U. S. Customs and Border Protection
Office of Air and Marine

UAS on Leading Edge in Homeland Security

Presented by:
Michael C. Kostelnik
Assistant Commissioner
Customs and Border Protection
Office of Air and Marine

National Defense Industrial Association (NDIA)
04 October 2012
Office of Air and Marine

- World’s largest law enforcement air and marine force
- 21 types of aircraft; 11 types of marine vessels
- Operating 267 aircraft and 298 marine vessels from 84 locations throughout the United States
- Leading edge deployment of UAS in the national airspace
Air and Marine UAS Operations

- Leading edge border security technology
- CBP operations shaping UAS policy debate
- Sensor “technology push” continues to expand unmanned platform capabilities
- CBP UAS vision provides agile response to Homeland Security threats
Air and Marine Operations Center (AMOC) Riverside, CA

- 450 FAA, DoD, Aerostat and Canadian radar feeds
- Interagency/International integrated staff
- Multiple law enforcement data bases and communications networks
- Detects, sorts, and monitors suspect air and marine tracks of interest
- PED cell analysis capabilities
Two CBP operational PED Cells - AMOC & Grand Forks, ND

- Full Motion Video (FMV) capture from multiple sensored platforms
- Real-time FMV exploitation via MAAS
- Timely dissemination to operational users
Air and Marine BIG PIPE Innovation

- Innovative IT program feeds live images across World Wide Web
- Near real-time EO / FLIR / Radar streaming video
- Agile feeds to mission operators worldwide
Ground Control Station’s (GCS)

- Baseline GCS (QTY 4)
- Maritime GCS (QTY 1)
- Mobility GCS (QTY 1 of 4 delivered)
- Portable GCS (QTY 5)
- Humvee GCS (QTY 1)

Primary Launch and Recovery Element (LRE) and Mission Control Element (MCE) GCS

Launch and Recovery Element (LRE) and Mission Control Element (MCE) GCS with maritime capable GCS

Self-contained, highly mobile, fully mission capable GCS that is used to support forward operating locations

Emergency GCS and accompanies baseline, maritime and mobility GCS as a backup “recovery” asset

GCS integrated into a Humvee. Mobile GCS capable of remote land operations
CBP Air and Marine MQ-9 Family

PROVEN FLIGHT SYSTEMS
- Predator family of aircraft flown by USAF more than 18 years and 2,000,000 hours
- More than 17,000 hours in border Security / Homeland Security role

PAYLOADS
- Enhanced HD MTS-B EO/IR
- SeaVue Radar with OSI Processor
- Lynx Synthetic Aperture Radar (SAR)
- Law enforcement and civilian communications (UHF/VHF)
- Ku-band / INMARSAT satellite communications links
- Automated Information System
- Laser Illuminator
Air and Marine Predator B

PROVEN FLIGHT SYSTEMS
- Predator family of aircraft flown by USAF more than 18 years and 2,000,000 hours
- More than 10,000 hours in border Security / Homeland Security role

PREDATOR
- Wing Span: 66 ft
- Length: 36 ft
- Max Takeoff Weight: 10,500 lb

PERFORMANCE
- Range: Up to 3200 nm
- Max Demonstrated Endurance: 21 hrs
- Air Speed Max / Transit / Loiter: 240+ / 180 / 110 kts

PAYLOADS:
- Multi-Spectral Targeting System (MTS-B) EO/IR
- Lynx Synthetic Aperture Radar (SAR)
- Law enforcement and civilian communications (UHF/VHF)
- Ku-band / Iridium satellite communications links

OPERATIONAL AIRCRAFT
- CBP 104, CBP 108, CBP 110, CBP 119, CBP 125
AIR and MARINE Guardian

GUARDIAN
- Wing Span: 66 ft
- Length: 36 ft
- Max Takeoff Weight: 10,500 lb

PERFORMANCE
- Radar Operating Altitude: 3-20k ft
- Max Demonstrated Endurance: 17 hrs
- Air Speed Max/Transit/Loiter: 230+/180/105 kts

OPERATIONAL AIRCRAFT
- CBP 113, CBP 159
- CBP 233 (SEP 2012)

PAYLOADS:
- Enhanced MTS-B EO/IR
- SeaVue Radar with OSI Processor
- Law enforcement and civilian communications (UHF/VHF)
- Ku-band / INMARSAT satellite communications links
- Automated Information System
AIR and MARINE
Multi-Role Variant

**PREDATOR B**
- Wing Span: 66 ft
- Length: 36 ft
- Max Takeoff Weight: 10,500 lb

**PERFORMANCE**
- Radar Operating Altitude: 3-20k ft
- Max Demonstrated Endurance: 17 hrs
- Air Speed Max/Transit/Loiter: 230+/180/105 kts

**PAYLOAD OPTIONS:**
- HD MTS-B EO/IR
- SeaVue Radar with OSI Processor
- AIS
- Law enforcement and civilian communications (UHF/VHF)
- Ku-band / INMARSAT satellite communications links (voice/C2)
- LYNX SAR w/DMTI
- Permanent Magnetic Alternator (PMA)
- Laser Altimeter

**OPERATIONAL AIRCRAFT**
- CBP 213, CBP 216

Multi-Role Variant for All Future Acquisitions!
UAS Border and Maritime Security Missions

- Grand Forks, ND LRE & MCE site for Northern border and MCE site southwest border operations
- Sierra Vista, AZ LRE & MCE site for all operations
- Corpus Christi, TX LRE & MCE site for south Texas and Gulf operations
- Cape Canaveral AFS, FL LRE & MCE site for Caribbean and foreign deployments
Emergency Certificates of Authorization (COA)

National Contingency Response Missions
Federal, State, and Local Emergency Response

- Contingency response for floods, fires and hurricanes
- SAR mapping change detection analysis
- Live full motion EOIR imagery
- Real time dissemination to mission operators worldwide

Experience in Humanitarian Mission Enhance Capability for Security Response!
Southwest Border UAS Operations
Ft. Huachuca, AZ

- SW Border Hub for training, test and operations
- Predator Operations Center: Davis Monthan AFB
- 4 operational Predator B aircraft assigned
- AZ Joint Field Command mission assets
Northern Border UAS Operations

HARVESTER SENSOR “TECHNOLOGY PUSH”

- Northern Tier training and deployment base
- Test site for interagency HARVESTER ACTD
- USAF/CBP partnership for contaminated particulate detection technology

Directional Gama Radiation Sensor (DGRS)

Particulate Sampling Pod (PSP)

NORTH DAKOTA ASSIGNED AIRCRAFT

NORTH DAKOTA UAS OPERATIONS CENTER
Dominican Republic Deployment
Operation Caribbean Focus

- Interagency CBP / USCG / DEA partnership
- ACTD for Caribbean deployed UAS operations
- Dominican Republic hosts Guardian operations – San Isidro AFB deployment
- Prototype for future transit zone UAS deployments
Operation “Caribbean Focus”  
May 31 – July 18, 2012

Detachment Summary:
- 30 sorties flown
- 237.4 flight hours

Mission Results:
- 5 interdiction events
- 3,956 lbs cocaine valued $296 million
- 1,908 lbs marijuana valued $5 million
National UAS Operations Strategy

- Multiple LRE sites support border security missions
- Rapid contingency deployment supports Federal / State / Local Missions
- Guardian/MRV supports Gulf, Caribbean and Transit Zone Operations

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UAS Operations Strategy

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U.S. Customs and Border Protection

National UAS Operations Strategy

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UAS National Security Response Vision

- National Air Training Center
- Air & Marine Headquarters
- AMOC
- Sierra Vista, AZ
- Gray Butte, CA
- Flight Test Center
- Tucson, AZ
- PED Cell
- Grand Forks, ND
- PED Cell
- Corpus Christi, TX
- Future Launch and Recovery / Mission Control
- Washington, DC
- PED Cell
- Oklahoma City, OK
- Launch and Recovery / Mission Control
- Fort Drum, NY
- Washington State
- PED Cell
- Cape Canaveral, FL
- Puerto Rico
- Air Operations Ctr.

Launch and Recovery
Mission Control
Launch and Recovery / Mission Control
Future Launch and Recovery / Mission Control

U.S. Customs and Border Protection
Air and Marine UAS Operations

Remain on Leading Edge!

- Border Security and Contingency Response Missions enhance Operational Experience and Expertise
- UAS operations continue to expand and mature
- Sensor technologies keep UAS platforms on leading edge of border security
- CBP UAS Deployment Vision strengthens National Security Response Capability