

To: Members, Hydrographic Services Review Panel
From: Ed Welch, Vice Chairman
Re: National Strategy Document of Committee on the Maritime Transportation System
Date: November 17, 2008

In July, the Committee on the Maritime Transportation System (CMTS) released its document entitled “*National Strategy for the Marine Transportation System: A Framework for Action.*” The purpose of this memorandum is to summarize how the *National Strategy* addresses missions of the National Oceanic and Atmospheric Administration, particularly those activities of most interest to the Hydrographic Services Review Panel.

President George W. Bush’s 2004 Ocean Action Plan called for the CMTS to recommend strategies and plans to maintain and improve the nation’s marine transportation system (MTS).

The CMTS membership is composed of senior representatives from 18 federal departments, agency, and White House offices. The CMTS staff is led by Executive Director Helen Brohl, a former member of the Hydrographic Services Review Panel.

The *National Strategy* contains 34 recommended actions, categorized in five priority areas:

- Capacity
- Safety and Security
- Environmental Stewardship
- Resilience and Reliability
- Finance and Economics

Section One of the *National Strategy* provides an overview of the MTS. It details the various users of the MTS, specifically mentioning “oceanographic research interests.” It categorizes the MTS as having three functions: commerce, recreation, and national defense. The discussion on commerce touches on marine shipping, commercial fisheries, offshore energy extraction, and undersea communications infrastructure.

Rather remarkably, the 10-page overview devotes two pages to a discussion of “Arctic Commerce.” Noting that the summer Arctic ice cap has diminished by almost half over the past five decades, it acknowledges predictions by “some” that “an oceanic trade route across the Arctic ... will eventually become a reality....” It equates this “transformational” development to the opening of the Panama Canal. Because of increased shipping, as well as the possibility of significant oil and natural resources in Arctic waters, it notes several “pressing governance issues,” including “navigation practices and traffic schemes, vessel standards, maritime security, environmental protection, and enforcement and response capability unique to the environment.”

The document states that the nation, in setting its Arctic policy, must set as a top priority “to facilitate shipping that is safe, secure, and environmentally sound. Safe maritime commerce in the Arctic will depend on the enhancement of infrastructure to support search and rescue capabilities, short- and long-range aids to navigation, high-risk area vessel traffic management, iceberg warnings, other sea ice information, and effective shipping standards.” Energy development in the Beaufort and Chukchi Seas will also increase commercial activities in the Arctic MTS.

Section Two discusses MTS challenges. Included in the “System Capacity” discussion are financing the maintenance of coastal channels; support for the inland waterways system; the role of the Great Lakes/St. Lawrence Seaway System; projected growth in maritime trade and use of waterways (including making most efficient use of the existing port system capacity); and continued expansion of containerized cargoes.

The discussion of “Maritime Data” is of particular interest to the Hydrographic Services Review Board. It is reproduced here in its entirety.

The ability to provide the safest, most efficient, and environmentally responsible MTS is certainly dependent upon a reliable physical infrastructure such as fully maintained channels, locks, dams, and berths. However, there are additional MTS services that directly support navigation along the waterways and the ability of vessels to serve U.S. ports. Vessel Traffic Services (VTS) provide real-time vessel monitoring and navigational warnings for mariners in certain confines and busy waterways. By expediting ship movements, VTS increases transportation system efficiency and improves all-weather operating capability.

Real-time environmental observations for weather, tides, and currents enhance mariner situational awareness, but are not currently available in all critical areas of the MTS. Additionally, navigation charts with the most recent, full-coverage bathymetric soundings and advanced electronic presentations alert mariners to shoals, rocks, wrecks, and other obstructions they must avoid to reduce the risk of accidents that could result in loss of life and damage to property and the environment. NOAA’s Federal advisory committee identified the need to aggressively survey and map the Nation’s shorelines and navigationally significant areas, integrate coastal mapping efforts, modernize tidal gauging to implement real-time water levels and current observing and reporting systems, in all major commercial ports, and disseminate hydrographic services data and products for the greatest public benefit. NOAA’s Office of Coast Survey reports that of the 43,000 square nautical miles of critical navigation areas, approximately 21,660 square nautical miles are yet to be surveyed.

Maritime data can be presented in real-time or as static data. Real-time information, such as in a Physical Oceanographic Real Time Systems (PORTS) tide gauge, supports immediate navigation needs. Static data are commonly used to provide historic and economic information that enable projections and planning. Five Departments and numerous Agencies currently collect maritime

data. The data are presented in varying ways, may have different interpretations, and applications are derived from Federal statutes with differing goals and objectives. For Federal maritime data, there is currently no central source, and no ability to prevent duplications. However, there are currently a number of efforts to coordinate and collaborate, such as the Custom and Border Protection's Automated Commercial Environment (ACE) supported by the International Trade Data System (ITDS), and NOAA's and the U.S. Army Corps of Engineers' collaboration on surveying and survey data.

In elaborating on the “Environmental Impacts” priority area, the *National Strategy* states, “CMTS Agency partners must look systemically at the hydrology, hydrodynamics, sediment, and water and air quality of the marine environment, and their focus on issues such as regionalization and integrated water resources will help support a more sustainable transportation system. CMTS Agencies will also focus on climate change and its implications for the MTS.”

The *National Strategy* addresses the “Disruptions” priority area by explaining, “MTS resilience and recovery can only be accomplished by the cooperation of many Federal stakeholders. The USCG has general oversight responsibilities, the USACE surveys, dredges, and removes obstructions from Federal channels and waterways, NOAA's Navigation Response Teams assist with surveys and depth soundings to chart the channel bottom,”

In its analysis of “Finance and Economics,” the *National Strategy* observes, “Federal expenditures for MTS infrastructure maintenance and improvements have been relatively flat for years, in real terms and as a share of Agency budgets, with the exception of funding for Hurricane Katrina-related projects. The challenge is to use existing infrastructure efficiently, quantify the need for new infrastructure, and determine how these needs can be financed and how these financing costs might be distributed across users. A comprehensive look at innovative approaches will be necessary because of the complexity of diversity of structure and ownership, both public and private, and an uneven distribution of the costs and benefits of public infrastructure. This comprehensive look must include the existing MTS Trust Funds as well as existing fees and taxes, private sector finance, and innovative new user fees, including the use of congestion pricing.”

Section Three explores the five most pressing and current challenges to marine transportation. With regard to “Capacity,” the document emphasized maintaining and sustaining existing capacity. It endorses enhancements to the MTS that would increase its capacity “whenever the need is clearly identified and justified.” One method of improving port capacity is “communication with industry on port conditions to enable vessel operators and owners to better time their vessel movements.”

Addressing the “Safety and Security” challenge, the document notes that many vessels carry dangerous cargoes and that “Keeping these vessel and port operations safe requires systems, technology, and trained people to work seamlessly together.” Among

the federal programs that improve marine safety are NOAA's surveys and charts, its weather services, and its "real-time navigational information on tides, currents, and air drafts." As use of the ocean for all purposes increases, "the CMTS Agencies can collaborate to improve marine safety. For example, data integration of Vessel Traffic Services, Automatic Identification Systems (AIS), electronic charts, and real-time navigational and weather information can create a comprehensive navigational safety system that significantly improves the quality and timeliness of safety information."

The *National Strategy* recommends seven actions to enhance marine safety and security, including:

- Deliver timely, relevant, accurate navigation safety information to mariners, including real-time information systems such as the Physical Oceanographic Real Time Systems (PORTS), e-navigation, under-keel clearance, High Frequency Radar (HFR) air gap technology, and Real Time Current Velocity systems at locks and those systems associated with development of the Integrated Ocean Observing System to improve navigation safety and security, and reduce the risk of accidents;
- Encourage, coordinate, and support navigation technology research and development to enhance navigation safety;
- Enhance and improve existing frameworks that plan for, operate, maintain, and mitigate risks to vessels and the environment, and respond to accidents and natural disasters.

A third challenge category is "Environmental Stewardship." Among the recommended actions for this category are:

- Advocate transportation projects, technologies, and mitigation activities that ... reduce congestion in port areas and other MTS components;
- Work collaboratively to foster the collection of data and information that will underpin environmental impact assessments and decision-making in MTS planning and development.

With regard to the challenge of "Finance and Economics," the *National Strategy* seeks ways of "attracting more private sector investments." It cautions, "Increases in funding should be considered only after a thorough exploration of opportunities for increasing the efficient use of existing infrastructure, prioritizing investments so that all funds are used effectively, and an identification of both private and public sources of funds."

The other area of challenge is "Resiliency and Reliability."

To view or download the National Strategy, go to www.cmts.gov.

