

Maritime Administration (MARAD)

Research and Development (R&D)

Activities and Demonstration Projects



Environment



Security



Safety



MAR-400



February 2013



Discussion Outline

- MARAD Update
- Panama Canal Expansion Study
- Current/Recent MARAD R&D Activities



Overview

- Associate Administrator for Environment & Compliance that include offices of Safety, Security and Environment
 - Mr. John Quinn, (CAPT, USN retired)
- MARAD staff strives to built strong relationships to facilitate and enable beneficial focused R&D
- MARAD works collaboratively to accomplish R&D
 - within MARAD
 - Federal/state agencies
 - Academia
 - Industry partners



MARAD Panama Canal Expansion Study

- Commissioned comprehensive study to:
 - examine anticipated economic and infrastructure impacts of the Panama Canal expansion on U.S. ports and port-related freight transportation infrastructure.
 - examine a full range of impacts on U.S. ports, waterways, and intermodal freight systems
- The study effort includes production of two reports—
 - first report (Phase I) December 2011 – Spring 2013
 - assessed the pending developments in world ocean trade routes and national and global economies that are expected to affect global and U.S. freight corridors.
 - Second/final report (Phases II – IV) December 2012 – Summer 2013



MARAD Panama Canal Expansion Study

- Phase I Report

- Provided assessment of the potential shifts in commodity flows
- emphasizes “containerized traffic” as the segment to be most likely affected by operational cost savings as a result of the expansion
- net shipping cost reductions depend cost-efficiencies passed to cargo owners; costs reductions will be further evaluated in final document for Phase II-IV
- expected changes will occur slowly and increase over time
- Nation’s overall transportation system will not experience significant impacts immediately



MARAD Panama Canal Expansion Study

- Phases II - III of the study
 - detailed assessment of physical attributes of U.S. ports & inland infrastructure
 - evaluated current port and land-side infrastructure capacity
 - assessed investment plans that ports have recently developed
 - survey distributed to over 2500 international shippers
 - interviewed key U.S. gateway ports to determine port infrastructure conditions
 - establishment of an extensive peer-review process
 - assessed potential opportunities for applying investment funding towards future development of port capacity
 - Evaluated potential effects for funding opportunities where policy consideration could provide economic benefits to the U.S



MARAD Panama Canal Expansion Study

- Phase IV

- revisited the issues identified in Phase I, incorporating feedback
- included a review of the infrastructure needs and funding issues
- final phase of the study will:
 - 1) identify a range of investment considerations
 - 2) present perspectives on potential recommendations
 - 3) assess implications of implementing these recommendations
 - 4) produce specific set of actionable investment policy recommendations



Key Safety Interest

- Safety Interest:
 - Safety data standards and terminology
 - Multimodal safety incident and close calls system for improved cross modal safety evaluation
 - Operator fatigue
- MARAD Safety-Related Activities:
 - Challenges and Needs for Implementation of Marine Safety Reporting System (MARAD/Industry)
 - ABS Safety Reporting System for Maritime Industry (MARAD/Industry)
 - Working Group to develop Safety Reporting Standard (MARAD/Industry)



Key Environmental Interest

- Environment Stewardship:
 - Environmental Regulatory Reform
 - Ballast Water Management/Hull Fouling Research
 - Oily Water Separators/MSD Units
 - Energy Conservation
 - Climate Change
 - Alternative Energy/Air Emissions
 - LNG
 - Fuel Cells
 - Energy Conservation
 - Bio-Diesel



Key Environmental Activities

- MARAD Environmental Stewardship Research:
 - Ballast Water Management/Hull Fouling
 - Ballast Water Technology Verification (MARAD/Academia)
 - Ballast Water Technology Treatment Standards (MARAD/Industry)
 - Hull Fouling Issues (MARAD RRF)
 - Oily Water Separators/MSD
 - ASTM Technical Standards for Technology & Testing (MARAD/Industry)
 - Underwater Noise Research
 - Acoustical Testing for impacts on marine mammals (MARAD/NOAA/Navy)
 - Alternative Energy
 - LNG Feasibility Studies for Great Lakes Application (MARAD/Academia)
 - Steam ship application, Infrastructure requirements, Bunkering consideration, Regulatory Issues
 - Hybrid Technology Application (MARAD/Industry)
 - Exhaust Gas Scrubber Technology Study (MARAD/Industry)
 - Use of Biodiesel Fuels in the U.S. Marine Industry (MARAD/Navy/Industry)
 - Cold Flow Testing of Biodiesel Blends with Additives (MARAD/Academia)

Ballast Water Technology Testing





MARAD

Thank You!

Todd Ripley

Maritime Administration, Office of Safety

Email: todd.ripley@dot.gov

Phone: 202-366-2625