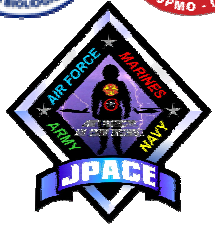




# JPACE – MOPP 4 IN THE AVIATION ENVIRONMENT

Chemical/Biological  
Individual Protection  
Conference  
March 2006





# GLOSSARY

- **Joint Protective Air Crew Ensemble (JPACE)**
- **Mission – Oriented Protective Posture (MOPP)**
- **Chemical/Biological (CB)**
- **Key Performance Parameter (KPP)**
- **Joint Service Lightweight Integrated Suit Technology (JSLIST)**
- **Aircrew Life Support Equipment (ALSE)**
- **Individual Protective Equipment (IPE)**
- **Microclimate Cooling Garment (MCG)**
- **Microclimate cooling Unit (MCU)**
- **Naval Aviation = Navy & Marine Aviators**
- **Air Warrior – US Army**



# JPACE

- **One-Piece Chemical Protective Coverall for all services, all platforms**
- **Backward and forward compatible with all services Chemical/Biological respirators and foot and hand protection**
- **Backward and forward compatible with all services Aircrew Life Support Equipment, aircraft, and mission essential equipment**



# KPP's

- Provide CB protection equal to or better than JSLIST
- Provide CB protection over a 16 hour minimum mission duration
- Not interfere with ejection and continue to meet all CB agent permeation requirements following a survivable ejection and parachute descent
- Resist ignition and if ignited self-extinguish at a rate equal to or faster than the current (non CB) flight garments

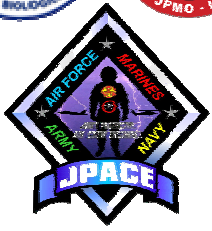


# MOPP LEVELS

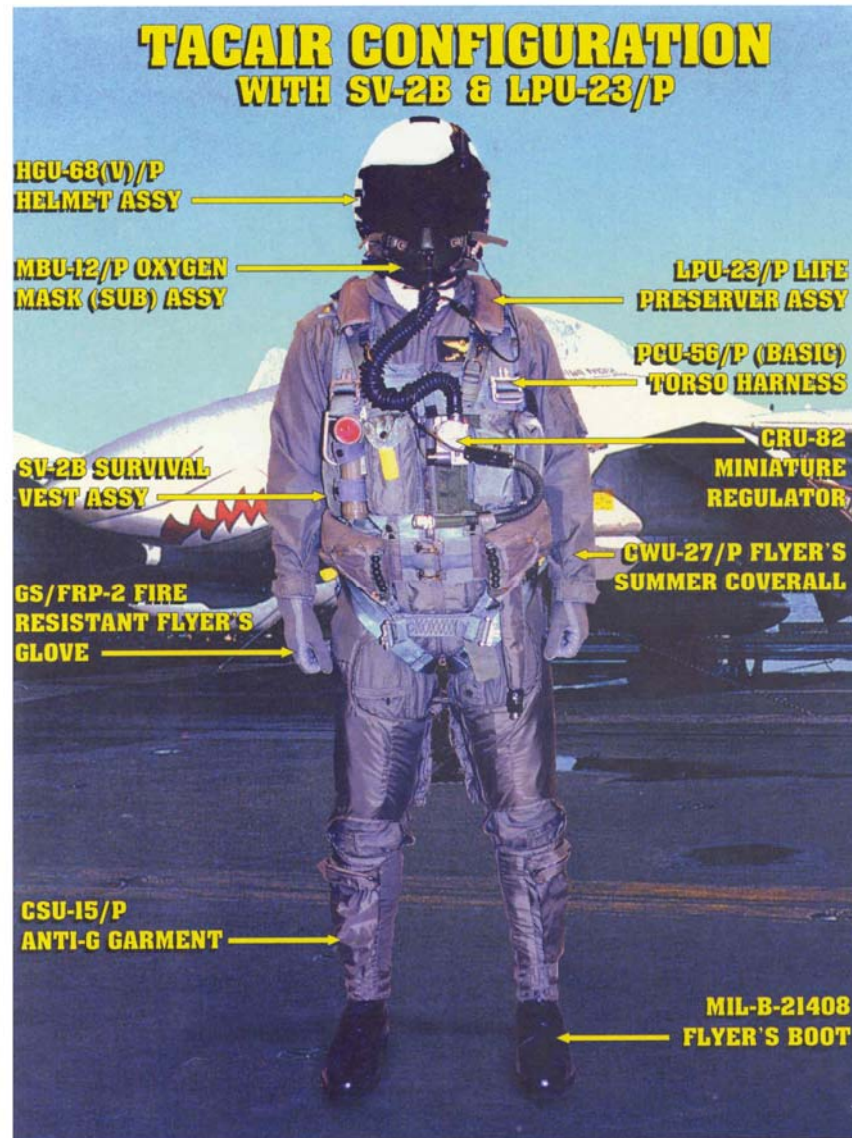


| Afloat*   |   | Ashore**                                   |  |
|---|---|--|--|
| MOPP  | Description   | MOPP                                       | Description  |
|   |   | MOPP Ready <sup>2</sup><br>(USA/USMC only) | Carry mask and ensure that IPE is nearby <sup>2</sup> .    |
|   |   | MOPP0                                      | Carry mask and ensure that IPE is available <sup>3</sup> . |
| MOPP 1  | Ensure that IPE is available <sup>3</sup> .                                     | MOPP1                                      | Don overgarment.   |
| MOPP 2  | Activate installed detectors, Carry mask <sup>1</sup> and post M8/M9 paper.     | MOPP2                                      | Don protective boots.                                      |
| MOPP 3  | Don protective suit, and boots; activate intermittent countermeasures washdown. | MOPP3                                      | Don protective mask.                                       |
| MOPP 4  | Don protective gloves and mask  | MOPP4                                      | Don protective gloves.                                     |
| *USN, USCG, and MSC vessels.  |   | **USN, USMC, USA, and USAF personnel.      |  |
| <p><sup>1</sup> The term "mask" includes any form of respiratory protection against NBC hazards as issued by services.</p> <p><sup>2</sup> IPE must be available to soldiers and marines within 2 hours. A second set must be available in 6 hours. MOPP ready does not apply to the USAF.</p> <p><sup>3</sup> IPE must be within arm's reach of personnel.</p> |   |  |  |

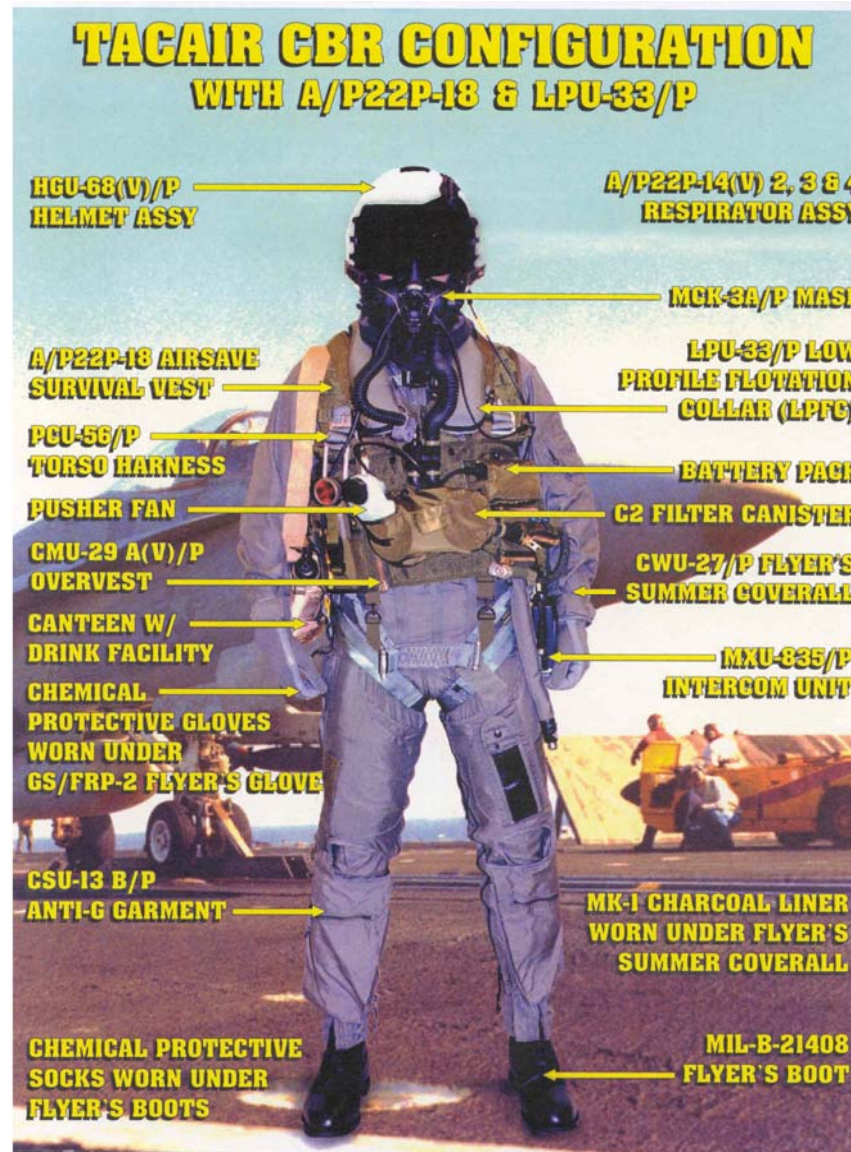
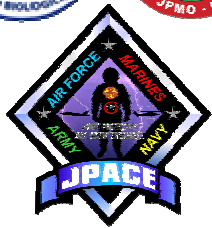


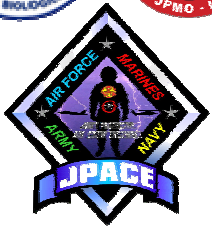


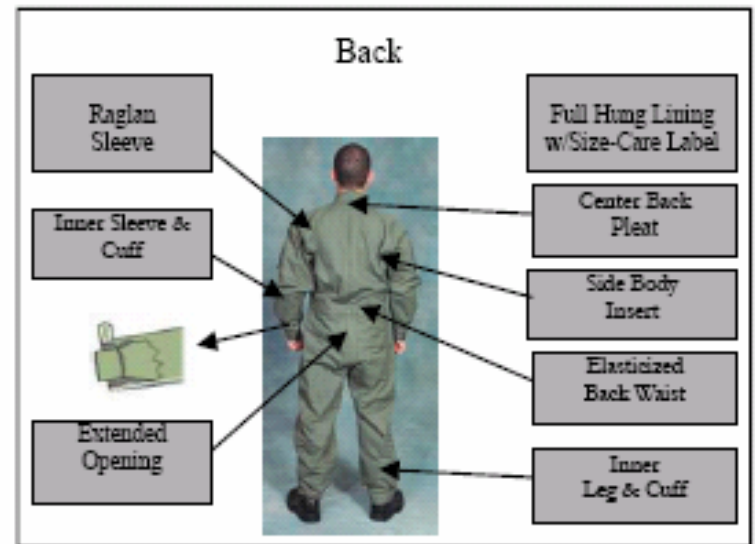
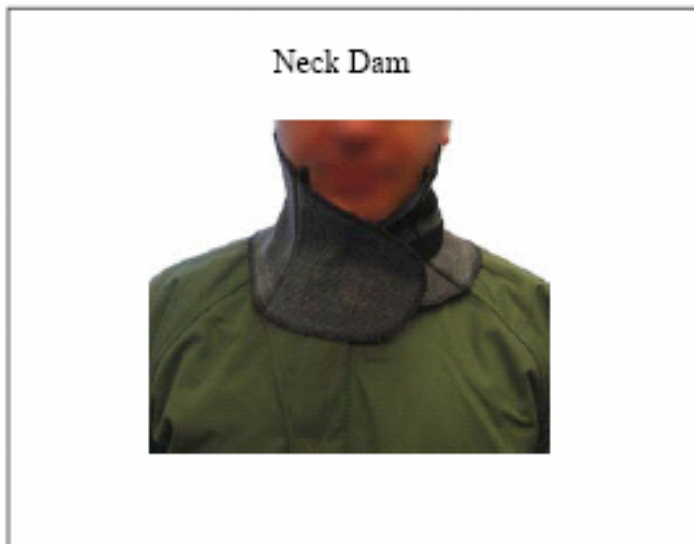
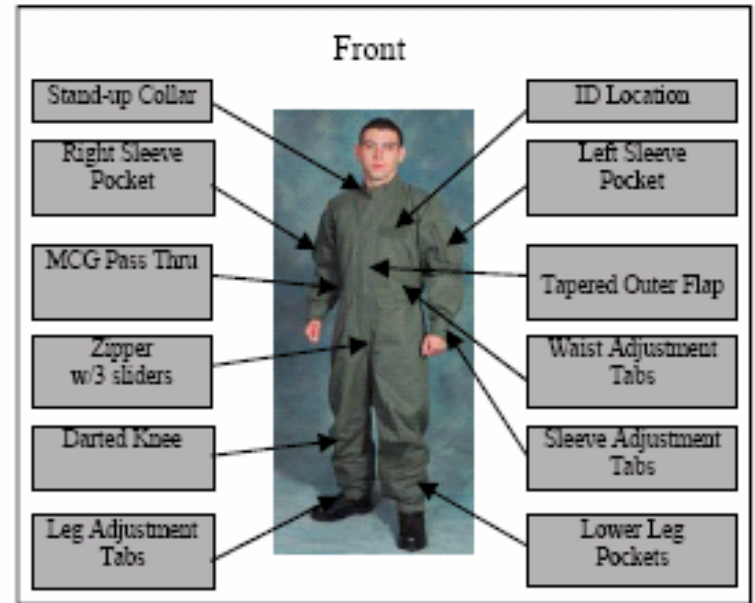
**AIR WARRIOR BLOCK 3**







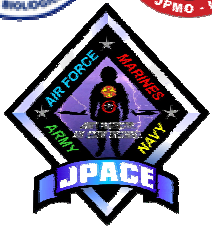






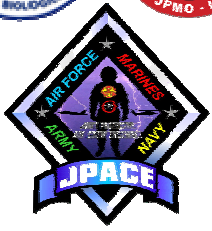
# TESTING

- **Flame-Resistance**
- **Chemical Protection**
- **Contaminated Doffing**
- **Survivability**
- **Human Factors**
- **Heat Stress**
- **Durability Field Testing**
- **Physical Properties**





# BACKUP SLIDES



# Air Warrior Configuration

- **Air Warrior Block 1**
  - Flexible Body Armor
  - Ballistic Upgrade Plates
  - Primary Survival Gear Carrier
  - First Aid Items
  - Universal Holster
  - Aircrew Survival and Egress Knife
  - M45 Protective Mask Blower
  - Microclimate Cooling System (MCS)
    - Microclimate Cooling Garment (MCG)
    - Microclimate Cooling Unit (MCU)
  - Over Water Mission Equipment (SELECT UNITS)
    - Over Water Gear Carrier
    - Survival Egress Air (SEA)
    - Flotation Collar
  
- **Accelerated Block 2**
  - Electronic Data Manager (EDM)



# Potential Expanded use

- Potential candidate for CVC
- Participating in Side-by-Side tests with JC3 designs and JSLIST Type VII