“United States eNavigation Planning”

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Office of Navigation Systems

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“Bringing America’s Waterways into the 21st Century”
MTS at a Glance

- 25,000 miles of waterways
- 18,000 bridges
- 22 million recreational boaters
- 135 million ferry passengers
- Over 350 ports
- 3,700 marine terminals
- 238 lock chambers
- 97,000 aids to navigation
Navigation Situation

- Ships continue to get bigger.
- Available channel depth and width are more critical.
- Available air gaps are more critical.
- Western Rivers traffic increase.
- Multiple entities competing for waterway usage.
- International standards are being developed.
- Technology continues to advance.
Working Together to Build the Future of Navigation

21st Century Waterway

USACE

USCG

NOAA
Coast Guard Strategy In Support of 21st Century Navigation

21st Century Waterway

Physical ATON
E-ATON/MSI
Levels of Service
Risk Analysis
Regulations
ATON Modernization

• Upgrade current technology
• Reduce Seasonal Workload
• Develop Environmental Friendly Mooring
• Add eATON
• Add eMSI
Physical ATON Efficiency Improvements

Year Round Ice Buoy

Non Metal Buoys
Electronic MSI

AIS will be used to:

- Broadcast ATON outage
- Area Notices
- PORTS data
Western Rivers
Services Portfolio

- Environmental
  - Weather, Ice, Hydrography
- Waterway
  - ATON, Charts, Restrictions, VTS
- Emergencies
  - SAR, pollution response
• Level of Service
  ➢ Sea Coast System
  ➢ Low Use Commercial Waterways
  ➢ Recreational Only Waterways
  ➢ Shallow, unsafe waterways
Risk Analysis and Management

- Data Mining
  - USCG – IATONIS, NAIS
  - USACE – Hydro, Vessel Cargo Data
  - NOAA – Environmental
- IALA’s Waterway Risk Assessment Tool
- User Input
- Risk Management and Operational Assessment
Possible Regulation Changes

- AIS
- ECDIS / ECS / Other?
- Redundant PNT?
- Training?
Future of Navigation

Taking the constellation from a 19th Century Seacoast Lighthouses into the 21st Century
Thank You