

**PM NBC Defense
Overview
Contamination Avoidance**

09 April 2003

**COL Christopher Parker
Project Manager
Nuclear, Biological and Chemical Defense Systems
410-436-2566/4055
christopher.parker@sbccom.apgea.army.mil**

Agenda



Introduction

COL Christopher Parker

Joint Biological Point Detection System

LTC Mark Malatesta

Joint Biological Tactical Detection System

LTC Jeffrey Stiefel

Joint Biological Standoff Detection System

Mr. Bob Field

Artemis

Mr. Michael Abaie



Mission

The Project Management Office for Nuclear, Biological and Chemical Defense Systems is responsible for the development, production, testing, fielding, and sustainment of NBC detection, decontamination, obscuration, individual and collective protection, and weapons of mass destruction-civil support systems. The PM ensures system developments focus on customer needs within cost, schedule, and performance parameters.

Vision

To be recognized as the provider of the best quality NBC defense products for the JOINT FORCE and the NATION to protect our servicemen and citizens around the world

PEO, Chem/Bio Defense



ASST PEO MED SYS
GS-15

PEO/JPM
DPEO
EXC OFC
EXC ASST
SECRETARY

GO/SES
SES/GO
MAJ/GS-13
GS-11
GS-08

PM, CB MED SYS

06/GS-15

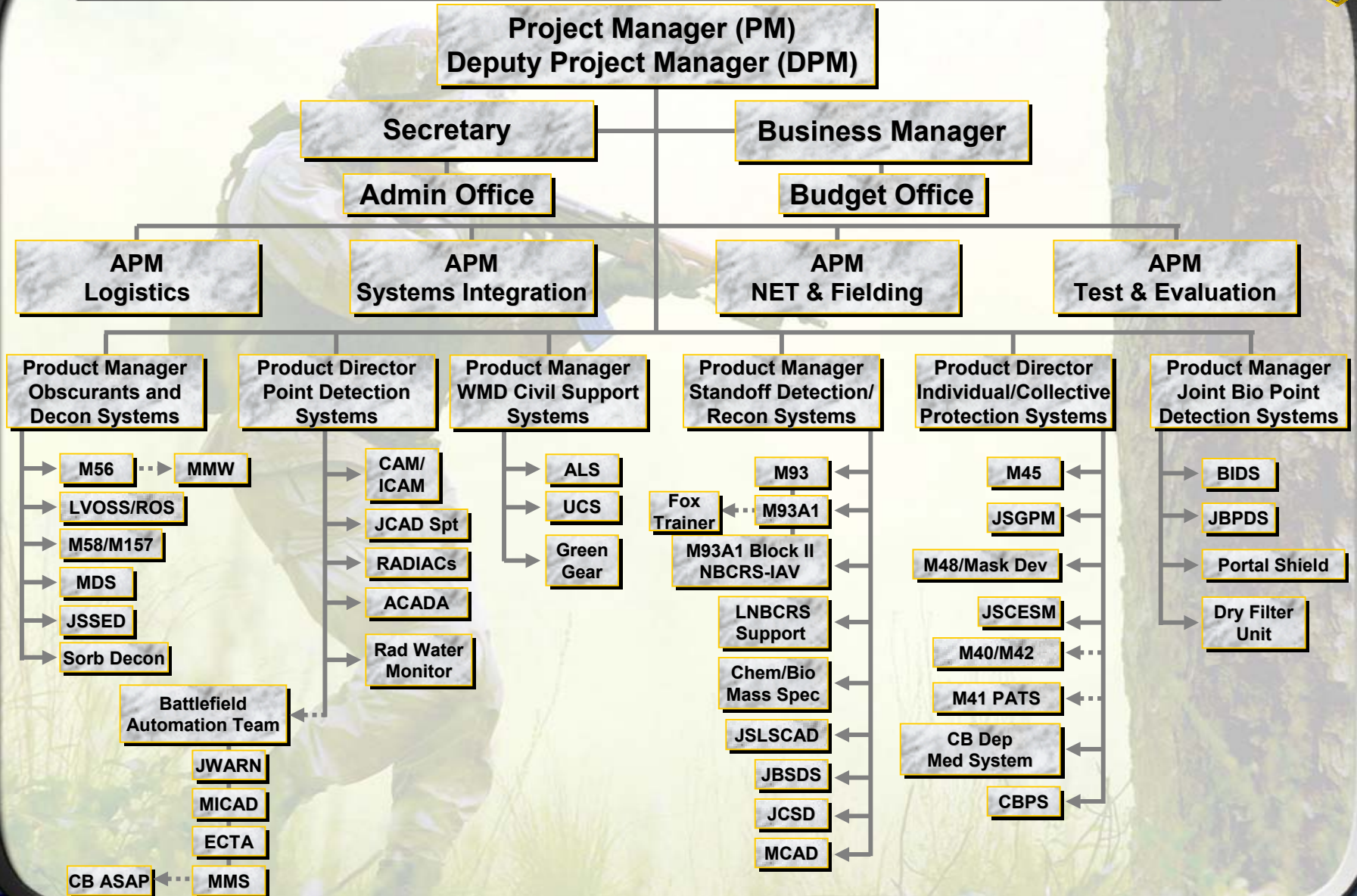
FY03

PM, NBC DEF SYS

06/GS-15

FY03

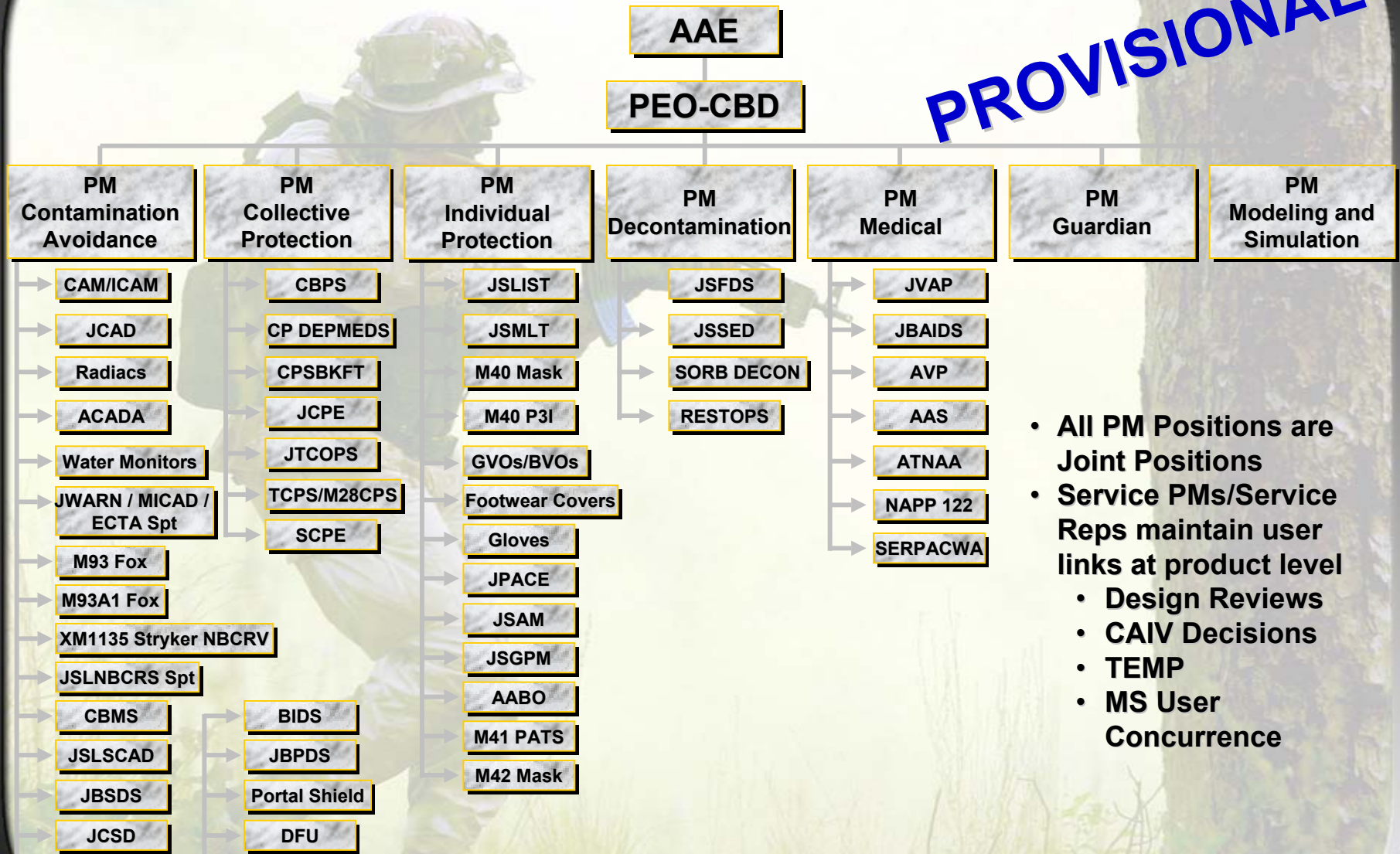
Office of the Project Manager for NBC Defense Systems



PEO Chem Bio Defense



PROVISIONAL



- All PM Positions are Joint Positions
- Service PMs/Service Reps maintain user links at product level
 - Design Reviews
 - CAIV Decisions
 - TEMP
 - MS User Concurrence



WE NEED YOUR INNOVATIVE IDEAS!



(Not Repackaged Old Ones)



Artemis

Advance Planning Briefing for Industry

8-9 April 2003

Michael Abaie - Program Director
NAVSEA Dahlgren Division
(540) 653-2719
Abaiems@nswc.navy.mil

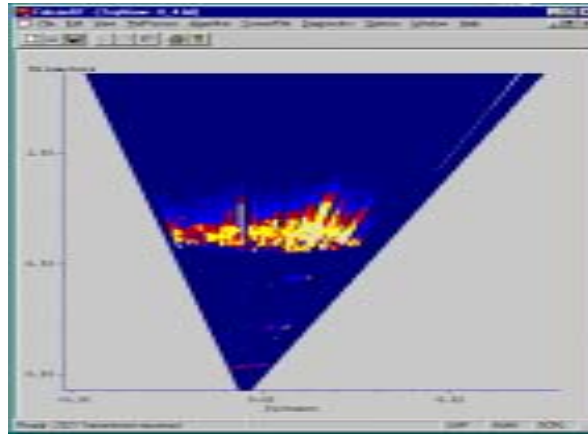
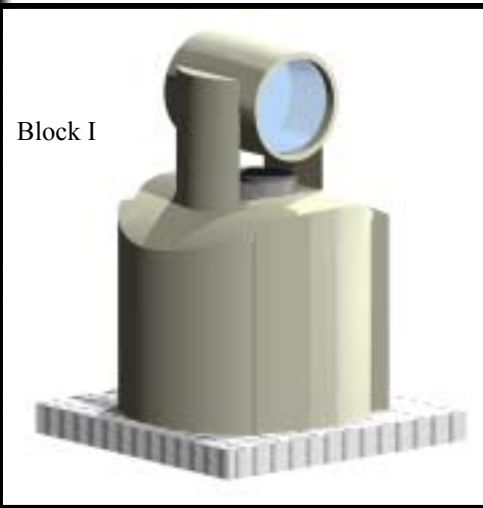
Road Map



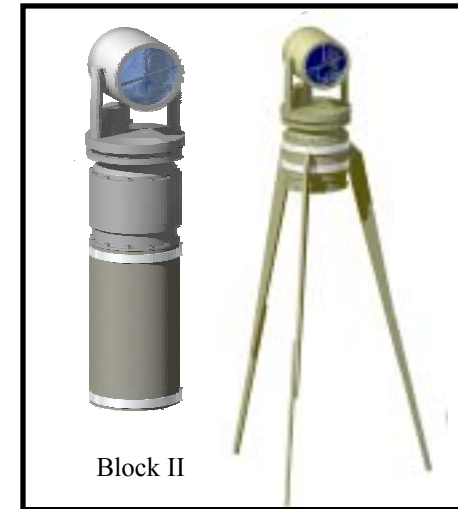
- **Definition**
- **Overview**
- **Status**
- **Component Advance Development**
- **Focus**
- **Schedule**
- **Industry Opportunities**
- **Summary / Challenges**



Block I



Block II



Develop and Field

- **Active standoff Chemical Warfare (CW) detection system**
 - ID CW agent vapors and aerosols and TIC
 - Near-real-time detection
 - Autonomous operation
 - Provide detailed mapping and tracking of threat clouds
 - Modular design for ease of integration

Program Status



- Completed Analysis of Alternatives (AoA) July 01
- Component Advanced Development approved Nov 01
- 25 Sept 02 Draft Joint ORD in review
- Preparation for System Development and Demonstration

**JSIG NBC Joint Priority List Ranked 3rd in
FY2001 and FY2002**

AoA Recommendation



Multi-wave Light Detection And Ranging (LIDAR)

- Technology is mature
- Risk is acceptable
- Provides maximum military utility for CW standoff detection

Multi-wave LIDAR technology is ready for an Acquisition Program



- To reduce overall program risk & develop a system architecture
- Findings/advancements will be provided to industry as GFI

Title	Description
Algorithm advancement	Combine aerosol and vapor detection; real-time background elimination
Frequency Agile Laser (FAL) reliability	Elimination of particulates within laser cavity that erode optics
Mustard Agent detection	Shift FAL frequency to detect CW Agents in 8.0 to 8.5 micron range

Program Focus



Draft Joint ORD

- Joint Potential Designation - 6 March 2002
- Block I
 - Fixed Site
- Block II
 - On the move detection
 - Shipboard, Ground Mobile, Rotary Wing Aircraft, TUAV, Foot Mobile
 - Same size and shape of JSLSCAD



Schedule

Draft RFP	3QFY03
RFP	1QFY04
Milestone B	3QFY04
SDD Contract	3QFY04
Critical Design Review	1QFY05
Milestone C	3QFY07
Full Rate Production	5QFY09



Block I

- FY04
 - Block I System Development and Demonstration (SDD) Contract
- FY07
 - Option 1: Low Rate Initial Production (LRIP)
- FY09
 - Option 2: Full Rate Production (FRP)

Summary / Challenges



- **Obtain Validated ORD**
- **Successfully complete Component Advanced Development**
- **Obtain Milestone B**
- **Award System Development and Demonstration Contract**



Backup

AoA Results Summary



Technology Area	Performance Against							Capability
	Vapors		Aerosols		Surface Contamination		Discriminate	Ranging Mapping
	Trigger	ID	Trigger	ID	Trigger	ID	Bio/Non-Bio	
Active Emitter Lidar-Multiple Wavelength	Green	Green	Green	Green	Green	Green	Yellow/Orange	Green
Active Emitter Lidar – Single Wavelength	Red	Red	Green	Red	Red	Red	Brown/Orange	Green
Active Emitter Doppler Radar	Red	Red	Green	Red	Red	Red	Red	Green
Fourier Transform Infrared Spectroscopy	Green	Green	Red	Red	Red	Red	Red	Red
Multispectral and Hyperspectral	Green	Green	Red	Red	Red	Red	Red	Red

System Overview



- Active Standoff Chemical Warfare (CW) detection system
- Near real-time identification of CW agent aerosols and vapors
- Autonomous operation with warning and alarming functions interfacing with service C4I systems
- Detailed mapping and tracking of threat clouds
- Modular design for ease of integration
- Warfighter Benefits
 - Maximum warning and battlefield awareness
 - Enables Preventive measures versus countermeasures





Active Stand-off detection development

1st Prototype: JSWILD (FAL)

- Demonstrated sensitivity
- Aerosol as well as vapor detection/ID of CW agents



2nd Prototype: JSWILD (Wildcat)

- Transportable, fully integrated
- 20 km detection capability demonstrated



