



DoD Chemical/Biological Defense Program

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**Discussions with the NDIA Roundtable
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Discussion Outline

DATSD(CBD)

- ◆ **Overview of FY 04 President's Budget**
 - Procurement contributions to the warfighter

- ◆ **Homeland Defense Initiatives**
 - FY03 Bio Defense Homeland Security Support Program
 - CB Installation Force Protection Program
 - WMD-CST

- ◆ **FY03 Congressional Adjustments**

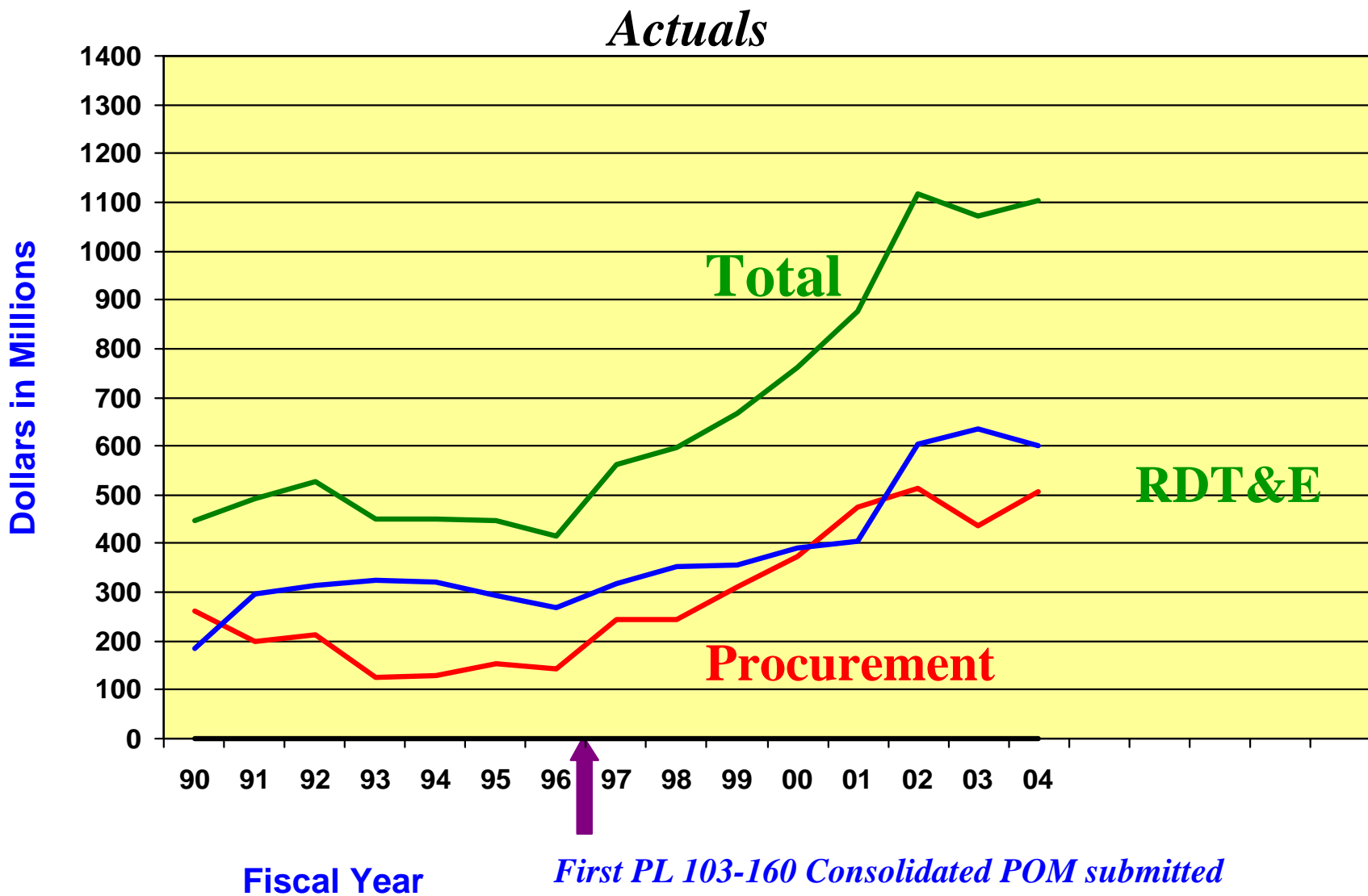
- ◆ **Readiness Issues**

- ◆ **Commercial CB Defense Products**

- ◆ **Challenges**

DoD CB Defense Program Historical Perspective- Funding – FY04 PB

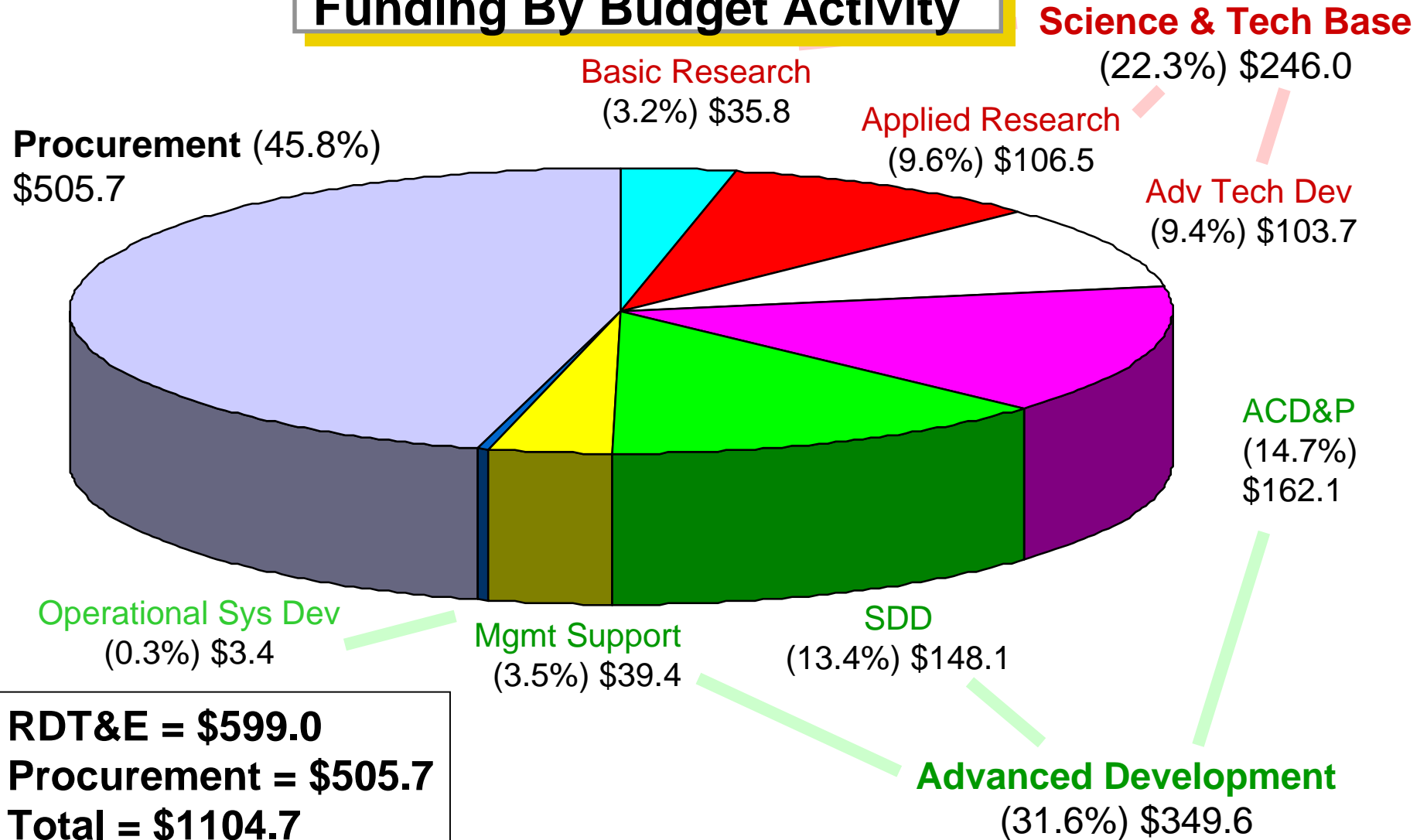
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DoD Chemical/Biological Defense Program FY2004 PB (\$M)

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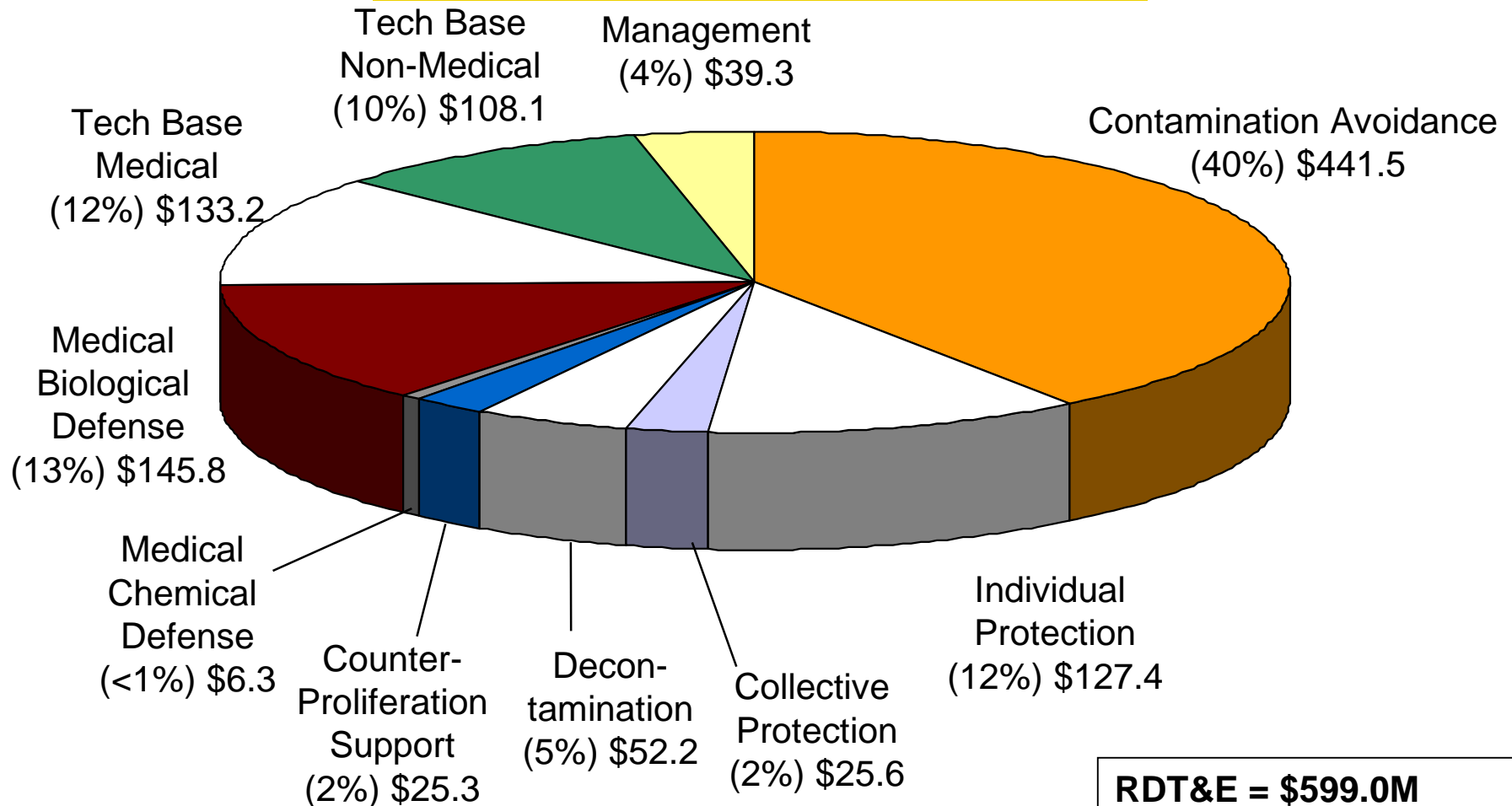
Funding By Budget Activity



DoD Chemical/Biological Defense Program FY2004 (\$M)- President's Budget Request

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Funding by Commodity Area



RDT&E = \$599.0M
Procurement = \$505.7M
Total = \$1104.7M

Future Procurements Supporting Improved Warfighter Capabilities

An Integrated Approach to Counter the Threat

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Sustained Combat Power

CB Threats & Hazards

Agent
Delivery

Doses on
Target

Downwind
Dispersal

Doses
Absorbed

Symptoms



Medical Pretreatment



Contamination Avoidance
& NBC Battle Management
(Detection, Identification,
Reconnaissance & Warning)



Individual & Collective Protection



Medical Treatment



Decontamination,
Restoration

Contamination Avoidance: Key Capabilities To Be Procured FY04-09

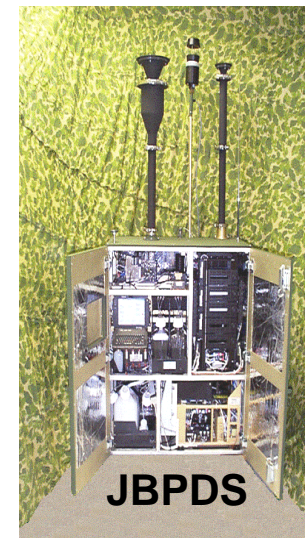
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◆ *Biological Detection*

- **Joint Bio Standoff Detector System (JBSDS)**
 - Standoff detector, ranging, tracking and discrimination (bio versus non-bio) of BW aerosol clouds for advanced warning, reporting and protection.
- **Joint Biological Point Detection System (JBPDS)**
 - Modular Bio point detection suite integrated on service platforms to replace BIDS and IBAD
 - Identify BW agent with 15 min or less after detection
 - Full automated detect/identification operation



**JBSDS
Early
Prototype**



Contamination Avoidance: Key Capabilities To Be Procured FY04-09

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◆ **Chemical Stand-Off/Remote Detection**

- Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD)
 - Range up to 5 km; Capable of remote, aerial, and on-the-move operation
- Mobile Chemical Agent Detector (MCAD)
 - Side-by-side testing against JSLSCAD; possible alternative to JSLSCAD



◆ **ARTEMIS-Active CW Stand-off**

- Detection and quantification of chemical agents to 20 km



◆ **Warning and Reporting**

- Joint Warning and Reporting Network (JWARN).
Comprehensive analysis and response capability to:
 - Interface with all NBC detectors and sensors & interoperability with all service Command and Control (C2) systems
 - Generate NBC reports, and automatically transmit NBC alarm and data
 - Vehicle or man-portable operations



Contamination Avoidance: Key Capabilities To Be Procured FY04-09

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◆ Chemical Point Detection/Monitoring/Recon

– Joint Chemical Agent Detector (JCAD)

- Small, lightweight detector to detect, identify, quantify and warn of low levels of CW vapors



JCAD

– NBC Recon Vehicle (NBCRV)

- Armored NBC Recon with improved detection (JSLSCAD for stand-off chemical, CBMS for bio),
- Equip Army future Brigade Combat Teams



NBCRV

– Joint Service Lightweight NBCRS

- NBC recon/combat hazard information
- Used by Marine Ground Task Forces, Air Force tactical forces, and Army Light Contingency forces
- Two variants, HMMWV and LAV



JSLNBCRS



Individual Protection: Key Capabilities To Be Procured FY04-09

DATSD(CBD)

♦ Respiratory Protection

- Joint Service General Purpose Mask (JSGPM)
- Joint Service Aviation Mask (JSAM)
 - Continuous CB protection for aviators in all Services
- Joint Service Mask Leakage Tester (JSMLT)
 - Check serviceability of masks in field, fit factor validation



JSAM



JSGPM

♦ Percutaneous Protection (Clothing)

- Joint Service Lightweight Integrated Suit Technology (JSLIST)
 - Multiservice efforts to provide improved chemical protection, including overgarments, boots, gloves, and other mission essential protective clothing
- Joint Protective Aircrew Ensemble (JPACE)



Overgarment



Collective Protection: Key Capabilities To Be Procured FY04-09

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- ◆ **Collective Protection System Amphibious Backfit**
 - CPS is integrated with the ship's heating, ventilation, and air-conditioning (HVAC) systems and provides filtered supply air for over-pressurization of specified shipboard zones to keep toxic contamination from entering protected spaces. CPS eliminates the need for the ship's crew to wear protective gear (i.e., suits, masks)
- ◆ **Chemical/Biological Protective Shelter (CBPS)**
 - Highly mobile, rapidly deployable shelter system designed to be used for Echelon I and II forward area medical treatment facilities
- ◆ **Joint Collective Protection Equipment (JCPE)**
 - Provides insertion of technology improvements to existing equipment; filtration, shelter materials and environmental controls



JCPE

Medical Capabilities: Key Capabilities To Be Procured FY04-09

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◆ **Joint Vaccine Acquisition Program (JVAP)**

- JVAP initiated to develop, ensure FDA licensure, produce, and store biological defense vaccines to protect U.S Forces against the threat of biological warfare.



◆ **Joint Biological Agent Identification and Diagnostic System (JBAIDS)**

- Rapidly confirm and identify BW and Infectious Disease agents in both environmental and clinical specimens.



JBAIDS

◆ **Transition chemical defense products into Service O&M buys:**

- ATNAA- Antidote Treatment-Nerve Agent Auto-Injector
- PB- Pyristogmine Bromide
- SERPACWA- Skin Exposure Reduction Past Against Chemical Agents



ATNAA



SERPACWA

Decontamination: Key Capabilities To Be Procured FY04-09

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- ◆ **Modular Decontamination System (MDS)**

- Provides high pressure water for the primary wash process
- Mechanically dispense and scrub decontaminant



- ◆ **Joint Service Family of Decon Systems (JSFDS)**

- Capability to decontaminate large fixed site



- ◆ **Joint Service Sensitive Equipment Decontamination (JSSED)**

- Provides first-time capability to decon sensitive electronics, avionics, electro-optic equipment and vehicle interiors



JSSED

- ◆ **Sorbent Decontamination System (SDS)**

- Provides a reactive sorbent for immediate equipment wipedown



M100 SDS

Homeland Defense and Consequence Management Chemical/Biological Defense Initiatives



FY 03 Bio Defense Homeland Security Support Program

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- ◆ **In FY03 Congress provided additional \$420M to support DoD Bio Defense Homeland Security Support Program**
 - Bio Counterterrorism Research Center – Fort Detrick
 - Biological Defense Initiative – DTRA

- ◆ **\$420M no longer in DoD CBDP account.**

- ◆ **DoD awaiting guidance from DHLS concerning execution and follow-on work to support original projects**

CB Installation Protection Initiative

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- ◆ **\$32.9M CB procurement budgeted in FY03 for installation protection equipment**
 - Integrated suite of CB sensors and support equipment installed at 9 installations to support a “CONUS Pilot Protection Project”.

- ◆ **For FY04 the CB Installation/Force Protection Program (CBIFPP) is funded for \$76.6M, procurement**
 - Provides CBIFPP equipment for 15 installations in FY04

- ◆ **Bio-Detection Equipment consists of :**
 - Joint Biological Point Detection System
 - Portal Shield System
 - Manual Dry Filter Unit Samplers
 - Confirmatory Analysis Equipment

- ◆ **Chemical Detection Equipment consists of :**
 - Automatic Chemical Agent Detector and Alarm
 - Joint Chemical Agent Detector

CB Installation Protection Equipment

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Dry Filter Unit



Portal Shield Bio Detector



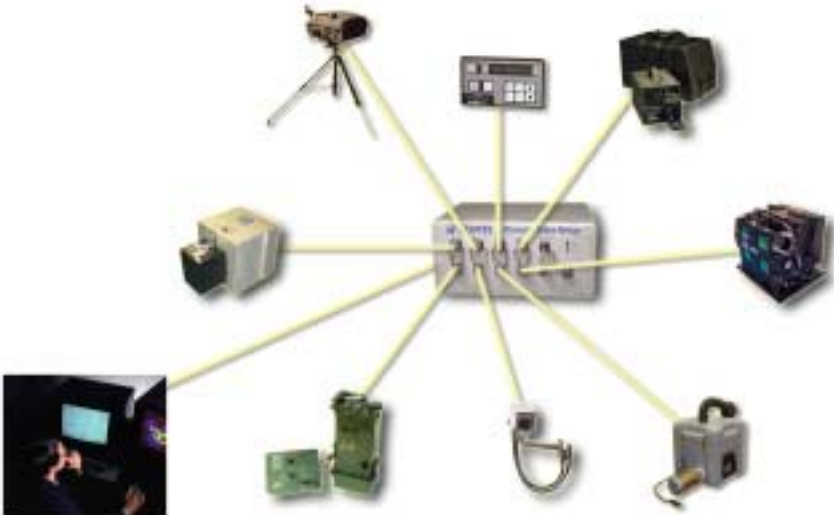
Ruggedized Advanced Pathogen Identification Device (RAPIDS)



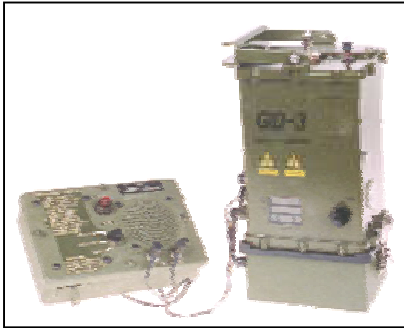
Biological Sampling Kit



Hand Held Assays



Remote Data Relays (RDR)



Automatic Chemical Agent Detector and Alarm (ACADA)

Consequence Management - WMD – Civil Support Teams

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- ◆ **Funding in the DoD CBDP provides resources to complete fielding and modernization of:**
 - 32 WMD- Civil Support Teams
 - Reserve Component (RC) Recon and Decon Teams

- ◆ **Program provides full funding for**
 - Type-classified protection, detection, and training equipment
 - Development and fielding of upgraded analytical platforms for the detection, identification, and characterization of CB and radiological agents used by terrorists in a civilian environment
 - Development and fielding of communication capabilities that are interoperable with other federal, state, and local agencies
 - Testing and evaluation to ensure that the systems are safe and effective
 - Program management funds to successfully execute the CBDP Consequence Management RDA program

- ◆ **Section 1403, FY03 NDAA directs establishment of 23 additional teams**
 - DoD currently preparing required Congressional report to provide schedule and budget requirements to man, train and equip new teams

Congressional Adjustments – FY03 Budget

FY03 Chemical and Biological Defense Program RDT&E

DATSD(CBD)

(\$M Rounded)

PROGRAM/PE Number Defense-wide RDT&E	FY03 PB	APPROP CONF (10/16/02)
CBDP Basic Research - Engineered Pathogen ID & Countermeasures Program - Chemical Warfare Protection - Detection of CB Pollutant Agents in Water - Nanoemulsions for Decontamination - Bioprocessing Facility - Agroterrorist Attack Response	64.119	81.619 +5.000 +1.000 +3.500 +3.500 +3.500 +1.000 TOTAL ADD: +17.5
CBDP Applied Research - Monoclonal Antibody-Based Technologies - National Consortium for Countermeasures to CB Threats - Anthrax Biodefense Technologies - Mustard Gas Antidote - Bioinformatics - Polymer-Based CB Sensors - Countermeasures to CB Threats (only for a joint CB Response Training Program) - Bio-Compact Disk Application Development - CBD Initiatives Fund - ADCIP - Needleless Delivery Methods for Recombinant Protein Vaccines - Organic Vaccine Production - Air Containment Monitoring System	262.177	316.977 +1.000 +4.900 +5.300 +2.100 +1.000 +2.000 +3.000 +2.000 +25.000 +4.000 +1.000 +2.500 +1.000 TOTAL ADD: +54.8

FY03 Chemical and Biological Defense Program RDT&E (continued)

DATSD(CBD)

(\$M Rounded)

PROGRAM/PE Number Defense-wide RDT&E	FY03 PB	APPROP CONF (10/16/02)
CBDP Adv Tech Development - Vaccine Stabilization - Agroterrorism Prediction & Risk Assessment - Miniature CB Detectors - Rapid Response Countermeasures to CB Threats - CBRN Threat Test Using Public/Private Assets - Bio-Adhesion Research - Advanced Chemical Detector - High Intensity Pulsed Radiation Facility for CBD - Bioterrorism Defense and Advanced Sensors	249.842	275.142 +1.500 +2.000 +2.200 +7.700 +3.000 +1.800 +3.600 +1.400 +2.100 TOTAL ADD: +25.3
CBDP Adv Component Dev and Prototypes - Mini Chem Analysis for Detection of CB Agents in the Chemlab - Enhanced M93A1 FOX Simulation Training Suites - Center for Bio-Defense - Execution Delays	144.790	148.090 +2.600 +1.000 +1.000 -1.300 TOTAL ADD: + 3.3
CBDP System Development and Demonstration - Laser Interrogation of Surface Agents (LISA)	169.018	172.318 +3.300
CBDP Management Support - Mobile Chemical Agent Detector for Critical Site Protection	42.959	47.159 +4.200
TOTAL RDT&E Adds/Cuts		+108.400
TOTAL CBDP RDT&E	932.905	1041.305

FY03 Chemical and Biological Defense Program Procurement

DATSD(CBD)

(\$M Rounded)

PROGRAM/PE Number Defense-wide Procurement	FY03 PB	APPROP CONF (10/16/02)
Individual Protection - M48 Masks - M40 Masks - M45 Masks - MEU Masks	125.276	129.576 +0.500 +1.500 +1.000 +1.300 TOTAL ADD: +4.3
Decontamination - M12 Decon System Upgrades - M291 Decontamination Kit - M100 Sorbent Decontamination Kits	15.561	20.561 +3.000 +1.000 +1.000 TOTAL ADD: +5.0
Joint Bio Defense Program - Bio-Detection Kit Storage - Army Reserve JBPDS-BIDS	143.233	150.233 +1.000 +6.000 TOTAL ADD: +7.0
Collective Protection - Collective Protection Shelters - Filter Surveillance Program - M49 Fixed Installation Filter	34.749	51.249 +14.000 +1.500 +1.000 TOTAL ADD: +16.5
Contamination Avoidance - Automatic Chem Agent Alarms - Joint Chemical Agent Detector	116.912	122.212 +4.300 +1.000 TOTAL ADD: +5.3
TOTAL Proc Adds/Cuts		+38.100
TOTAL CBDP Procurement	435.731	473.831

FY 03 Chemical Biological Defense Initiative Fund

DATSD(CBD)

- ◆ **Congress provided \$25 million (6.2 funds) to improve Chem-Bio defenses; and directed DoD to allocate funds among proposals which yield the greatest gain.**
- ◆ **Senior Review Panel established.**
- ◆ **Award decisions will be made on competitive selection process as all proposals undergo a scientific review by the panel:**
 - Six criteria factors developed; most important is the proposals ability to meet Joint Warfighter requirements as documented in the Joint Future Operational Capabilities (JFOC)
- ◆ **Panel Timelines**
 - Dec 02 –Panel established
 - Jan 03 – Panel begins review of specific proposals
 - Feb 03 – Panel convenes to identify award recipients and amounts
 - Mid March – Report to Congress on funding allocation decision

Readiness Issues

DATSD(CBD)

- ◆ **All Forces deployable to SWA are being equipped with Joint Service Integrated Suit Technology (JSLIST) ensembles, and have improved M40 series protective masks.**
- ◆ **Sufficient stocks on hand for all deployable forces.**
- ◆ **Anthrax/smallpox vaccinations ongoing.**
- ◆ **Forces have improved CB detection capabilities**
 - Biological Integrated Detection Systems (BIDS)
 - Portal Shields
 - Automatic Chemical Agent Detector Alarms (ACADAs)
 - Improved NBC Recon Systems

Commercial CB Defense Products

DATSD(CBD)

- ◆ **Standards for CB defense items:**
 - Respiratory- must comply with NIOSH standards
 - Medical products – must comply with FDA regulations
 - Detection – no government/industry standards for civilian/commercial use
 - Not all systems tested against agents
 - No national standards for reagents used in detection systems

- ◆ **Local government agencies, first responders, fire fighters, hazardous materials teams buying various items of equipment**

- ◆ **Important that Industry starts to police itself and improve quality control over these type of products**
 - New Department of HLS may start to develop draft product standards

Challenges Facing the DoD CBDP

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- ◆ **Changing threat**
- ◆ **Maintaining current programs to respond to warfighter requirements:**
 - **Balance of competing priorities within current budget authority**
- ◆ **Evolving missions**
 - **Support to force protection & domestic preparedness**
 - **Enhancing CBD installation force protection**
 - **Executing homeland defense programs as strategy evolves**
- ◆ **Adapting to Power Projection needs**
 - **Less pre-positioning & logistical tail, but creates new vulnerabilities**
- ◆ **Acceleration of CB defense technologies**
 - **Spinning off appropriate technologies for civilian application**