

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

| BUDGET ACTIVITY | | PE NUMBER AND TITLE | | | | | | | | |
|----------------------------------|-------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
| 4 - Demonstration and Validation | | 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | | | | | | | | |
| 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 |
| Total Program Element (PE) Cost | 51886 | 60227 | 62033 | 89510 | 65830 | 73463 | 72073 | 47004 | Continuing | Continuing |
| BJ4 BIOLOGICAL DEFENSE | 1577 | 1898 | 2762 | 6653 | 10639 | 15564 | 20569 | 11742 | Continuing | Continuing |
| CA4 CONTAMINATION AVOIDANCE | 135 | 0 | 0 | 6933 | 8743 | 9193 | 0 | 0 | 0 | 25004 |
| CO4 COLLECTIVE PROTECTION | 4077 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4077 |
| CP4 COUNTERPROLIFERATION SUPPORT | 29281 | 42940 | 14678 | 14234 | 13637 | 18326 | 18268 | 13318 | Continuing | Continuing |
| DE4 DECONTAMINATION SYSTEMS | 6846 | 4409 | 6717 | 10782 | 0 | 0 | 7384 | 3369 | Continuing | Continuing |
| IP4 INDIVIDUAL PROTECTION | 0 | 0 | 6624 | 9257 | 0 | 0 | 0 | 0 | 0 | 15881 |
| MB4 MEDICAL BIOLOGICAL DEFENSE | 9139 | 8767 | 28523 | 39477 | 30921 | 28513 | 23987 | 16658 | Continuing | Continuing |
| MC4 MEDICAL CHEMICAL DEFENSE | 831 | 2213 | 2729 | 2174 | 1890 | 1867 | 1865 | 1917 | Continuing | Continuing |

A. Mission Description and Budget Item Justification: Operational forces have an immediate need to safely operate, survive and sustain operations in a chemical and biological (CB) agent threat environment across the continuum of global, contingency, special operations/low intensity conflict, counternarcotics, and other high risk missions. This program element supports the Pre-Engineering & Manufacturing Development (Pre-EMD) DEMVAL efforts of CB defensive equipment, both medical and non-medical, and addresses various shortcomings identified in CONDUCT OF THE PERSIAN GULF WAR: FINAL REPORT TO CONGRESS, April 1992. These projects have been restructured to consolidate Joint and Service-unique tasks within four commodity areas: contamination avoidance, force protection (individual and collective), decontamination and medical countermeasures. The consolidation provides for development and demonstration testing of equipment for Joint Service as well as Service-unique requirements. This program is enhanced by leveraging Counterproliferation Program funding. The Counterproliferation Program will initiate the Restoration of Operations (RestOps) ACTD in FY00 with completion in FY02 and residual support in FY03 and FY04. This ACTD will provide integrated/automated C/B defense to high priority CINC Air Ports of Debarkation (APODs) and Sea Ports of Debarkation (SPODs). This Pre-EMD PDRR program funds for: collective protection equipment such as the Advanced Integrated Collective Protection System (AICPS) and Naval shipboard collective protection; an array of chemical/biological/toxin detection and evaluation of promising technologies for Joint Chemical Agent Detector (JCAD) applications, the Joint Service Lightweight Stand-off Chemical Agent Detector (JSLSCAD), and the Joint Service Warning and Identification Lidar Detector (JSWILD); decontamination capabilities to include the sorbent technology and the Modular Decontamination System (MDS); and identification and sampling components for future Joint Biological Point Detection Block and Remote Detection upgrades. In the medical chemical/biological defense area this Pre-EMD DEMVAL program funds improved medical

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)

equipment, vaccines, and drugs essential to counteracting lethal and human performance degrading effects of chemical and biological agent threats. Specific items include improvements to nerve agent antidotes, topical skin protectants, anticonvulsants, biological agent diagnostics, and vaccines to protect against various Biological Warfare (BW) agents.

| B. Program Change Summary: | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|--|---------|---------|---------|---------|
| Previous President's Budget (FY1999 PB) | 55145 | 60404 | 40815 | 54749 |
| Appropriated Value | 53413 | 60227 | | |
| Adjustments to Appropriated Value | | | | |
| a. Congressional General Reductions | | | | |
| b. SBIR/STTR | -894 | | | |
| c. Omnibus or Other Above Threshold Reductions | | | | |
| d. Below Threshold Reprogramming | -633 | | | |
| e. Rescissions | | | | |
| Adjustments to Budget Years Since FY 1999 PB | | | 21218 | 34761 |
| Current Budget Submit (FY2000/FY2001 PB) | 51886 | 60227 | 62033 | 89510 |

Change Summary Explanation:

Funding: FY00 - CP4 JBREWS (-5081) RDTE slowed to take advantage of ABPORT ACTD, CP4 RESTOPS (933) increase efforts, CA4 JCAD (-811) moved to CA5 JCAD, MB4 Vaccines (18806) increased RDTE, IP4 JSGPM (6735) moved from IP5 JSGPM to correctly align program, BJ4 TT Bio (1000) PDM I plus up for transition of bio detectors from DARPA, (677) other adjustments to higher priority efforts, (-1041) for revised economic assumptions. FY01 - CA4 JCAD (-863) moved to CA5 JCAD CP4 JBREWS (-2659) slowed to take advantage of ABPORT ACTD, CP4 RESTOPS (-1559) aligned program efforts due to increase of FY00 funding, IP4 JSGPM (9423) moved from IP5 JSGPM to correctly align program, BJ4 TT Bio (5000) PDM I plus up for transition of bio detectors from DARPA, MB4 vaccines (27556) correctly aligns bio vaccine RDTE from vaccine procurement, (-537) other adjustments to higher priority efforts, (-1600) for revised economic assumptions.

Schedule:

Technical:

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | | | | DATE February 1999 | | | |
|---|--------------------|--------------------|---------------------|---|---------------------|---------------------|----------------------------|-----------------------|---------------------|---------------------|------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | | | | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVVAL) | | | | | PROJECT BJ4 | | |
| 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 |
| BJ4 | BIOLOGICAL DEFENSE | 1577 | 1898 | 2762 | 6653 | 10639 | 15564 | 20569 | 11742 | Continuing | Continuing |
| <p>A. Mission Description and Budget Item Justification:</p> <p>Project BJ4 BIOLOGICAL DEFENSE: Detection and characterization of biological warfare (BW) agents is one of the highest CINC/JROC Counterproliferation priorities. The DoD Biological Defense mission area requires the detection of biological threat agents to provide early warning capabilities at high value mobile and fixed site locations. The detection system will provide detection, identification, warning and sample collection for verification of large area or point source biological attacks. This program supports the Program Definition and Risk Reduction (PDRR). Technology Transfer (TT) of advanced detection and testing, identification and sampling components for future Joint Biological Point Detection System (JBPDS) Block I/II, Critical Reagents and Joint Biological Remote Early Warning System (JBREWS) and Portal Shield upgrades. The Critical Reagent Program also supports the development of new critical reagents for fielded detection systems to meet the established OJCS threat list.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 195 BIDS - Conducted Limited User Test. • 620 JBPDS - Initiated concept development and design of candidate bio-suite components for the Block II system. • 500 JBPDS - Conducted testing of candidate Block II biological suite components. • 262 JBPDS - Initiated effectiveness analysis of candidate biological detector components for the JBPDS, Blocks I and II. <p>Total 1577</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 1011 JBPDS - Continue concept development and design of candidate bio-suite components for Block II system. • 537 JBPDS - Continue chamber/field tests of candidate Block II biological suite components. • 318 JBPDS - Conduct abbreviated analysis of potential biological detector components for the JBPDS Block II. • 32 SBIR/STTR <p>Total 1898</p> | | | | | | | | | | | |
| Project BJ4 | | Page 3 of 37 Pages | | | | | Exhibit R-2 (PE 0603884BP) | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | PROJECT BJ4 |
|---|--|----------------|

FY 2000 Planned Program:

- 1779 CRP - Begin development of appropriate reagents to support the development of the Joint Biological Point Detection System (JBPDS), the Joint Biological Remote Early Warning System (JBREWS), and the Portal Shield upgrades.
- 983 TT Bio - Conduct biological detection architecture analysis and study for maturing DARPA technologies.

Total 2762

FY 2001 Planned Program:

- 1741 JBPDS - Complete abbreviated analysis of potential biological detector components for the JBPDS Block II.
- 2000 TT Bio - Conduct evaluation of emerging DARPA technologies.
- 2912 TT Bio - Initiate advanced engineering development and risk reduction of selected detection technologies.

Total 6653

B. Other Program Funding Summary:

| | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|--|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| CP4 COUNTERPROLIFERATION SUPPORT | 29281 | 42940 | 14678 | 14234 | 13637 | 18326 | 18268 | 13318 | Cont'd | Cont'd |
| BJ5 BIOLOGICAL DEFENSE | 44331 | 34104 | 11460 | 6042 | 47073 | 60750 | 15800 | 1519 | Cont'd | Cont'd |
| JP0100 JOINT BIO POINT DETECTION SYSTEM (JBPDS) | 0 | 0 | 48406 | 53935 | 62138 | 62302 | 44302 | 45951 | Cont'd | Cont'd |
| JPO210 CRITICAL REAGENTS PROGRAM (CRP) | 0 | 1746 | 2432 | 1923 | 1928 | 2024 | 1866 | 1923 | Cont'd | Cont'd |
| M93001 BIO INTEGRATED DETECTOR SYSTEM (BIDS) | 37371 | 14900 | 19479 | 0 | 0 | 0 | 0 | 0 | 0 | 71750 |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT BJ4 |
|---|--|----------------|

C. Acquisition Strategy:
JPBDS This program will ensure design maturity of the most promising biological detection components (triggers, samplers, detectors, identifiers) for insertion into ongoing JBPDS/JBREWS Engineering Manufacturing Development (EMD) programs. This program will utilize a combination of government agencies (ERDEC and NMRI) and contractors to develop new reagents (anti-bodies/gene probes) for the detection of high threat biological warfare (BW) agents.

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | |
|---------------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| CRP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop Reagents for 15 BW Agents | | | | | | | | | X | X | X | X | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| Award Hand Held Assay Contract | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop Reagents for 20 BW Agents | | | | | | | | | | | | | | | | | X | X | X | X | | | | | | | | | | | | | | | | | | | | |
| Develop Reagents for 30 BW Agents | | | | | | | | | | | | | | | | | | | | | X | X | X | X | | | | | | | | | | | | | | | | |
| JBPDS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Start of Work Meeting | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Preliminary Design Review | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Critical Design Review | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Perform EDT | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Perform PPQT | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Perform IOT&E | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| Block I MS III | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | |
| Conduct concept analysis for Block II | | | | | | | | | | | | | X | X | X | X | X | X | X | | | | | | | | | | | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)

BJ4

A. Project Cost Breakdown:

| | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|---------------------------------|---------|---------|---------|---------|
| Development Test and Evaluation | 500 | 855 | 1779 | 1741 |
| Engineering Design | 620 | 0 | 983 | 4912 |
| Hardware Development | 262 | 1011 | 0 | 0 |
| Regulatory Affairs | 0 | 32 | 0 | 0 |
| Test & Evaluation | 195 | 0 | 0 | 0 |
| Total | 1577 | 1898 | 2762 | 6653 |

| | |
|--|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE February 1999 |
|--|-----------------------|

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | PROJECT CA4 |
|---|--|----------------|

| 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 |
|-----------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
| CA4 CONTAMINATION AVOIDANCE | 135 | 0 | 0 | 6933 | 8743 | 9193 | 0 | 0 | 0 | 25004 |

A. Mission Description and Budget Item Justification:

Project CA4 CONTAMINATION AVOIDANCE: This project conducts Pre-EMD DEMVAL of reconnaissance, detection, and identification equipment. Items included are: Joint Chemical Agent Detector (JCAD) technology evaluation to address requirements and Joint Service Warning and Identification Lidar Detector (JSWILD) to provide laser standoff integrated chemical and bioaerosol detection capability for protection of fixed sites, reconnaissance, and other battlefield applications.

FY 1998 Accomplishments:

- 135 JCAD - USN and USMC technical, acquisition, documentation and analysis support.

Total 135

FY 1999 Planned Program: No planned program

FY 2000 Planned Program: No planned program

FY 2001 Planned Program:

- 6933 JSWILD - Initiate development of hardware and software.

Total 6933

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)

PROJECT

CA4

B. Other Program Funding Summary:

| | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|---|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| CA5 CONTAMINATION AVOIDANCE | 43802 | 44113 | 62735 | 48435 | 24272 | 9850 | 21560 | 21306 | Cont'd | Cont'd |
| B96801 RADIAC - POCKET AN/UDR - 13 | 3164 | 3263 | 2898 | 2846 | 3762 | 7564 | 0 | 0 | 0 | 23497 |
| G47101 JOINT WARNING & REPORTING NETWORK (JWARN) | 0 | 10174 | 9012 | 8923 | 11641 | 10527 | 12067 | 12168 | Cont'd | Cont'd |
| JA0004 GUARD & RESERVE EQUIPMENT | 0 | 14652 | 6096 | 1171 | 0 | 1167 | 0 | 1165 | Cont'd | Cont'd |
| JF0100 JOINT CHEM AGENT DETECTOR (JCAD) | 0 | 0 | 0 | 0 | 27142 | 27743 | 25566 | 25779 | Cont'd | Cont'd |
| JF0101 IN-LINE WATER CHEM/BIO DETECTOR | 0 | 0 | 0 | 0 | 0 | 0 | 1989 | 2006 | Cont'd | Cont'd |
| JX0002 CA SYSTEM FIELDING SUPPORT/SPARES | 885 | 1067 | 1108 | 1987 | 2330 | 2379 | 3309 | 3092 | Cont'd | Cont'd |
| M98801 AUTO CHEMICAL AGENT ALARM (ACADA), M22 | 15722 | 29633 | 37224 | 48744 | 0 | 0 | 0 | 0 | 0 | 131323 |
| MA0601 RECON SYSTEM, FOX NBC (NBCRS) MODS | 25335 | 26044 | 24918 | 31752 | 6362 | 5486 | 33907 | 35138 | Cont'd | Cont'd |
| MC0100 JT SVC LTWT NBC RECON SYS (LNBCRS) | 0 | 0 | 0 | 39478 | 80887 | 66478 | 59854 | 69084 | Cont'd | Cont'd |
| N00041 SHIPBOARD DETECTOR MODIFICATIONS | 4647 | 9138 | 11515 | 6953 | 8762 | 8664 | 5795 | 1528 | Cont'd | Cont'd |
| S02201 IMPROVED CHEMICAL AGENT MONITOR (ICAM) | 9247 | 9465 | 12788 | 12551 | 0 | 0 | 0 | 0 | 0 | 44051 |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT CA4 |
|---|--|----------------|

| B. Other Program Funding Summary (cont): | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|--|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| S10801 JS LTWT STANDOFF CW AGT DETECTOR (LSCAD) | 0 | 0 | 0 | 0 | 3109 | 8935 | 18936 | 28640 | Cont'd | Cont'd |

C. Acquisition Strategy:

JCAD Focusing joint service science and technology efforts in small lightweight chemical detection into a single effort supporting Engineering and Manufacturing Development (EMD) approval (2 Dec 97).

JSWILD Competitive contracts for Dem/Val (FY01-03) and EMD (FY04-06).

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | |
|-------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| JCAD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone I/II Approval | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JSWILD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JS ORD Available | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| Milestone 1 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| Award DEM/VAL contract | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| Phase 1 Design | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X | | | | | | | | | | | | | |
| Initiate Fabrication | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

CA4

A. Project Cost Breakdown:

FY 1998

FY 1999

FY 2000

FY 2001

Engineering Design

65

0

0

0

Hardware Development

0

0

0

3779

Integrated Logistics, Support

0

0

0

50

Program Office Support

40

0

0

0

Project Development

0

0

0

150

Project Management

0

0

0

165

Regulatory Affairs

5

0

0

0

Software Development

0

0

0

2789

Technical Data/Documentation

25

0

0

0

Total

135

0

0

6933

| | |
|--|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE February 1999 |
|--|-----------------------|

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | PROJECT CO4 |
|---|--|----------------|

| 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 |
|---------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
| CO4 COLLECTIVE PROTECTION | 4077 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4077 |

A. Mission Description and Budget Item Justification:

Project CO4 COLLECTIVE PROTECTION: This project conducts DEMVAL of CB collective protection systems which are smaller, lighter, less costly and more easily supported logistically at the crew, unit, ship and aircraft level. Items include: Advanced Integrated Collective Protective System (AICPS). AICPS will integrate NBC filtration, environmental controls, and power source components in tactical and combat systems and exploit new filtration technology (regenerable filtration, catalytic oxidation or deep bed chromium-free carbon). The effort extends vehicular collective protection applications providing for reductions in system size, weight, energy and filter change logistics burden. AICPS can be integrated into multiple configurations to provide protection to different tactical systems. Additionally, the effort provides a system solution for countering future threat agents and alleviating the disposal problems associated with hazardous material chromium impregnated carbon filters.

FY 1998 Accomplishments:

- 750 AICPS - Initiated XM31 Design.
- 350 AICPS - Initiated XM31 Fabrication.
- 1000 AICPS - Completed XM32 Design.
- 350 AICPS - Initiated preparation of Technical Manuals.
- 400 AICPS - Completed initial integration of XM32 with U.S. Marine Corps user.
- 727 AICPS - Completed Factory Acceptance and Performance Verification Test of XM32.
- 500 AICPS - Initiated PQT.

Total 4077

FY 1999 Planned Program: No planned program

FY 2000 Planned Program: No planned program

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT CO4 |
|---|--|----------------|

FY 2001 Planned Program: No planned program

| B. Other Program Funding Summary: | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|--|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| CO5 COLLECTIVE PROTECTION | 1086 | 1233 | 5758 | 6423 | 6182 | 5644 | 4583 | 5241 | Cont'd | Cont'd |
| JF0102 TRANSPORTABLE COLLECTIVE PROT SYS | 4730 | 3878 | 6581 | 0 | 0 | 0 | 0 | 0 | 0 | 15189 |
| JN0012 NAVY SHORE EQUIPMENT | 334 | 0 | 0 | 1562 | 2305 | 3762 | 0 | 0 | 0 | 7963 |
| JN0014 COLLECTIVE PROT SYS AMPHIB BACKFIT | 0 | 0 | 12157 | 18305 | 18351 | 17469 | 19600 | 19096 | Cont'd | Cont'd |
| JN0017 JOINT COLLECTIVE PROT SYSTEMS & IMPROVEMENTS | 0 | 0 | 1202 | 1059 | 685 | 690 | 4546 | 4584 | Cont'd | Cont'd |
| JX0004 CO SYSTEM FIELDING SUPPORT/SPARES | 24 | 0 | 0 | 0 | 0 | 0 | 340 | 344 | Cont'd | Cont'd |
| R12301 CB PROTECTIVE SHELTER (CBPS) | 19192 | 16419 | 14024 | 14642 | 16513 | 16547 | 20594 | 20678 | Cont'd | Cont'd |

C. Acquisition Strategy:
AICPS Contractor design and system integration of two configurations for van or shelter platforms. Contractor procurement will be customer system dependent.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT CO4 |
|---|--|----------------|

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | | |
|--------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| AICPS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Redesign Fabrication | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDT | | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT/OT | | | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initiate PPQT & IOT&E | | | | | | | | | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS II/III | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | PROJECT CO4 |
|---|--|----------------|

| A. Project Cost Breakdown: | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|---------------------------------|---------|---------|---------|---------|
| Development Test and Evaluation | 1227 | 0 | 0 | 0 |
| Fabrication | 350 | 0 | 0 | 0 |
| Government Engineering Support | 400 | 0 | 0 | 0 |
| Hardware Development | 1750 | 0 | 0 | 0 |
| Technical Data/Documentation | 350 | 0 | 0 | 0 |
| Total | 4077 | 0 | 0 | 0 |

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | | | | DATE February 1999 | | | |
|--|------------------------------|---------------------|---------------------|--|---------------------|---------------------|----------------------------|-----------------------|---------------------|---------------------|------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | | | | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | | | | | PROJECT CP4 | | |
| 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 |
| CP4 | COUNTERPROLIFERATION SUPPORT | 29281 | 42940 | 14678 | 14234 | 13637 | 18326 | 18268 | 13318 | Continuing | Continuing |
| <p>A. Mission Description and Budget Item Justification:</p> <p>Project CP4 COUNTERPROLIFERATION SUPPORT: Detection and characterization of biological warfare (BW) agents is one of the highest Commander-in Chief (CINC) priorities for fielding of counterproliferation warfighting capabilities. U.S. maneuver forces and troops are vulnerable to upwind releases of BW agents. In addition, the DoD biological mission area requires the detection of BW threat agents to provide early warning for high-value, fixed-site assets. This project supports the accelerated Program Definition and Risk Reduction (PDRR) of an early warning BW detection system. The remote (ie. JBREWS) and standoff detection systems (ie. LR-BSDS) will provide cueing (is there a suspicious aerosol cloud?), detection (is a biological substance present?), discrimination (is a biological warfare agent present?) and identification (what is the biological warfare agent?) capabilities as part of a system-of-systems architecture. The technologies used in each detection system are different and are designed to complement each other in the total system architecture.</p> <p>The cornerstone of the project consists of fielding an eye-safe, Long Range Biological Standoff Detection System (LR-BSDS) rapid prototype with a minimum operational range of 50 km. The LR-BSDS will detect the presence of human-made particulate aerosol clouds and provide the commander with capability to posture other detection systems to confirm the presence of biological agents using a light detection and ranging (LIDAR) eye-safe laser (1.56 micron) system. This project also supports the Joint Biological Remote Early Warning System (JBREWS) Advanced Concept Technology Demonstration (ACTD). The objectives of the JBREWS ACTD are 1) Evaluate military ability of Remote Early Warning for BW agent attacks, allow increased decision cycle and time to warn, report and protect U.S. Forces and develop a concept of operations with that capability, 2) Provide the sponsoring CINC an interim residual capability to detect and warn forces who may be exposed to BW agents, and support the capability through the engineering and manufacturing phase and, 3) Refine tactics, techniques and procedures. The JBREWS ACTD will support joint forces by providing detection, warning, identification and reporting of BW agents to the deployed forces. The JBREWS ACTD will be a system of distributed BW agent sensors comprised of the Deployable Unit Biological Detection System (DUBDS), a remote capability, and a voice or data input from legacy BW detection systems. The architecture consists of a number of control nodes that use information processing systems to recognize and assist in assessing the impact of a BW attack.</p> | | | | | | | | | | | |
| Project CP4 | | Page 15 of 37 Pages | | | | | Exhibit R-2 (PE 0603884BP) | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

CP4

FY 1998 Accomplishments:

- 393 JBREWS ACTD - Modeling and simulation system development. Used modeling and simulation systems to validate preliminary system designs and exercise concept of operations (CONOPS) for CINC-defined scenarios.
- 1188 JBREWS ACTD - Conducted a Limited Network Functionality Test of components to include an operational assessment.
- 1075 JBREWS ACTD - Developed the Concept of Operations for CINC defined biological warfare agents and conducted wargame/tabletop exercises.
- 7250 JBREWS ACTD - Developed algorithms, software, and C4I connectivity for biosensors and an integrated network.
- 2619 JBREWS ACTD - Continued development of Sample Identification Unit.
- 1430 JBREWS ACTD - Continued development of Sentry Unit.
- 1765 JBREWS ACTD - Continued work on the Short Range to include Post JFT 4.5 fixes.
- 791 JBREWS ACTD - Continued Systems Engineering.
- 4948 LR-BSDS - Initiated fabrication of IOT&E prototypes (#3 & #4).
- 6740 LR-BSDS - Continued Fabrication of first two prototypes.
- 1082 LR-BSDS - Initiated Engineering Developmental Testing.

Total 29281

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT

CP4

FY 1999 Planned Program:

- 4900 JBREWS ACTD - Complete system design and conduct critical design review.
- 2950 JBREWS ACTD - Complete algorithm and software development.
- 1960 JBREWS ACTD - Conduct chamber tests of JBREWS ACTD components and subsystems.
- 3600 JBREWS ACTD - Conduct demonstration.
- 13700 JBREWS ACTD - Fabricate system leave-behinds for EUCom area of operations.
- 1111 JBREWS ACTD - Complete development and prove-outs of CONOPS/Doctrine.
- 2950 JBREWS ACTD - Complete coding and simulation system development.
- 2632 LR-BSDS - Complete fabrication of first two systems.
- 2900 LR-BSDS - Conduct Developmental Testing.
- 1480 LR-BSDS - Conduct Customer Demonstration.
- 1683 LR-BSDS - Complete retrofit/refurbishment.
- 2360 LR-BSDS - Continue fabrication of IOT&E Systems.
- 714 SBIR/STTR

Total 42940

FY 2000 Planned Program:

- 4675 JBREWS ACTD - Complete delivery of ACTD residuals and provide Contractor Logistics Support (CLS) for the leave behinds.
- 10003 RestOps - Initiate Restoration of Operations (RestOps) ACTD. Conduct materiel testing and initial modeling and simulation and program planning.

Total 14678

FY 2001 Planned Program:

- 4444 JBREWS ACTD - Continue Contractor Logistics Support for JBREWS ACTD leave behinds in EUCom.
- 9790 RestOps - Continue work on the RestOps ACTD.

Total 14234

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT

CP4

B. Other Program Funding Summary:

| | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|--|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| CP3 COUNTERPROLIFERATION SUPPORT | 7271 | 7352 | 10549 | 10276 | 11499 | 7380 | 7733 | 13477 | Cont'd | Cont'd |
| BJ4 BIOLOGICAL DEFENSE | 1577 | 1898 | 2762 | 6653 | 10639 | 15564 | 20569 | 11742 | Cont'd | Cont'd |
| BJ5 BIOLOGICAL DEFENSE | 44331 | 34104 | 11460 | 6042 | 47073 | 60750 | 15800 | 1519 | Cont'd | Cont'd |
| CP5 COUNTERPROLIFERATION SUPPORT | 0 | 0 | 5612 | 0 | 0 | 0 | 0 | 0 | 0 | 5612 |
| JPO200 JT BIO REM EARLY WARNING SYS (JBREWS) | 0 | 0 | 0 | 0 | 0 | 0 | 34575 | 36398 | Cont'd | Cont'd |
| JPO210 CRITICAL REAGENTS PROGRAM (CRP) | 0 | 1746 | 2432 | 1923 | 1928 | 2024 | 1866 | 1923 | Cont'd | Cont'd |
| JPO220 LONG RANGE BIO STANDOFF DET SYS (LRBSDS) | 0 | 0 | 1923 | 11807 | 11885 | 0 | 0 | 0 | 0 | 25615 |
| JPO230 Portal Shield Equipment | 0 | 13936 | 3909 | 3903 | 3896 | 0 | 0 | 0 | 0 | 25644 |

C. Acquisition Strategy: Utilize non-traditional acquisition Advanced Concept Technology Demonstration (ACTD) to rapidly provide the CINC with a biological remote early warning capability and develop concept of operations and doctrine associated with that capability. Fabricate LR-BSDS using a competitive prime systems integration contract.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT CP4 |
|---|--|----------------|

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | |
|-------------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| JBREWS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Conduct JBREWS ACTD Demo | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| JBREWS ACTD -Fielding Support (CLS) | | | | | | | | | | | | | | | | | X | X | X | X | | | | | | | | | | | | | | | | | | | | |
| Conduct MSII | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| LRBSDS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IPR CP LRBSDS | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CP Prototype #1 Complete | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CP Engineering Development Tests | | | | | | | | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CP Prototype #2 Complete | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

CP4

| A. Project Cost Breakdown: | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|---------------------------------|---------|---------|---------|---------|
| Development Test and Evaluation | 2270 | 4860 | 2000 | 950 |
| Engineering Design | 791 | 4900 | 900 | 3000 |
| Fabrication | 11688 | 18692 | 0 | 2000 |
| Government Engineering Support | 0 | 0 | 1000 | 1000 |
| Hardware Development | 5814 | 1683 | 4000 | 1400 |
| Integrated Logistics, Support | 0 | 0 | 6778 | 4319 |
| Operational Test and Evaluation | 0 | 3600 | 0 | 0 |
| Project Management | 0 | 0 | 0 | 1565 |
| Regulatory Affairs | 0 | 714 | 0 | 0 |
| Software Development | 7643 | 5900 | 0 | 0 |
| Technical Data/Documentation | 1075 | 1111 | 0 | 0 |
| Test & Evaluation | 0 | 1480 | 0 | 0 |
| Total | 29281 | 42940 | 14678 | 14234 |

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | | | | DATE February 1999 | | | |
|--|-------------------------|---------------------|---------------------|--|---------------------|---------------------|----------------------------|-----------------------|---------------------|---------------------|------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | | | | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | | | | | PROJECT DE4 | | |
| 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 |
| DE4 | DECONTAMINATION SYSTEMS | 6846 | 4409 | 6717 | 10782 | 0 | 0 | 7384 | 3369 | Continuing | Continuing |
| <p>A. Mission Description and Budget Item Justification:</p> <p>Project DE4 DECONTAMINATION SYSTEMS: This project provides DEMVAL of decontamination systems utilizing solutions which will provide operational, logistics, cost, safety and environmental advantages over current decontaminants. Funding supports the Modular Decontaminating System (MDS) - a Joint Service program - a more transportable, less labor intensive, and more effective system for applying decontaminating solutions and removing gross contamination from vehicle and equipment surfaces. Lessons learned from Desert Storm validated the need for a deployable and efficient decontamination system. The MDS reduces water usage and equipment processing time with increased water pressure and variable water temperature. The MDS consists of the XM21 Decontaminant Pumper (DP) Module for the application of decontaminants and powered brushing; and the XM22 High Pressure Washer (HPW) Module for removal of gross contamination and rinsing of decontaminants. Funding also supports the Sorbent Technology program which provides a reactive Sorbent for immediate decontamination. It will replace the M295 Decontamination Kit, for personal wipedown procedures and Decontaminating Solution 2 (DS2) in operator spraydown procedures. The Sorbent will be more reactive towards Chemical Warfare (CW) agents than the M295 Kit, therefore, the hazard associated with the spent decontaminant will be reduced. The Sorbent will be more compatible with Mission Oriented Protective Posture (MOPP) and other materials than the currently used DS2.</p> <p>The Joint Service Sensitive Equipment Decontamination (JSSED) system will fill an immediate need to decontaminate chemical and biological warfare agents from sensitive equipment, vehicle/aircraft interiors, and associated cargo, as defined in the Joint Service Operational Requirements Document for the JSSED. The JSSED will be a dual technology development program; one technology to decon sensitive items/equipment and a second technology to decon vehicle/aircraft interiors. Funding will support the concepts to be developed.</p> <p>Joint Service Fixed Site Decontamination (JSFXD) will provide the Services with safe, non-hazardous and environmentally friendly decontaminants.</p> | | | | | | | | | | | |
| Project DE4 | | Page 21 of 37 Pages | | | | | Exhibit R-2 (PE 0603884BP) | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVVAL)

PROJECT

DE4

FY 1998 Accomplishments:

- 1046 Joint MDS - Completed technical documentation.
- 1938 Joint MDS - Completed PPQT and IOT&E tests.
- 873 Joint MDS - Conducted Milestone III IPR.
- 30 Sorbent - Awarded Phase III contract for the operators spray down.
- 1097 Sorbent - Demonstrated functional suitability.
- 654 Sorbent - Conducted producibility studies.
- 208 Sorbent - Completed the in-house market survey for applicators.
- 1000 Sorbent - Conducted effectiveness studies on candidate sorbents.

Total 6846

FY 1999 Planned Program:

- 470 Sorbent - Fabricate Operation Sprayer Prototype.
- 2403 Sorbent - Test and Evaluate Operation Sprayer Prototype.
- 1030 Sorbent - Award Program Phase III contract for sorbent powder operation sprayer.
- 433 Sorbent - Prepare Engineering Change Proposal (ECP) for M11/M13 Decon Apparatus and conduct In-Process Review (IPR) to incorporate sprayer.
- 73 SBIR/STTR

Total 4409

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

DE4

FY 2000 Planned Program:

- 931 JSFXSD - Conduct technology definition and assessment of Commercial-Off-The-Shelf (COTS)/Non-Developmental Items(NDI's) Decon equipment and decontaminants.
- 203 JSFXSD - Prepare MS I/II documentation for selected candidate equipment.
- 1676 Sorbent - Support Phase III contract for operator spray down.
- 1000 Sorbent - Develop TDF for operator spray down systems.
- 1000 Sorbent - Build EDT hardware for operator spray down.
- 907 Sorbent - Intitiate Integrated Logistic Support (ILS) program for operator spray down.
- 1000 Sorbent - Conduct producibility studies for operator spray down.

Total 6717

FY 2001 Planned Program:

- 1561 JSFXSD - Perform Optimization Studies for down selected Decon equipment.
- 750 JSFXSD - Complete technical documentation.
- 275 JSFXSD - Prepare MS III documentation.
- 1280 JSFXSD - Prepare Engineering Change Proposal (ECP) for down selected equipment.
- 594 JSSED - Prepare for MS I decision.
- 640 JSSED - Conduct effectiveness studies of candidate material.
- 400 JSSED - Perform health and environmental assessment of candidate material.
- 3800 Sorbent - EDT/PQT/IOT for operators spray down.
- 126 Sorbent - Conduct MS III Sorbent Decontamination System.
- 450 Sorbent - Prepare scope of work for first production contract.
- 906 Sorbent - Continue ILS.

Total 10782

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT

DE4

B. Other Program Funding Summary:

| | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|---|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| DE5 DECONTAMINATION | 4645 | 3911 | 3780 | 3701 | 7001 | 12516 | 11933 | 15403 | Cont'd | Cont'd |
| G47001 MODULAR DECON SYSTEM | 0 | 5989 | 6117 | 9296 | 9702 | 9472 | 0 | 0 | 0 | 40576 |
| JN0010 JOINT SERVICE FIXED SITE DECON (JSFXD) | 0 | 0 | 0 | 0 | 5027 | 5015 | 7576 | 6684 | Cont'd | Cont'd |
| JN0016 JOINT SERVICE SENSITIVE EQUIPMENT DECON | 0 | 0 | 0 | 0 | 0 | 0 | 3139 | 4775 | Cont'd | Cont'd |
| JN0018 SORBENT DECON | 0 | 0 | 0 | 0 | 4754 | 4784 | 0 | 0 | 0 | 9538 |

C. Acquisition Strategy: MDS In-house/contractor design and prototype fabrication for in-house testing. Contractor fabrication of production units.
 Sorbent In-house/contractor development and testing. Contractor manufacture of production units.
 JSSED In-house/contractor design and prototype development and fabrication for in-house and contractor testing. Contractor manufacture of production units.
 JSFXD Contractor design/development and utilizing in-house accelerated acquisition procedures to study, select and redesign Commercial-Off-The-Shelf
 (COTS)/Non-Developmental Items (NDIs) decontamination systems.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT
DE4

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | |
|---------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| JSSed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS I | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | |
| Evaluate candidate technologies | | | | | | | | | | | | | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | |
| Select best technologies | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | |
| MDS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IOT&E | | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS III/TC IPR | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SORBDECON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Award AD Contract | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS II | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop Sorbents | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Optimize Sorbents | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ECP for M295 | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Select Phase III Applicator | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PQT/IOT | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

DE4

| A. Project Cost Breakdown: | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|---|---------|---------|---------|---------|
| Contractor Engineering/Management Support | 0 | 0 | 203 | 0 |
| Development Test and Evaluation | 1000 | 1140 | 0 | 1561 |
| Engineering Design | 200 | 396 | 0 | 1280 |
| Fabrication Hardware | 0 | 1000 | 0 | 0 |
| Government Engineering Support | 0 | 0 | 0 | 598 |
| Hardware Development | 850 | 1000 | 0 | 0 |
| Integrated Logistics, Support | 0 | 0 | 907 | 2296 |
| Operational Test and Evaluation | 1938 | 0 | 0 | 0 |
| Program Office Support | 0 | 0 | 0 | 396 |
| Project Development | 289 | 0 | 0 | 0 |
| Project Management | 1373 | 500 | 500 | 450 |
| Regulatory Affairs | 0 | 73 | 0 | 0 |
| Technical Data/Documentation | 1196 | 300 | 133 | 401 |
| Test & Evaluation | 0 | 0 | 4974 | 3800 |
| Total | 6846 | 4409 | 6717 | 10782 |

| | |
|--|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE February 1999 |
|--|-----------------------|

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | PROJECT IP4 |
|---|--|----------------|

| 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 |
|---------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
| IP4 INDIVIDUAL PROTECTION | 0 | 0 | 6624 | 9257 | 0 | 0 | 0 | 0 | 0 | 15881 |

A. Mission Description and Budget Item Justification:

Project IP4 INDIVIDUAL PROTECTION: This project conducts DEMVAL of individual protection equipment aimed at improving current protection levels while reducing physiological and logistical burdens. The goal is to provide equipment which allows the individual soldier, sailor, airman or marine to operate in a contaminated CB environment with no or minimal degradation of his/her performance. This project includes the Joint Service General Purpose Mask (JSGPM). The JSGPM will reduce weight, bulk and breathing resistance by as much as 50 percent. The JSGPM will also improve vision coupling, communication effectiveness, and comfort/wearability. The mask will significantly reduce total ownership cost/life cycle cost. The JSGPM will be virtually maintenance-free and may be of a low enough cost to be classified as disposable/replaceable after decontamination to a point.

FY 1998 Planned Program: No planned program

FY 1999 Planned Program: No planned program

FY 2000 Planned Program:

- 1500 JSGPM - Conduct Joint Program/Project Management.
- 3889 JSGPM - Award contract(s).
- 735 JSGPM - Initiate preparation of Program/Project Documentation.
- 500 JSGPM - Conduct Test and Evaluation.

Total 6624

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT

IP4

FY 2001 Planned Program:

- 1500 JSGPM - Continue Joint Program/Project Management.
- 1123 JSGPM - Continue preparation of Program/Project Documentation.
- 5634 JSGPM - Award Contract(s).
- 1000 JSGPM - Continue Test and Evaluation.

Total 9257

B. Other Program Funding Summary:

| | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|--|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| JN0011 AERP AIRCRAFT MODS | 1362 | 4086 | 1895 | 893 | 1263 | 956 | 0 | 0 | 0 | 10455 |
| JN0013 INDIVIDUAL PROTECTIVE GEAR | 246 | 579 | 3415 | 5431 | 1566 | 1520 | 0 | 0 | 0 | 12757 |
| JX0001 IP SYSTEM FIELDING SUPPORT/SPARES | 303 | 684 | 649 | 91 | 93 | 320 | 1633 | 1875 | Cont'd | Cont'd |
| M95801 PROTECTION ASSESSMENT TEST SYSTEM (PATS) M41 | 5246 | 5335 | 5328 | 0 | 0 | 0 | 0 | 0 | 0 | 15909 |
| M99501 MASK, AIRCRAFT M45 | 6192 | 2194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8386 |
| M99601 MASK, CHEM-BIOLOGICAL PROTECTIVE FIELD:M40/M40A1 | 6439 | 15925 | 10281 | 1375 | 0 | 0 | 0 | 0 | 0 | 34020 |
| MA0400 PROTECTIVE CLOTHING | 57873 | 91315 | 95646 | 86086 | 90144 | 87574 | 86157 | 86877 | Cont'd | Cont'd |
| N00020 CB RESPIRATORY SYSTEM - AIRCREW | 7324 | 7334 | 7398 | 4054 | 0 | 0 | 0 | 0 | 0 | 26110 |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT IP4 |
|---|--|----------------|

C. Acquisition Strategy:

JSGPM The Acquisition Strategy outlines the strategy for a combined full scale development (Program Definition and Risk Reduction and Engineering and Manufacturing Development) and production. The contract for development/production is based on a joint service performance specification with special emphasis on the lowest total ownership cost.

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | | | | | |
|----------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| JSGPM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone I IPR | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

IP4

| A. Project Cost Breakdown: | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|---|---------|---------|---------|---------|
| Contractor Engineering/Management Support | 0 | 0 | 3889 | 5634 |
| Engineering Design | 0 | 0 | 300 | 300 |
| Government Engineering Support | 0 | 0 | 200 | 200 |
| Integrated Logistics, Support | 0 | 0 | 300 | 300 |
| Production Support | 0 | 0 | 200 | 200 |
| Program Office Support | 0 | 0 | 300 | 300 |
| Project Development | 0 | 0 | 200 | 200 |
| Technical Data/Documentation | 0 | 0 | 735 | 1123 |
| Test & Evaluation | 0 | 0 | 500 | 1000 |
| Total | 0 | 0 | 6624 | 9257 |

| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | | | | | | | | DATE February 1999 | | | |
|--|----------------------------|---------------------|---------------------|--|---------------------|----------------------------|---------------------|-----------------------|---------------------|---------------------|------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | | | | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | | | | PROJECT MB4 | | | |
| 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 |
| MB4 | MEDICAL BIOLOGICAL DEFENSE | 9139 | 8767 | 28523 | 39477 | 30921 | 28513 | 23987 | 16658 | Continuing | Continuing |
| <p>A. Mission Description and Budget Item Justification:</p> <p>Project MB4 MEDICAL BIOLOGICAL DEFENSE: This project funds the Program Definition and Risk Reduction (PDRR) phase of vaccines, drugs and diagnostic medical devices which are directed against validated biological warfare (BW) agents to include bacteria, viruses, and toxins of biological origin. The PDRR phase of medical biological defense product development includes phase 1 clinical and experimental studies which evaluate product safety and efficacy, phase 2 dosing and scheduling studies, pilot lot production, and filing of the Investigational New Drug (IND) applications with the Food and Drug Administration (FDA).</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 2008 Continued test and evaluations of vaccines. • 31 Regulatory affairs. • 7100 Funding realigned to support research and development for Joint Protective Aircrew Ensemble (JPACE), Joint Warning and Reporting Network (JWARN), Joint Biological Point Detection System (JBPDS), Advanced Integrated Collective Protection System (AICPS), and Chemical Biological Protection System (CBPS). <p>Total 9139</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 2396 Continue pilot lot, preclinical trials for one BD vaccine. • 527 Complete clinical trials of Botulinum Antitoxin Heptavalent Equine. • 5698 Begin clinical, efficacy, and stability testing of six BD vaccines. • 146 SBIR/STTR <p>Total 8767</p> | | | | | | | | | | | |
| Project MB4 | | Page 31 of 37 Pages | | | | Exhibit R-2 (PE 0603884BP) | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT MB4 |
|---|--|----------------|

FY 2000 Planned Program:

- 24633 Continue pilot lot preclinical and clinical trials for seven BD vaccines. Also, begin clinical, efficacy, and stability testing of one BD vaccine.
- 399 Storage and testing of Botulinum products - antitoxins and vaccines.
- 3491 Begin clinical, efficacy, and stability testing for one BD vaccine.

Total 28523

FY 2001 Planned Program:

- 20526 Continue pilot lot, preclinical and clinical trials for five BD vaccines.
- 554 Storage and testing of Botulism Antitoxin Heptavalent Equine.
- 11515 Complete clinical trials for three BD vaccines
- 6882 Begin clinical, efficacy, and stability testing for two BD vaccines.

Total 39477

| B. Other Program Funding Summary: | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | To Compl | Total Cost |
|---|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------------|
| MB5 MEDICAL BIOLOGICAL DEFENSE | 15924 | 15158 | 19007 | 24347 | 57621 | 69546 | 42744 | 33953 | Cont'd | Cont'd |
| JX0005 DoD Biological Vaccine Procurement | 25685 | 10990 | 23424 | 27810 | 40724 | 46033 | 61410 | 64697 | Cont'd | Cont'd |

C. Acquisition Strategy: Prime systems integration contract for advanced development, licensure, production and storage of biological defense vaccines.

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | |
|---------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| VACCINES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Award JVAP prime contract | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT

MB4

| A. Project Cost Breakdown: | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|---------------------------------|---------|---------|---------|---------|
| Development Test and Evaluation | 2650 | 0 | 0 | 0 |
| Engineering Design | 500 | 0 | 0 | 0 |
| Hardware Development | 3100 | 0 | 0 | 0 |
| Integrated Logistics, Support | 100 | 0 | 0 | 0 |
| Project Management | 250 | 0 | 0 | 0 |
| Regulatory Affairs | 125 | 673 | 399 | 886 |
| Technical Data/Documentation | 500 | 0 | 0 | 0 |
| Test & Evaluation | 1914 | 8094 | 28124 | 38591 |
| Total | 9139 | 8767 | 28523 | 39477 |

| | |
|--|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE February 1999 |
|--|-----------------------|

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT MC4 |
|---|--|----------------|

| 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 |
|------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|
| MC4 MEDICAL CHEMICAL DEFENSE | 831 | 2213 | 2729 | 2174 | 1890 | 1867 | 1865 | 1917 | Continuing | Continuing |

A. Mission Description and Budget Item Justification:

Project MC4 MEDICAL CHEMICAL DEFENSE: This project funds advanced development of countermeasures for chemical agents including life support equipment, diagnostic equipment, pretreatment and therapeutic drugs, and individual/casualty decontamination compounds. A system of medical defense against chemical agents is required to provide protection, to sustain performance in a chemical environment, and to provide for self-aid and medical treatment of chemical casualties. For approval of a new drug, FDA requires demonstration of safety and efficacy, with multiple studies required for each.

FY 1998 Accomplishments:

- 313 Conducted drug formulation and metabolism of Cyanide Pretreatment.
- 277 Completed multiple dosing safety study for Cyanide Pretreatments.
- 241 Initiated animal toxicity study in rodents of Cyanide Pretreatment.

Total 831

FY 1999 Planned Program:

- 1131 Initiate animal toxicity and efficacy evaluation of advanced anticonvulsant.
- 1045 Complete validation and testing of methemoglobin monitor.
- 37 SBIR/STTR

Total 2213

| | |
|--|-----------------------|
| RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) | DATE February 1999 |
|--|-----------------------|

| | | |
|--|---|-----------------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | PROJECT MC4 |
|--|---|-----------------------|

- FY 2000 Planned Program:
- 50 Complete multidose study of Cyanide Pretreatment.
 - 393 Complete validation of animal efficacy model of Cyanide Pretreatment.
 - 2090 Initiate manufacturing scale-up and process validation of Cyanide Pretreatment.
 - 196 Initiate human performance testing for Cyanide Pretreatment.
- Total** 2729

- FY 2001 Planned Program:
- 255 Complete manufacturing scale-up and process validation of Cyanide Pretreatment.
 - 196 Complete human performance testing for Cyanide Pretreatment.
 - 295 Initiate Phase I safety study of advanced anticonvulsant.
 - 589 Conduct toxicology studies of advanced anticonvulsant.
 - 789 Initiate validation of animal efficacy model of advanced anticonvulsant.
 - 50 Prepare and submit Investigational New Drug application (IND) for advanced anticonvulsant.
- Total** 2174

| | | | | | | | | | | | |
|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|-------------|---------------|
| B. Other Program Funding Summary: | | | | | | | | | | To Compl | Total Cost |
| | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | | | |
| MC5 MEDICAL CHEMICAL DEFENSE | 4891 | 1737 | 750 | 1098 | 1474 | 1561 | 1579 | 1628 | Cont'd | Cont'd | |

C. Acquisition Strategy: Test and evaluate, in-house and commercially developed products in government managed trials.

| | | | | | | | | | | |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| D. Schedule Profile: | FY 1996 | FY 1997 | FY 1998 | FY 1999 | FY 2000 | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 |
| | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL) | PROJECT MC4 |
|---|--|----------------|

| D. Schedule Profile: | FY 1996 | | | | FY 1997 | | | | FY 1998 | | | | FY 1999 | | | | FY 2000 | | | | FY 2001 | | | | FY 2002 | | | | FY 2003 | | | | FY 2004 | | | | FY 2005 | | | |
|--------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| (Contd) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MEDCHEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Methemoglobin Monitor - MS I | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | |
| Advanced Anticonvulsant - MS I | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | |
| Cyanide Pretreatment - MS II | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | |

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE
February 1999

| | | |
|---|--|----------------|
| BUDGET ACTIVITY 4 - Demonstration and Validation | PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl) | PROJECT MC4 |
|---|--|----------------|

| A. Project Cost Breakdown: | FY 1998 | FY 1999 | FY 2000 | FY 2001 |
|---------------------------------|---------|---------|---------|---------|
| Operational Test and Evaluation | 266 | 1836 | 873 | 696 |
| Project Development | 374 | 0 | 1228 | 978 |
| Project Management | 183 | 235 | 601 | 478 |
| Regulatory Affairs | 8 | 142 | 27 | 22 |
| Total | 831 | 2213 | 2729 | 2174 |