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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE February 1999
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604867C Navy Area - EMD	PROJECT 2263
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COST (In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
2263 Navy Area	292063	242597	268389	226772	64208	51548	33596	26665	TBD	TBD

A. Mission Description and Budget Item 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: the CG-47 Ticonderoga-class cruisers and the DDG-51 Burke-class destroyers. Navy TBMD will take advantage of the attributes of naval forces including overseas presence, mobility, flexibility, and sustainability in order to provide protection to debarkation ports, coastal airfields, amphibious objective areas, Allied forces ashore, and other high value sites. Navy assets will provide an option for initial TBMD allowing the insertion of additional land-based TBMD assets and other expeditionary forces in an opposed environment.

FY 1998 Accomplishments:

- 264834 Continued Engineering and Manufacturing Development (EMD) of the missile. Began delivery of Inert Operational Missile (IOM)/Engineering Design Model (EDM) test rounds. Initiated fabrication of White Sands Missile Range (WSMR) Flight Test and Linebacker missiles. Continued Baseline 6 Phase III full capability development; delivered AEGIS Linebacker initial capability computer program; conducted Baseline 6 Phase III program preliminary design review (PDR) and In-Process Review (IPR). Initiated follow-on AWS computer program development. Continued implementation of Joint Maritime Command Information System (JMCIS) TBMD segments and TBMD messages in Command and Control Processor (C2P).
 - 6549 Completed Phase I of Live Fire Test and Evaluation (LFT&E) Arena Tests and successfully initiated Phase I of Warhead Sled Tests. Continued required lethality analyses and lethality model refinements.
 - 6680 Continued building and delivery of targets to support Navy TBMD flights tests. Maintained infrastructure to support TMD targets.
 - 14000 Began interceptor and target development required by Iranian Missile Protection Act of 98 (IMPACT 98).
- Total 292063

FY 1999 Planned Program:

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- 199397 Continue EMD of the missile. Complete delivery of IOM/EDM test rounds. Initiate delivery of WSMR flight test missiles. Begin missile Developmental Testing (DT) at WSMR. Continue Baseline 6 Phase III full capability development and conduct Critical Design Review (CDR). Integrate EMD Inert Operational Missile (IOM) round into AEGIS Linebacker initial capability computer program. Continue follow-on AWS computer program development. Continue implementation of JMCIS TBMD segments and TBMD messages in C2P. Complete exit criteria to support and conduct Long Lead Material (LLM) Decision for Low Rate Initial Production (LRIP).
 - 5625 Complete Phase I of LFT&E Arena and Warhead Sled Test Program. Continue required lethality analyses and lethality model refinements.
 - 32075 Continue building and delivery of targets to support Navy TBMD flight tests. Maintain infrastructure to support TMD targets.
 - 5500 Perform characterization testing for IMPACT 98.
- Total 242597

FY 2000 Planned Program:

- 239162 Continue WSMR missile flight testing. Complete preparations and conduct missile LRIP review. Deliver Linebacker/EMD missiles. Continue AWS Baseline 6 Phase III full capability development and initiate computer program testing at Combat Systems Engineering Development Site (CSEDS). Continue follow-on AWS computer program development. Continue implementation of modifications to Navy Command and Control systems to maintain consistency with the Joint Planning Network, Joint Data Network, and Joint Composite Tracking Network. Complete exit criteria to support and conduct Low Rate Initial Production (LRIP).
 - 1343 Continue LFT&E activities. Complete required lethality analyses and lethality model refinements.
 - 27204 Continue building and delivery of targets to support Navy TBMD flight tests and maintain infrastructure to support TMD targets.
 - 680 Provide testing support for IMPACT 98.
- Total 268389

FY 2001 Planned Program:

- 146452 Complete WSMR missile flight testing. Conduct, Linebacker Developmental Testing at sea to provide an early deployment capability of Navy TBMD. Continue AWS Baseline 6 Phase III full capability development, and computer program testing at CSEDS. Continue follow-on AWS computer program development. Continue implementation of modifications to Navy Command and Control systems to maintain consistency with the Joint Planning Network, Joint Data Network, and Joint Composite Tracking Network.
 - 79220 Continue building and delivery of targets to support Navy TBMD flight tests and maintain infrastructure to support TMD targets.
 - 1100 Provide testing support for IMPACT 98.
- Total 226772

B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (<u>FY 1999</u> PB)	278790	245796	231592	160193

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Congressional Adjustments				
Appropriated Value		245796		
Adjustments to Appropriated Value				
a. Congressional Reductions (FFRDC, Inflation, etc)		-1716		
b. OSD Reductions		-1483		
c. Emergency Supplemental				
Adjustments to Budget Years Since <u>FY 1999</u> PB				
Current Budget Submit (<u>FY 2000 / 2001</u> PB)	292063	242597	268389	226772

Change Summary Explanation:

Funding: FY98 increase of \$14.0M represents Congressional Emergency Supplement Appropriation Act funding for IMPACT 98. FY99 decrease of \$3.199M was due to Congressional General Reductions.

FY00/01 funding was increased a total of \$103.376M. However, the changes to those years included a decrease (~\$59M) to reflect an 18 month slip in the planned DT/OT series. At the same time funding increases were required to: Support changes in test plans and to address technical issues in FY00/01, including a missile dome cooling system upgrade (~\$2.5M); Qualification of a new target detection device vendor (~\$4.7M); Fund additional IMPACT 98 test preparations (~\$1.7M); Support cost increases in the Vertical Launch System contract (~\$2M); Expand WSMR schedule and add one additional flight test (~\$12.7M); Support revised estimates of AWS computer program development consistent with latest Program Life Cycle Cost Estimate and schedule extensions based on recommendations from the Welch Report on Reducing Risk in Ballistic Missile Defense Flight Test Programs (~\$15.5M); Support additional test and evaluation range upgrades (~\$29.8M). In addition, the program has experienced substantial cost growth in the Standard Missile Block IVA EMD contract (~\$68.2M) and cost growth in the AEGIS Weapons System since the FY99 President's Budget due to both estimating changes and software increases (~\$24.3M). The details of the rephased DT/OT plans and dates are still under review and, therefore, the costs in FY2002 and beyond due to program extension and additional testing have not been resolved. Adjustments to accommodate the revised plans will be incorporated into the next budget cycle in conjunction with the program rebaseline effort.

Schedule: To reduce risk in the missile development testing at WSMR, the missile developmental testing timeframe will be expanded. To reduce AWS risk, the Tactical First Unit Equipped has been delayed by 18 months and Acquisition Milestone III has been delayed by 20 months to allow for additional of AWS land based integration testing prior to the at-sea Developmental Testing/Operational Testing (DT/OT).

Technical: An additional missile developmental flight event has been added at WSMR to reduce risk prior to the first TBM intercept attempt. Rigor has been increased to reduce risk in the development of the AWS computer program through additional land based integration testing at Lockheed Martin/Government Electronic Systems (LM/GES) and Naval Surface Weapons Center, Dahlgren Division (NSWC/DD) prior to the at-sea DT/OT.

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C. <u>Other Program Funding Summary</u>	<u>FY 1998</u>	<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>	To <u>Compl</u>	Total <u>Cost</u>
Navy Area TBMD – AEGIS TBM Upgrades	14859	36489	20418	45556	60469	58730	71108	74823	279361	700000
Navy Area TBMD – SM-2 Blk IVA Procurement		6700	34584	15510	60566	75649	81211	106558	TBD	TBD
WPN BLI: 223400 Standard Missile SM-2 BLK IVA	0	7200	87838	69460	135255	209045	253893	263292	TBD	TBD
WPN 2290 Other Missile Support Mk 21 Mod 1 VLS Canisters for SM-2 BLK IVA	0	0	2451	2704	7130	12645	17838	19752	TBD	TBD

D. Acquisition Strategy:
 This strategy consists of a Navy Area TBMD Program evolving to a Theater-Wide Defense TBMD program. The Navy Area Program will build on existing force structure by modifying the SM-2 Block IV missile and AEGIS Combat System to achieve TBMD capability.

E. <u>Schedule Profile</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<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>
AEGIS Linebacker Preliminary Design Review	3Q									
SM-2 Block IVA Preliminary Design Review	4Q									
Acquisition Milestone II		2Q								
AEGIS Linebacker Critical Design Review		2Q								
AEGIS 6 Phase III Preliminary Design Review			1Q							
AEGIS Linebacker Engineering Assessment			3Q							
AEGIS 6 Phase III In Process Review			4Q							
AEGIS 6 Phase III Critical Design Review				1Q						
White Sands Missile Range Developmental Testing/Operational Assessment – Start				3Q						
Low Rate Initial Production Decision					3Q					
AEGIS Linebacker DT At-Sea Tests Complete						1Q				
Low Rate Initial Production Delivery						3Q				
Tactical DT/OT Flight Tests – Start							3Q			
Tactical First Unit Equipped								1Q		
Acquisition Milestone III								3Q		

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BMDO RDT&E COST ANALYSIS (R-3)	DATE February 1999
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604867C Navy Area - EMD	PROJECT 2263
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.	CPAF	Standard Missile Co.	276861	99725		96950		32343		TBD	505879	
b.	CPAF	Lockheed Martin	56296	50272		63395		45518		TBD	215481	
c.	WR	NSWC Dahlgren	13558	6418		6770		6298		TBD	33044	
d.	RCP	JHU/APL	14445	6838		7213		6579		TBD	35075	
e.	CPAF	Motorola	6000	2840		2996		1902		TBD	13738	
f.	RCP	SPAWAR	7426	3515		3708		2354		TBD	17003	
g.	CPFF	United Defense	4236	2005		2115		1343		TBD	9699	
h.	MIPR	Hanscom / MIT/LL	3000	1420		1498		951		TBD	6869	
i.		Misc	4176	1977		2085		1324		TBD	9562	
Subtotal Product Development:			385998	175010		186730		98612			846350	

Remark:

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.	CPFF	Vitro	6686	3165		3339		2119		TBD	15309	
b.	CPFF	SPA	1658	785		828		526		TBD	3797	
c.	CPFF	TSC	1500	710		749		475		TBD	3434	
d.	CPFF	SYSCON	990	469		494		314		TBD	2267	
e.		Misc	2105	996		1051		667		TBD	4819	
Subtotal Support Costs:			12939	6125		6461		4101			29626	

Remark:

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BMDO RDT&E COST ANALYSIS (R-3)

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BUDGET ACTIVITY
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.	WR	NAWC Point Mugu	1885	1892		1941		1581		TBD	7299	
b.	WR	NSWC Port Hueneme	2686	2271		2341		1851		TBD	9149	
c.	WR	NSWC Dahlgren	10468	6955		7689		6818		TBD	31930	
d.		SMDC Army	8695	32075		27204		79220		TBD	147194	
e.	WR	WSMR	1884	8492		24641		15598		TBD	50615	
f.	MIPR	Holloman AFB	1000	1473		1466		1817		TBD	5756	
g.	WR	COMOPTEVFOR	250	125		122		7131		TBD	7628	
h.		Misc	1517	2352		3758		5481		TBD	13108	
Subtotal Test and Evaluation:			28385	55635		69162		119497			272679	

Remark:

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.	PD	NAVSEA	5000	2000		2000		2000		TBD	11000	
b.	WR	NSWC Dahlgren	5566	2635		2779		1764		TBD	12744	
c.	PD	JHU/APL	2301	1089		1149		729		TBD	5268	
d.		Misc	217	103		108		69		TBD	497	
Subtotal Management Services:			13084	5827		6036		4562			29509	

Remark:

Project Total Cost:			440406	242597		268389		226772			1178164	
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Remark: