Panel 19 – Maritime Security: From Preparedness and Response to Resilient: The Urban Port and Inland Waterway

4th Annual DHS University Network Summit
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Introductions

Scenario A: a major hurricane makes landfall in your area of responsibility

Scenario B: an explosion has occurred on a container vessel in the entrance channel of your port. Access into and out of the port is blocked; there is overwhelming evidence that this is an act of terrorism; and officials are uncertain as to whether the weapon carried a chem/bio agent.

Future Needs (knowledge, technologies, processes)
Multi-Mission Agency
Cross Functional Capability

• Ports, Waterways, & Coastal Security
• Defense Readiness
• Search & Rescue
• Marine Safety
• Marine Environmental Protection
• Aids to Navigation
• Ice Operations
• Living Marine Resources
• Drug Interdiction
• Migrant Interdiction
• Other Law Enforcement

Pre-Incident

Natural Disaster

Preparedness
Prevention
Protection

Maritime Security Incident

Incident Management - Urban Port & Inland Waterway Environment

CAPT Kevin Kiefer, USCG
COMDT (CG-544)
Port of Virginia's Homeland Security Program

Ed Merkle
Director of Port Security & Emergency Operations

Virginia Port Authority
Decision making in Emergencies

Center for Decision Technologies
Jeff Nickerson, Stevens Institute of Technology

National Center for Secure and Resilient Maritime Commerce and Coastal Environments

CSR – A Department of Homeland Security National Center of Excellence for Port Security
Center for Decision Technologies

• What we do
  – Decision making in emergency situations
  – Social network analysis and coordination
  – Detection of threats

• Methods
  – Observation
  – Human subject experiments online
  – Video game experiments
Office of Air and Marine
Customs and Border Protection
Southeast Region

2010 DHS University Network Summit

April 6, 2010
Office of Air and Marine, Southeast Region

- More than 2,000 miles of coastline
- 24 Air and Marine locations
- 40 aircraft and 46 marine vessels

Detect, interdict, apprehend, enforce
Incident Management
Natural Disaster – *First Response*

- Reconstitution
- Situation assessment
- Set perimeter
- Unified Command
- Mobilization
- Search and Rescue
Incident Management
Natural Disaster – *Response Operations*

- Risk assessment
  - Active or secondary threat
  - Areas/populations at risk
- Operational response
  - Search and Rescue
  - Port evacuation
  - Breakaway vessels & damage control
  - Environmental & salvage response
  - Law enforcement
  - Force protection
Incident Management
Natural Disaster – MTS Recovery

Field Level

- Activate Marine Transportation System Recovery Unit (MTSRU)
- Assess against Essential Elements of Information (EEI)
- Use all-hazard MTS Recovery Plan
- Initiate recovery tracking & reporting

National Level

- Implement CBP/USCG Joint Protocols for Expeditious Recovery of Trade
Marine Terminal Security

- Command & Control Center
- Perimeter Fencing & CCTV
- Rail Interchange Zone (RIZ)
- Container X-Ray Inspection
- Truck Gate Radiation Portal
Natural Disaster
Port Command Center

- Sensor Integration
- GIS Smart Display
- VOIP/VTC
- Fire Alarm Upgrade
- Mass Notification
State-Wide Area Radio System (STARS)

- Handheld Radios
- Vehicle Radios
- Control Console
- “Point to Point”
- MOU with locales
Hurricane Scenario

• Ahead of the emergency
  • Negotiation of resource sharing
• During the emergency
  • The importance of briefing
Tacit Bargaining: invisible lines in the sand

You and a randomly selected partner will play a game using a deck of cards containing four Aces and four Kings. In this game, a hand with four aces wins a $0.10 bonus. Otherwise, each Ace pays $0.01. Each of you have been dealt four cards.

Your hand is:

![Playing cards](image)

You and your partner may pool your cards, but only if you agree on how to share the bonus.

![Bonus distribution](image)

Click how you propose sharing the bonus.
Most people opt for an equitable bargain...

...but some people demand ransom.
Two heads *know* better than one.
Change in Functional-Category Prediction Accuracy:
Dyads vs. Individuals (With & Without Verbal Reference)

Voiklis, 2008
Major Hurricane Strikes Greater Miami Area

• Local Units Secure Assets and Personnel - Pre-event
• Region and National Units Preposition for Response
• UAS, P-3, DHC-8 – Post-Storm Damage Estimates
• Unified Relief and Security Operations Response

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Port Environment

- Airborne Assessment of Port and Facilities
- Airborne Assessment of Vessels Awaiting Entry
- Maritime Port Security Patrols
- Airborne Port Security Operations
- Assign Staff at Emergency Operations Center
Incident Management
Maritime Security – *First Response*

- Alerts & warnings
- Situation assessment
- Set perimeter
- Unified Command
- Mobilization

Change MARSEC Level?

Situation Assessment

Establish Unified Command
Incident Management
Maritime Security – *Response Operations*

Risk assessment
- Active or secondary threat
- Areas/populations at risk

Operational response
- Counter-terrorism operations
- Search and Rescue
- Port evacuation / shelter-in-place
- Firefighting & damage control
- Law enforcement
- Environmental & salvage response

Intelligence analysis & assessment
Incident Management
Maritime Security – *MTS* Recovery

**Field Level**

- Activate Marine Transportation System Recovery Unit (MTSRU)
- Assess against Essential Elements of Information (EEI)
- Use all-hazard MTS Recovery Plan
- Initiate recovery tracking & reporting

**National Level**

- Implement CBP/USCG Joint Protocols for Expeditious Recovery of Trade
Manmade - Post Incident

- *Incident Scene* Management
- Continuity of Operations / Business Continuity Planning
- IT Infrastructure Resiliency
Terrorist Scenario

- Ahead of the emergency
  - Intelligence
  - Training
- During the attack
  - Observation and intervention
- After the attack
  - Sense-making
Container Vessel Explodes Blocking Access to the Port of Miami – Terrorism (possible chem/bio) Related

- Mobilize Assets and Personnel
- Assess Safety of Port Environment (chem/bio/radiological)
- Maritime and Airborne Damage Assessment Operations
- Maritime and Airborne Port and Offshore Security Patrols

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Future Enhancements

Resiliencies

• Improve understanding of supply chain interdependencies
• Develop labor support group for resumption of trade

Technology

• Improve tracking & documentation capability for recovery
• Develop near real time risk analysis capability
• Improve biometric identification capabilities
Next Steps

- Enhanced Security and Surveillance
- Preparedness and Recovery
- Maritime Incident Response Capabilities
- Port Modeling and Simulation
Next Steps

• Improved ways of training
  • Negotiation of resource sharing
  • Briefing
  • …using videogames and online play

• Tools to
  • Aid observation
  • Predict
  • Visualize and sense-make
Future Technologies

• UAS Operations
• Detection and Tracking – Non-cooperative Targets
• Data Fusion

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