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| BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit) | DATE February 2000 |
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|--|---|-------------------------------|
| BUDGET ACTIVITY 5 - Engineering and Manufacturing Development | PE NUMBER AND TITLE 0604867C Navy Area - EMD | PROJECT 2263 |
|--|---|-------------------------------|

| COST (In Thousands) | FY1999 Actual | FY 2000 Estimate | FY 2001 Estimate | FY 2002 Estimate | FY 2003 Estimate | FY 2004 Estimate | FY2005 Estimate | Cost to Complete | Total Cost |
|---------------------|---------------|------------------|------------------|------------------|------------------|------------------|-----------------|------------------|------------|
| 2263 Navy Area | 241883 | 307274 | 274234 | 228596 | 85866 | 33293 | 29369 | 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 lower tier 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 1999 Accomplishments:

- 203996 Continued Engineering/Manufacturing Development (EMD) of the missile. Continued fabrication and delivery of Inert Operational Missile (IOM) /Engineering Design Model (EDM) test rounds. Continued fabrication of White Sands Missile Range (WSMR) flight test and LINEBACKER missiles. Continued completion of exit criteria to support Long Lead Material (LLM) Decision for Low Rate Initial Production (LRIP). Continued AWS Baseline 6 Phase III full capability (tactical) computer program development, conducted Critical Design Review (CDR), and continued coding of the computer program. Continued follow-on AWS Baseline 7 Phase I computer program development. Initiated implementation of modifications to Navy Command and Control systems to maintain consistency with the Joint Planning Network (JPN), Joint Data Network (JDN), and Joint Composite Tracking Network (JCTN). Continued implementation of Joint Maritime Command Information System (JMCIS) TBMD segments and TBMD messages in Command and Control Processor (C2P).
 - 5822 Continued Live Fire Test & Evaluation (LFT&E) testing and completed Phase I of LFT&E Arena and Warhead Sled Test Program. Continued required lethality analyses and lethality model refinements.
 - 26565 Continued building and delivery of targets to support Navy TBMD flight tests and maintained infrastructure to support TMD targets.
 - 5500 Participated in characterization testing in support of Iranian Missile Protection Act of 1998 (IMPACT 98) demonstration.
- Total 241883

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| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
| 5 - Engineering and Manufacturing Development | 0604867C Navy Area - EMD | 2263 |
| FY 2000 Planned Program: | | |
| • 269668 | Continue EMD of the missile. Continue fabrication and delivery of WSMR flight test and LINEBACKER missiles. Begin missile Developmental Testing/Operational Assessment (DT/OA) at WSMR. Complete exit criteria to support and conduct review for LRIP LLM decision. Continue fabrication and delivery of IOM/EDM test rounds. Continue AWS Baseline 6 Phase III full capability (tactical) computer program development and initiate computer program testing of combat systems interface at Combat Systems Engineering Development Site (CSEDS). Continue follow-on AWS Baseline 7 Phase I computer program development. Continue implementation of modifications to Navy Command and Control systems to maintain consistency with the JPN, JDN, and JCTN. | |
| • 4700 | Complete LFT&E ground test program activities. Continue required lethality analyses and lethality model refinements. | |
| • 32226 | 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 | 307274 | |
| FY 2001 Planned Program: | | |
| • 220560 | Complete WSMR missile flight testing. Conduct review for missile LRIP decision and begin LRIP missile fabrication. Continue procurement of long lead components to support missile LRIP. Continue fabrication and delivery of IOM/EDM test rounds. Integrate IOM/EDM round into AEGIS LINEBACKER initial capability computer program. Conduct LINEBACKER DT at sea to provide an early deployment capability of Navy TBMD. Complete AWS Baseline 6 Phase III full capability (tactical) computer program coding and computer program testing at CSEDS. Begin preparations for delivery of AWS tactical computer program to Developmental Testing/Operational Testing (DT/OT) ship. Continue follow-on AWS Baseline 7 Phase I computer program development. Continue implementation of modifications to Navy Command and Control systems to maintain consistency with the JPN, JDN, and JCTN. | |
| • 2501 | Continue required lethality analyses and lethality model refinements. | |
| • 50159 | Continue building and delivery of targets to support Navy TBMD flight tests. | |
| • 1014 | Provide testing support for IMPACT 98 demonstration. | |
| Total | 274234 | |
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| BUDGET ACTIVITY 5 - Engineering and Manufacturing Development | PE NUMBER AND TITLE 0604867C Navy Area - EMD | | PROJECT 2263 |
| B. Program Change Summary | | | |
| Previous President's Budget (<u>FY 2000</u> PB) | <u>FY 1999</u> 242597 | <u>FY 2000</u> 268389 | <u>FY 2001</u> 226772 |
| Congressional Adjustments | | 40000 | |
| Appropriated Value | | 308389 | |
| Adjustments to Appropriated Value | +1483 | | |
| a. Congressional Reductions (FFRDC, Inflation, etc) | -250 | -3002 | -1704 |
| b. OSD Reductions | -565 | | |
| c. Emergency Supplemental | | | |
| d. Internal Reprogramming | | 1887 | |
| Adjustments to Budget Years Since <u>FY 2000</u> PB | | | +49166 |
| Current Budget Submit (<u>FY 2001</u> PB) | 241883 | 307274 | 274234 |
| Change Summary Explanation: | | | |
| <p>Funding: FY 99 decrease of \$.815M was due to Congressional general reductions and OSD reductions. The FY00 Appropriation Act added \$40M in support of the program rebaseline and a reduction of \$1.115M was due to OSD reductions. The FY01 funding increase of \$49.166M is also in support of the program rebaselining and reduction of \$1.704M is an inflation adjustment.</p> <p>Schedule: With the rebaselined program, the start of missile development testing phase at WSMR has been adjusted and the testing phase has been expanded to reduce schedule and technical risk following an initial assessment of program risk and recommendations from independent review group. This expanded WSMR schedule resulted in adjustments to the LRIP LLM and the LRIP decisions as well as the LINEBACKER at sea testing.</p> <p>Technical: The new program baseline provides for higher confidence in the schedule, lowers technical risk, adds ground test assets, restructures flight test configurations, provides additional land based testing, and allows for more robust preparation prior to OT.</p> | | | |
| Project 2263 | | Page 3 of 6 Pages | Exhibit R-2 (PE 0604867C) |

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| C. Other Program Funding Summary | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|---|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| Navy Area TBMD – AEGIS TBM Upgrades | 14859 | 28971 | 7918 | 0 | 6983 | 56892 | 70437 | 73843 | 418305 | 677941 |
| Navy Area TBMD – SM-2 Blk IVA Procurement | | 13700 | 10225 | 0 | 0 | 0 | 80445 | 102678 | 904573 | 1111621 |
| WPN BLI: 223400 Standard Missile SM-2 BLK IVA | 0 | 29000 | 92597 | 68538 | 107887 | 175831 | 219155 | 265037 | 1413164 | 2371209 |
| WPN 2290 Other Missile Support Mk 21 Mod 1 VLS Canisters for SM-2 BLK IVA | 0 | 0 | 2114 | 2342 | 4495 | 9455 | 14514 | 18991 | 120085 | 171996 |

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. Schedule Profile | FY 1996 | FY 1997 | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 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 | | | 4Q | | | | | | | |
| 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 | | | | | 2Q | | | | | |
| Low Rate Initial Production Decision | | | | | | 3Q | | | | |
| AEGIS Linebacker DT At-Sea Tests Complete | | | | | | 4Q | | | | |
| 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 2000

BUDGET ACTIVITY
5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604867C Navy Area - EMD

PROJECT
2263

| I. Product Development | Contract Method & Type | Performing Activity & Location | Total Pys Cost | FY 2000 Cost | FY 2000 Award Date | FY 2001 Cost | FY 2001 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|-------------------------------|------------------------|--------------------------------|----------------|--------------|--------------------|--------------|--------------------|------------------|------------|--------------------------|
| a. SM-2 Blk IVA Missile | CPAF | RAYTHEON | 376326 | 107498 | Cont | 79346 | Cont | TBD | 563170 | TBD |
| b. SM-2 Blk IVA Missile | WR | CHINA LAKE | 4000 | 2000 | Cont | 2500 | Cont | TBD | 8500 | TBD |
| c. SM-2 Blk IVA Missile | WR | NSWC PHD | 0 | 595 | Cont | 1200 | Cont | TBD | 1795 | TBD |
| d. AWS/BMC41 | CPAF | LOCKHEED MARTIN | 107250 | 74409 | Cont | 53590 | Cont | TBD | 235249 | TBD |
| e. AWS/BMC41/SM-2 | WR | NSWC/DD | 21390 | 9257 | Cont | 9466 | Cont | TBD | 40113 | TBD |
| f. AWS/BMC41/SM-2 | CPFF | JHU/APL | 22915 | 10592 | Cont | 9250 | Cont | TBD | 42757 | TBD |
| g. AEGIS Weapon System | WR | (Sites) | 0 | 7600 | Cont | 4040 | Cont | TBD | 11640 | TBD |
| h. AEGIS Weapon System | MIPR | MIT/LL | 2200 | 3000 | Cont | 1500 | Cont | TBD | 6700 | TBD |
| i. AWS/BMC41 | CPFF | TSC | 1500 | 2350 | Cont | 1500 | Cont | TBD | 5350 | TBD |
| j. AWS/SM-2 | WR | NWAS | 1924 | 2200 | Cont | 1800 | Cont | TBD | 5924 | TBD |
| k. AWS/BMC41 | WR | ATRC | 0 | 1143 | Cont | 2225 | Cont | TBD | 3368 | TBD |
| l. Vertical Launch System | CPAF | UNITED DEFENSE | 5198 | 2509 | Cont | 474 | Cont | TBD | 8181 | TBD |
| m. BMC41 | RCP | SPAWAR | 11033 | 3966 | Cont | 4211 | Cont | TBD | 19210 | TBD |
| n. SM-2/AWS/VLS | WR | VARIOUS | 29489 | 3613 | Cont | 2908 | Cont | TBD | 36010 | TBD |
| Subtotal Product Development: | | | 583225 | 230732 | Cont | 174010 | Cont | | 987967 | TBD |

Remark:

| II. Support Costs | Contract Method & Type | Performing Activity & Location | Total Pys Cost | FY 2000 Cost | FY 2000 Award Date | FY 2001 Cost | FY 2001 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|-------------------------|------------------------|--------------------------------|----------------|--------------|--------------------|--------------|--------------------|------------------|------------|--------------------------|
| a. Systems Architecture | CPFF | JHU/APL | 927 | 1380 | Cont | 1379 | Cont | TBD | TBD | TBD |
| b. VLS/Sys Architecture | WR | NSWC/DD | 341 | 2125 | Cont | 2079 | Cont | TBD | TBD | TBD |
| c. VLS/Sys Arch/BMC4I | VARIOUS | VARIOUS | 5662 | 5524 | Cont. | 4433 | Cont | TBD | TBD | TBD |
| Subtotal Support Costs: | | | 6930 | 9029 | Cont | 7891 | Cont | TBD | TBD | TBD |

Remark:

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BMDO RDT&E COST ANALYSIS (R-3)

DATE **February 2000**

BUDGET ACTIVITY
5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604867C Navy Area - EMD

PROJECT
2263

| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total Pys Cost | FY 2000 Cost | FY 2000 Award Date | FY 2001 Cost | FY 2001 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|-------------------------------|------------------------|--------------------------------|----------------|--------------|--------------------|--------------|--------------------|------------------|------------|--------------------------|
| a. Test & Evaluation | CPFF | JHU/APL | 2800 | 2128 | Cont | 1763 | Cont | TBD | TBD | TBD |
| b. Test & Evaluation | WR | WSMR | 3797 | 4994 | Cont | 11433 | Cont | TBD | TBD | TBD |
| c. Test & Evaluation | WR | PMRF | 355 | 895 | Cont | 4476 | Cont | TBD | TBD | TBD |
| d. T&E/IMPACT/Lethality | WR | NSWC/DD | 27169 | 5380 | Cont | 3515 | Cont | TBD | TBD | TBD |
| e. VLS/T&E | WR | NSWC/PHD | 4615 | 1835 | Cont | 1011 | Cont | TBD | TBD | TBD |
| f. Targets | | SMDC Army | 35260 | 32226 | Cont | 50159 | Cont | TBD | TBD | TBD |
| g. T&E/VLS/BMC4I | Various | Various | 3874 | 9268 | Cont | 9733 | Cont | TBD | TBD | TBD |
| Subtotal Test and Evaluation: | | | 77870 | 56726 | Cont | 82090 | Cont | TBD | TBD | TBD |

Remark:

| IV. Management Services | Contract Method & Type | Performing Activity & Location | Total Pys Cost | FY 2000 Cost | FY 2000 Award Date | FY 2001 Cost | FY 2001 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|-------------------------------|------------------------|--------------------------------|----------------|--------------|--------------------|--------------|--------------------|------------------|------------|--------------------------|
| a. SM-2 Blk IVA Missile | CPAF | LOGICON | 1550 | 1200 | Cont | 1200 | Cont | TBD | TBD | TBD |
| b. AEGIS Weapon System | CPFF | PCI | 375 | 1175 | Cont | 1175 | Cont | TBD | TBD | TBD |
| c. Systems Architecture | PD | NAVSEA | 7000 | 2000 | Cont | 2100 | Cont | TBD | TBD | TBD |
| d. T&E/Sys Architecture | CPFF | Techmatics/SPA | 2600 | 3819 | Cont | 3819 | Cont | TBD | TBD | TBD |
| e. SM/BMC4I/SysArch/VLS | Various | Various | 2638 | 2593 | Cont | 1949 | Cont | TBD | TBD | TBD |
| Subtotal Management Services: | | | 14163 | 10787 | Cont | 10243 | Cont | TBD | TBD | TBD |

Remark:

| | | | | | | | | | | |
|---------------------|--|--|--------|--------|------|--------|------|-----|-----|-----|
| Project Total Cost: | | | 682188 | 307274 | Cont | 274234 | Cont | TBD | TBD | TBD |
|---------------------|--|--|--------|--------|------|--------|------|-----|-----|-----|

Remark: