 - 72	<u>FY 05</u> 131 131	FY 06 144 	FY 07 144
Revised Qt	У				illions)	144	144
FY 03 BES (1	MP, A)	$\frac{\text{FY 02}}{676.6}$	FY 03 361.1	$\frac{\text{FY } 04}{454.2}$	$\frac{\text{FY 05}}{506.1}$	FY 06 509.3	FY 07 509.2
•	MP, A)	676.6	$\frac{+113.2}{474.3}$	454.2	$\frac{-}{506.1}$	509.3	$\frac{-}{509.2}$

Medium Extended Area Defense System (MEADS):

	(TOA,	Dollars	in Millions)
	FY	2002	FY 2003
Service Estimate (Army)		73.7	131.6
Alternative Estimate		_	-13.5

The Medium Extended Area Defense System (MEADS) is an international cooperative program between the United States, Germany and Italy to design and build a low-medium air defense system. The program is currently in the Program Definition / Validation (PD/V) acquisition phase and is under a 36 month Risk Reduction Effort (RRE) contract to develop digital simulation,

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prototype launcher, fire control radar and battle management hardware and software. The cost of the contract is \$232.0 million and the United States cost share is \$127.5 million.

Award of the RRE contract was delayed nearly 10 months because of difficulty in getting all three countries to agree on the specifics identified in the Memorandum of Agreement. It was originally supposed to be awarded in October, 2000 but was not signed until July, 2001. As a result, 10 months of work will slip from FY 2003 into FY 2004. However, the budget was never adjusted to accommodate the slip in schedule. The alternative proposes to shift \$13.5 million from FY 2003 to FY 2004 commensurate with the schedule slip. The table below illustrates this adjustment.

MEADS RRE

	(\$ in Millions)					
	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06
FY 03 BES	46.5	38.1	27.0			
Alt. Estimate	_	· _	-13.5	+13.5	_	_
Total:	$48.\overline{0}$	$39.\overline{5}$	13.5	13.5		

Procurement Funding Transfer:

•	(TOA, Dollars	in Millions)
	FY 2002	FY 2003
Agency Estimate (BMDO)	_	_
Alternative Estimate		_

As part of the FY 2002 President's budget, the Department transferred from the Air Force all research and development and procurement funding for Space Based Infra-Red System-Low (SBIRS-L) to the Ballistic Missile Defense Organization (BMDO) to support the new missile defense program architecture.

The BMDO restructured this program and has budgeted 15 satellites across the Future Years Defense Program (FYDP) in the Research, Development, Test and Evaluation, Defense Wide (RDT&E, DW) appropriation. This violates the Department's funding policy. The DoD FMR, Chapter 1, Volume 2A, states that the third and all subsequent satellites shall be funded with procurement appropriations unless multiple satellites are launched from a single rocket. If multiple satellites are launched from a single rocket, then RDT&E funding can be used to

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finance those satellites. For subsequent launches, procurement appropriations shall be used to purchase the satellites.

The budget reveals that satellites 1-3 will be launched on one rocket, so it is applicable to budget these satellites in RDT&E, DW. However, satellites 4-15 should be budgeted in procurement appropriations to be in compliance with the DoD FMR. The alternative estimate transfers the dollars that are budgeted for satellites 4-15. The table below reflects the alternative estimate.

Procurement Transfer

	(\$ in Millions)					
	FY 03	FY 04	FY 05	FY 06	FY 07	
SBIRS-L (RDT&E, DW)	_	-171.8	-380.9	-663.3	-389.6	
SBIRS-L (MP, AF)	. –	+171.8	+380.9	+663.3	+389.6	
Alt Estimate	_	_	_	_	-	

BMDO Execution Under Continuing Resolution:

	(TOA, Dollars	in Millions)
	FY 2002	FY 2003
Agency Estimate (BMDO)	7,044.8	7,500.0
Alternative Estimate	· <u> </u>	-469.7

The amount of funding the Ballistic Missile Defense Organization (BMDO) has appropriated in FY 2001 is \$4,747.6 million. The amount budgeted in FY 2002 increases by \$2,297.2 million for a total of \$7,044.8 million, or 33 percent increase in budget authority. The Department has been operating under a Continuing Resolution (CR) pending an appropriation. All indication is there will not be an appropriation until after the beginning of the calendar year. While under a CR period, an appropriation cannot obligate or expend more than it did in the previous year. In addition, no new starts can be initiated, many of which are embedded in the newly revised BMDO program.

To date, three congressional defense committees have completed their markup on the FY 2002 President's budget. Regarding ballistic missile defense, the House Appropriations Sub-Committee on Defense (HAC-D) is recommending \$6,626.5 million, the lowest of the three. If this is the amount

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appropriated then the increase over FY 2001 would be \$1,878.9 million, or 28 percent.

Because the Department must spend at the same rate and not initiate any new starts while under a CR period, BMDO will have difficulty executing the full amount requested, or even the amount the HAC-D is recommending should it be the amount appropriated. The alternative estimate recognizes there will be nearly a quarter's worth of carry-over from FY 2002 into FY 2003 because of the lag time in getting an appropriation. Therefore, it is recommended that \$469.7 million be deleted from BMDO's budget in FY 2003. This amount was calculated by taking \$1,878.9 million and dividing it by 4.

Program Operations Overhead:

	(TOA,	Dollars	in Millions)
	FY	2002	FY 2003
Agency Estimate (BMDO)	-	139.0	148.1
Alternative Estimate	•	_	-6.4

Contained in each Program Element (PE) of the Ballistic Missile Defense Organization's budget is a project called Program Operations. These projects finance fixed costs such as civilian payroll, travel, rent, utilities and supplies that are related to the particular PE.

These projects show unwarranted program growth for a level of effort activity and should be held to the FY 2002 program baseline plus standard inflation. The alternative estimate is reflected in the table below.

Program Operations

	(\$ in Millions)							
	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07		
FY 2003 BES	139.0	148.1	152.8	160.0	174.2	193.3		
Inflation	_	1.9%	2.1%	2.1%	2.1%	2.1%		
Revised Estimate	_	$1\overline{41.7}$	144.6	$1\overline{47.7}$	150.8	153.9		
Alt. Estimate		-6.4	-8.2	-12.4	-23.4	-39.4		

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BMDO Military Construction:

	(TOA, Dollars	in Millions)
	FY 2002	FY 2003
Agency Estimate (BMDO)	8.3	28.9
Alternative Estimate	, –	-5.5

The BMDO budget requests a total of \$28.9 million in FY 2003. The funding profile by budget activity is shown on the next page.

Budget Activity	Request in Millions
Major Construction	4.1
Minor Construction	4.7
Planning and Design	20.1
Total	28.9

The FY 2003 major construction program consists of one project, the Theater High Altitude Area Defense (THAAD) Test Facility. The initial cost estimate of \$4.1 million was based on locating this facility on Kwajalein Atoll. However, a recent study concluded that the Pacific Missile Range Facility (PMRF) in Kauai, Hawaii would be a better location for the THAAD Test Facility. This was primarily due to the notion that conducting THAAD operations from PMRF would alleviate the potential test schedule conflicts between THAAD and Ground Based Midcourse and other BMDO programs occurring on Kwajalein. However, the cost of building the facility at PMRF is \$23.4 million vice the \$4.1 million BMDO budgeted in their initial submission.

In order to fund the higher requirement, BMDO has submitted a revised budget request to OSD Comptroller. In essence, BMDO has asked to realign funds initially requested in Minor Construction and Planning and Design to cover the higher cost of building the THAAD facility at PMRF. Their revised request is shown in the table below:

Budget Activity	Initial Request	Revised Request	BMDO Proposed Adjustment
Major	4.1	23.4	+19.3
Construction		·	
Minor	4.7	0.0	-4.7
Construction			·

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Planning and	20.1	5.5	-14.6
Design			
Total	28.9	28.9	0

BMDO minor construction expenditures average approximately \$2 million per year. In FY 2001, the decision was made to increase BMDO's minor construction funding by an additional \$2 million per year throughout the FYDP in anticipation of increased requirements associated with the development and deployment of a National Missile Defense (NMD) system. Given that BMDO's minor construction requirements associated with NMD are nonexistent in FY 2003, and the fact that they will have ample amounts of available prior year funds to cover other unforeseen requirements, the alternative approves BMDO's request to realign all FY 2003 minor construction funding to the THAAD facility.

The other source for the THAAD facility increase is Planning and Design (P&D) funds. Of the \$20.1 million BMDO initially requested in FY 2003, \$17.5 million was intended for the design of the Ground Based Midcourse Element (GBME) Block 2006 facilities. BMDO has requested that \$14.6 million of these funds be realigned to the THAAD facility because the GBME Block 2006 program is not firmly established. The alternative approves BMDO's request and realigns \$14.6 million. However, since the GBME Block 2006 program is still being evaluated (as pointed out by BMDO) there is no justification for the remaining \$2.9 million of P&D funding associated with GBME, or for the other \$2.6 million of P&D remaining in the account. As a result, the alternative deletes a total of \$5.5 million of P&D funds in FY 2003 since there is no construction program associated with it.

Arrow System Improvement Program (ASIP):

	(TOA, Dollars	in Millions)
	FY 2002	FY 2003
Agency Estimate (BMDO)	20.0	-
Alternative Estimate	·	+66.0
BMDO Offset		-66.0

ASIP is a cooperative effort between Israel and the United States to upgrade the current Arrow Weapon System through spiral UNAUTHORIZED RELEASE OF THIS PROGRAM BUDGET DECISION IS PROHIBITED.

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development. It is expected these improvements will enhance the system to defend against emerging longer-range threats, incorporate effective countermeasures against decoys and penetration aids, develop higher altitude shoot-look-shoot capability and provide risk-reduction technology for U.S. theater missile defense systems. The BMDO did not fund ASIP in FY 2003 through FY 2007.

In FY 2001, the Congress provided \$8.0 million to initiate Phase-1 of the ASIP and in FY 2002 BMDO will provide \$20.0 million to start Phase-2. The alternative fully funds the remaining portion of Phase-2 and provides funding for Phase-3. This adjustment is reflected in the table on the next page and directs BMDO to provide the offset.

		(\$ In Millions)							
ASIP	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07		
Phase	1 8.0	-	-	_	-				
Phase	2 -	20.0	+66.0	+66.0	+66.0	_	-		
Phase	3 -	-	-		· -	+66.0	+66.0		
Alt.	Estimate -	_	+66.0	+66.0	+66. 0	+66.0	+66.0		
Direc	ted offset-	-	-66.0	-66.0	-66.0	-66.0	-66.0		

Japanese Cooperative Program:

	(TOA, Dollars	in Millions)
	FY 2002	FY 2003
Agency Estimate (BMDO)	35.0	
Alternative Estimate	_ _	+79.0
BMDO Offset	_	-79.0

In FY 1999, the Department entered into an international cooperative project with Japan to jointly explore and develop missile defense technologies on selected Navy Theater Wide (NTW) Block II projects. The Department continued to fund this program over the course of the next few years and actually had funding budgeted over the Future Year Defense Plan (FYDP). When the Ballistic Missile Defense Organization restructured its program, it did not include any funding beyond FY 2002 for this project.

The alternative recognizes this effort is an important aspect of our missile defense policy with the Government of

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Japan and directs BMDO to continue it and provide an offset. The table below reflects the adjustment. In addition, BMDO is directed to establish a separate project in their budget for this effort.

Japanese Cooperative Program:

	(\$ In Millions)							
	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07		
FY 2003 BES	35.0		_	-				
Alt. Estimate	-	+79.0	+89.0	+84.0	+85.0	+86.0		
Directed offset		-79.0	-89.0	-84.0	-85.0	-86.0		

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FUNDING APPENDIX		PBD NUMBER	224	ALTERNATIVE	1		
(\$ in Thousand	ls) Qty ()						
PROGRAM/ISSUE	·	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Missile Procurement, Army (M	(PA)						
Budget Activity 2. Other Mis	siles						
PAC-3 (C49200)		-	+113,200	-	-	_	-
(Qty)		-	(+29)	=	-	· _	-
Subtotal		-	+113,200	-	-	-	-
Budget Activity 3, Modificat	ion of Miss	iles					
RLCEU (C50700)			-10,700	-42,000	-800		-
Subtotal		-	-10,700	-42,000	-800	-	-
Total Missile Procurement, A	ırmy						
		-	+102,500	-42,000	-800		· -
Missile Procurement, Air For	ce (MPAF)					•	
Budget Activity 5, Other Sup	port						
SBIRS-Low			-	+171,800	+380,900	+663,900	+389,600
Subtotal		-	-	+171,800	+380,900	+663,900	+389,600
Total Missile Procurement, A	ir Force						
		-	-	+171,800	+380,900	+663,900	+389,600
Research, Development, Test	& Evaluation	n, Army (RD)	SE, A)				
Budget Activity 4, Demonstra	tion/Valida	tion					
MEADS (0603869A)		-	-13,500	+13,500	-	· -	-
Subtotal		-	-13,500	+13,500	-	-	-
Total RDT&E, Army							
·			-13,500	+13,500	-	-	-
Research, Development, Test	& Evaluation	n. Defense-W	ide (RDT&E,	DW)	•		
Dudant Batinitas & Dominitas							
Budget Activity 4, Demonstra Program Operations Overhead		LION	-6,400	-8,200	-12,400	-23,400	_20_400
Arrow ASIP (0603881C)			+66,000	+66,000	+66,000	+66,000	-39,400 +66,000
Japanese Cooperative Effort	(06038820)	_	+79,000	+89,000	+84,000	+85,000	
SBIRS-L Proc. Transfer (060		_	+79,000 -	-171,800	-380,900	-663,900	+86,000
Subtotal	30040)	-	+138,600	-25,000	-243,300	-536,300	-389,600 -277,000
Budant Buttadta C. M.							
Budget Activity 6. Managemen Joint Staff - Transfer from		126.T)	+5,000	+5,100	+5,200	ችድ ኃህህ	TE 100
Subtotal	2000 (0000)	-	+5,000	+5,100	+5,200	+5,300 +5,300	+5,400 +5,400
Budget Activity 20, Undistri	buted						
BMDO - Execution Adjustment			-469,700	-	_	_	_
BMDO - Transfer to Joint St	aff	_	-5,000	-5,100	-5,200	-5,300	-5,400
Subtotal	-	•	-474,700	-5,100	-5,200	-5,300	-5,400
Total RDT&E, Defense-Wide							

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FUNDING APPENDIX		PBD NUMBER	224	ALTERNATIVE	1		
(\$ in Thousands)	Qty ()						
PROGRAM/ISSUE		FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
		_	,-331,100	-25,000	-243,300	-536,300	-277,000
Program Offsets							
Program Offsets - Army							•
Fund PAC-3		-	-113,200	-	-	-	-
Subtotal		-	~113,200		-	-	-
Program Offsets - Defense-wid	2						
BMDO - Arrow ASIP		•	-66,000	-66,000	-66,000	-66,000	-66,000
BMDO - Japanese Coop			-79,000	-89,000	-84,000	-85,000	-86,000
Subtotal			-145,000	-155,000	-150,000	-151,000	-152,000
Total Program Offsets							
		. <u>-</u>	-258,200	-155,000	-150,000	-151,000	-152,000
Total		. •••	-500,300	-36,700	-13,200	-23,400	-39,400