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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE June 2001		
BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603869C MEADS - DEM/VAL (PD-V)					PROJECT 1262	
COST (<i>In Thousands</i>)	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
1262 Medium Extended Air Defense System (MEADS)	49476	52643								
<p>A. <u>Mission Description and Budget Item Justification</u></p> <p>The MEADS program (PE0603869C) to include programmatics and funding is being transferred to the Army beginning in FY02. The Medium Extended Air Defense System (MEADS) is an objective force system. It is an international cooperative program essential to fulfill the requirements of the U.S. Army and the U.S. Marine Corps for a low-medium air defense system in the 21st century. MEADS will offer a significant improvement in tactical mobility and strategic deployability over comparable missile systems. It will defend the maneuver force and other critical forward-deployed assets against short and medium range Theater Ballistic Missiles (TBMs), cruise missiles and other air-breathing threats throughout all phases of tactical operations. MEADS will operate both in an enclave with upper-tier systems in areas of debarkation and assembly and provide continuous coverage alone or with Short-Range Air Defense Systems (SHORAD) in the division area of the battlefield during movement to contact and decisive operations. MEADS will be interoperable with other airborne and ground-based sensors and utilize a netted and distributed architecture and modularly-configurable battle elements to provide a robust, 360-degree defense against short and medium range TBMs, cruise-missiles, unmanned-aerial-vehicles, tactical air to surface missiles, rotary-wing and fixed-wing threats.</p> <p>The MEADS program has been restructured to leverage the interceptor from the PATRIOT Advanced Capability – 3 (PAC-3) program and to extend the Program Definition/Validation (PD/V) phase with a three-year Risk Reduction Effort (RRE) that focuses on developing the critical technologies required for maneuver force protection and overall risk reduction. Pending formal approval of the International Memorandum of Understanding (MOU), a U.S. funded bridging effort commenced on 14 August 2000 to begin work on the highest risk and long-lead items in the RRE Scope of Work.</p> <p>There remains a critical void in maneuver force defense against short and medium range TBMs, cruise missiles, and low-to-medium altitude advanced air-breathing threats. This program will meet this challenge by integrating the PAC-3 missile and developing the critical technologies required for maneuver force protection, including development of a prototype lightweight launcher, 360-degree radar and tactical operation center. Concepts will be validated through proof-of-principle testing capitalizing on the already programmed Air-Directed Surface-to-Air Missile (ADSAM) demonstration efforts. The PAC-3 missile is the baseline interceptor for MEADS. Sensor and battle management software technology from both U.S. and international programs will be examined to enhance and augment organic-equipment functions, reducing development cost and risk. Improvements will be balanced against costs and the projected threat to develop a U.S. and allied capability to counter the maneuver force threat. This approach emphasizes prototyping of system-specific and surrogate hardware in key areas of Battle Management/Command, Control, Communications, Computers, and Intelligence (BM/C4I), fire control radar, and light weight launcher to satisfy mobility, strategic deployability and interoperability requirements. Cost as an Independent Variable (CAIV) analysis will be applied to the currently defined requirements. The Ballistic Missile Defense Organization (BMDO) is responsible for overall program management and direction. The U.S. Army Program Executive Officer for Air and Missile Defense and the MEADS National Product Office execute the program for BMDO.</p>										
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B. Program Change Summary	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
Previous President's Budget (<u>FY 2001</u> PB)	48594	63175		
Appropriated Value	48594	53475		
Adjustments to Appropriated Value				
a. Congressional General Reductions		-832		
b. SBIR / STTR	-118			
c. Omnibus or Other Above Threshold Reductions				
d. Below Threshold Reprogramming	1000			
e. Rescissions				
Adjustments to Budget Years Since <u>FY 2001</u> PB				
Current Budget Submit (<u>FY 2002</u> PB)	49476	52643		

Change Summary Explanation:

Funding:

FY00 +\$882K : +\$1.0M reprogrammed for common missile requirements;
-\$118K SBIR/STTR reduction.

FY01 -\$832K: -\$372K for .7% general reduction;
-\$344K for section 8116 reduction;
-\$116K FY01 congressional recission.

Schedule: None

Technical: None

BMDO RDT&E COST ANALYSIS (R-2A Exhibit)		DATE
BUDGET ACTIVITY 4 - Demonstration and Validation		PROJECT 1262
PE NUMBER AND TITLE 0603869C MEADS - DEM/VAL (PD-V)		
<p>A. <u>Mission Description and Budget Item Justification</u></p> <p>The MEADS is an objective force system. It is an international cooperative program essential to fulfill the requirements of the U.S. Army and the U.S. Marine Corps for a low-medium air defense system in the 21st century. MEADS will offer a significant improvement in tactical mobility and strategic deployability over comparable missile systems. It will defend the maneuver force and other critical forward-deployed assets against short and medium range TBMs, cruise missiles and other air-breathing threats throughout all phases of tactical operations. MEADS will operate both in an enclave with upper-tier systems in areas of debarkation and assembly and provide continuous coverage alone or with SHORAD systems in the division area of the battlefield during movement to contact and decisive operations. MEADS will be interoperable with other airborne and ground-based sensors and utilize a netted and distributed architecture and modularly-configurable battle elements to provide a robust, 360-degree defense against short and medium range TBMs, cruise-missiles, unmanned-aerial-vehicles, tactical air to surface missiles, rotary-wing and fixed-wing threats.</p> <p>The MEADS program has been restructured to leverage the interceptor from the PAC-3 program and to extend the PD/V phase with a three-year RRE that focuses on developing the critical technologies required for maneuver force protection and overall risk reduction. Pending formal approval of the International MOU, a U.S. funded bridging effort commenced on 14 August 2000 to begin work on the highest risk and long-lead items in the RRE Scope of Work.</p> <p>There remains a critical void in maneuver force defense against short and medium range TBMs, cruise missiles, and low-to-medium altitude advanced air-breathing threats. This program will meet this challenge by integrating the PAC-3 missile and developing the critical technologies required for maneuver force protection, including development of a prototype lightweight launcher, 360-degree radar and tactical operation center. Concepts will be validated through proof-of-principle testing capitalizing on the already programmed ADSAM demonstration efforts. The PAC-3 missile is the baseline interceptor for MEADS. Sensor and battle management software technology from both U.S. and international programs will be examined to enhance and augment organic-equipment functions, reducing development cost and risk. Improvements will be balanced against costs and the projected threat to develop a U.S. and allied capability to counter the maneuver force threat. This approach emphasizes prototyping of system-specific and surrogate hardware in key areas of BM/C4I, fire control radar, and light weight launcher to satisfy mobility, strategic deployability and interoperability requirements. The CAIV analysis will be applied to the currently defined requirements. The BMDO is responsible for overall program management and direction. The U.S. Army Program Executive Officer for Air and Missile Defense and the MEADS National Product Office execute the program for BMDO.</p>		
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FY 2000 Accomplishments:

•	26688	U.S. continued contribution to the NATO MEADS Management Agency (NAMEADSMA) International Program Office operational and administrative budgets for transition to and conduct of the MEADS RRE contract for initial development of digital end-to-end simulation and initial development of prototype launcher, fire control and BMC4I hardware and associated software.
•	12000	Conducted international bridging effort and associated termination liability. This effort began to address high risk and long-lead items within the RRE scope. The participant nations agree that in future consideration of RRE cost share the value of this effort should be recognized as applicable services.
•	3000	Conducted U.S. only effort to implement the Time-Phased Release Plan (TPRP). This included the preparation required to meet the variety of security and disclosure restrictions applied to the TPRP. It will also fund establishment of a U.S.-sponsored, U.S.-only simulation cell tasked with maintaining oversight and configuration control of the transferred PAC3SIM simulation.
•	4210	Continued government agency and support contracts to provide technical analysis and tools in specialty areas of lethality, BMC4I, and system simulations, as well as support of conducting independent evaluations of contractor trades and analysis.
•	3578	Continued MEADS program management, support and salaries for both the national and international program offices. Included U.S. efforts tied to national support of executing the replanned program.
Total	49476	

FY 2001 Planned Program:

•	36442	Continue U.S. contribution to the NAMEADSMA International Program Office operational and administrative budgets for the MEADS RRE contract and continued development of digital end-to-end simulation, development of prototype launcher, fire control and BMC4I hardware and associated software and test planning.
•	4565	Conduct program integration efforts that will examine Department of Defense (DOD) Joint Vision and Army transformation objective force mix and integration issues; support MEADS in the test and evaluation of Air and Missile Defense (AMD) task force interoperability and BMDO family-of-system requirements; support development and maintenance of Joint Data Network interface requirements and planning and appropriate planning of MEADS manpower, training, human factors and safety issues.
•	6703	Continue funding for government agencies and support contracts to provide technical analysis and tools in specialty areas of lethality, BMC4I and system simulations, as well as support of conducting independent evaluations of contractor trades and analysis.
•	4933	Continue MEADS program management, support and salaries for both the national and international program offices. Includes U.S. efforts tied to national support of executing the replanned program and OSD directed documentation plan.
Total	52643	

B. <u>Other Program Funding Summary</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To</u>	<u>Total</u>
N/A								<u>Compl</u>	<u>Cost</u>

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C. Acquisition Strategy:

The MEADS acquisition strategy included competition between two transatlantic industrial teams in the PD-V phase. These two international entities prepared and competed for the PD/V phases. As the Department of Defense and partner nations restructured the program, the PD/V phase was extended with the selection of a single contractor team to conduct a three-year RRE. In August 2000, the Defense Acquisition Executive (DAE) approved entry in the RRE. In this phase, technology from Germany, Italy and the United States, including the PAC-3 missile, will be leveraged to define the most cost-effective solution to meet the MEADS operational requirements. The MEADS Product Office is also pursuing integration of MEADS BMC4I with the Project Manager, Air & Missile Defense Command and Control Systems (AMDCCS), to take advantage of other Army developments that can be incorporated into the MEADS program.

D. <u>Schedule Profile</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>FY 2006</u>	<u>FY 2007</u>
Three-year risk reduction effort contract signed	2 nd Qtr							
Program Review	3 rd Qtr	3 rd Qtr						

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. International Teaming	FFP	LM/H&R Teams	9605									
b. Proj Def-Val (PD/V)	FFP	NAMEADSMA	101672									
c. Risk Reduction (RRE)	CPFF	LMMC	6612									
d. Bridging Effort	CPFF	NAMEADSMA	12000									
e. Implement TPRP	CPFF	LMMC	3000									
f. Risk Reduction	CPFF	NAMEADSMA	18380	34942								
Subtotal Product Development:			151269	34942								

Remark:

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Int'l Program Office	LOE	NAMEADSMA	4728	1500								
b. Program Integration	LOE	PEO AMD/BMDO		4565								
c. U.S. Anal of Alternatives	LOE/MIPR	MEADS Product Ofc	2298									
d. U.S. Contracts	LOE	MEADS Product Ofc	5640	2760								
e. U.S. OGAs	MIPR	MEADS Product Ofc	6738	3943								
f.												
Subtotal Support Costs:			19404	12768								

Remark:

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Redstone Tech Test Ctr	MIPR	Huntsville, AL	253									
b. ADSAM		SMDC	9915									
Subtotal Test and Evaluation:			10168									

Remark:

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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Internal Operating	In-House	MEADS Prod Ofc/ NAMEADSMA	10606	4933								
Subtotal Management Services:			10606	4933								

Remark:

Project Total Cost:			191447	52643								
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Remark: