

# A REVIEW OF FEDERAL MARITIME DOMAIN AWARENESS PROGRAMS

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(112-92)

## HEARING

BEFORE THE  
SUBCOMMITTEE ON  
COAST GUARD AND MARITIME TRANSPORTATION  
OF THE  
COMMITTEE ON  
TRANSPORTATION AND  
INFRASTRUCTURE  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED TWELFTH CONGRESS  
SECOND SESSION

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**U.S. House of Representatives**  
**Committee on Transportation and Infrastructure**  
Washington, DC 20515

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July 6, 2012

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**MEMORANDUM**

**TO:** Members, Subcommittee on Coast Guard & Maritime Transportation  
**FROM:** Staff, Subcommittee on Coast Guard & Maritime Transportation  
**RE:** Hearing on "A Review of Federal Maritime Domain Awareness Programs"

**PURPOSE**

On Tuesday, July 10, 2012, at 10:00 a.m., in room 2167 of the Rayburn House Office Building, the Subcommittee on Coast Guard & Maritime Transportation will meet to review the implementation of programs by the Coast Guard to collect, analyze, and disseminate information used to assess and respond to safety and security threats in the maritime domain.

**BACKGROUND**

**Maritime Domain Awareness (MDA)**

Maritime domain awareness (MDA) is the federal government's effort to achieve an understanding of anything in the global maritime environment that can affect the security, safety, economy, or environment of the United States. The process of achieving MDA includes: (1) collection of information, (2) fusion of information from different sources, (3) analysis through the evaluation and interpretation of information, and (4) dissemination of information to decision makers, with the goal of identifying risks and threats in a timely manner.

To improve coordination and help guide the development and implementation of MDA programs by federal government agencies, President George W. Bush released the National Plan to Achieve Maritime Domain Awareness in October 2005. It is one of eight plans developed in support of the National Strategy for Maritime Security, as directed by National Security Presidential Directive-41/Homeland Security Presidential Directive-13. The plan outlines the national priorities for achieving maritime domain awareness and establishes an interagency coordination office to guide agencies in executing their MDA programs.

### Information Collection

The Coast Guard is in the process of acquiring new technology and implementing new or revised programs to improve the collection of information to achieve MDA. Below is a summary of some of the Service's larger programs to improve information collection:

#### *Automatic Identification System (AIS):*

Automatic Identification System (AIS) is an internationally adopted Very High Frequency (VHF)-based, short-range communication system which provides a means for vessels to electronically exchange data, including identification, position, course, and speed, with other nearby vessels and shore-based AIS receivers. Depending on signal strength, weather, geography, and receiver capability, AIS signals can generally be received up to 50 miles away.

Under amendments to the International Convention for the Safety of Life at Sea (SOLAS) adopted in December 2002, vessels over 300 gross tons are required to carry AIS. Section 102 of the Maritime Transportation Security Act of 2002 (MTSA) (46 U.S.C. 70114) requires certain commercial vessels operating in U.S. waters to carry AIS. In October 2003, the Coast Guard finalized its rule implementing the AIS carriage requirements (33 C.F.R. Part 164.46). The rule requires AIS on the following commercial vessels on international voyages:

- Commercial vessels greater than 300 gross tons;
- Passenger vessels larger than 150 gross tons;
- Tankers regardless of tonnage;
- Towing vessels of 26 feet or more in length and more than 600 horsepower; and
- All other self-propelled vessels greater than 65 feet, other than fishing and passenger vessels.

The final rule also requires the following vessels to carry AIS when operating in one of 12 Coast Guard administered Vessel Traffic Service areas throughout the U.S.:

- Self-propelled vessels greater than 40 meters (131 feet);
- Towing vessels greater than eight meters (26 feet); and
- Passenger vessels certificated to carry more than 50 passengers.

On December 16, 2008, the Coast Guard published a Notice of Proposed Rulemaking (NPRM) (RIN 1625-AA99) to amend the current AIS regulations to expand AIS carriage requirements to vessels operating on all U.S. navigable waters, and require AIS carriage for additional commercial vessels, including:

- Fishing vessels 65 feet or greater;
- Towing vessels greater than 26 feet in length regardless of engine horsepower;
- Commercial vessels carrying 50 or more passengers;
- Hi-speed passenger vessels carrying more than 12 passengers;
- Dredges and floating plants operating in or near channels; and

- Vessels carrying certain dangerous cargo.

The Coast Guard estimates the 10-year total cost of the proposed rule to U.S. vessel and foreign-flagged vessel owners is between \$181 million and \$236 million, while the benefits in the form of reduced property damage could also total \$236 million. The NPRM would more than double the number of vessels currently tracked by the Service. The final rule is still under development by the Coast Guard.

*Nationwide Automatic Identification System (NAIS):*

The Coast Guard collects AIS signal data through its Nationwide Automatic Identification System (NAIS). NAIS consists of approximately 200 VHF receiver sites located along the coasts and inland river systems of the United States. NAIS allows the Coast Guard to collect data from AIS-equipped vessels in certain waters.

Currently, the Coast Guard uses NAIS to receive AIS data from vessels traveling in the vicinity of the nation's 58 largest ports. In the ports of Houston-Galveston and New Orleans, the Coast Guard is currently testing the next phase of the NAIS system, NAIS Increment 2. In addition to receiving AIS data, NAIS Increment 2 is capable of transmitting information to vessels approximately 24 miles from shore.

The Coast Guard initiated preliminary work to develop NAIS Increment 3, a satellite-based system that would provide the Service with the ability to receive AIS data from vessels operating over 2,000 miles from shore. The goal was to have a system in operation by 2010. In 2008, the Coast Guard worked with a commercial satellite provider to evaluate the feasibility of space-based AIS reception. It is currently not clear whether the Coast Guard intends to continue the development of NAIS Increment 3. No funding has been included in the Coast Guard's Capital Improvement Plan for NAIS Increment 3.

The President requested \$6 million for NAIS in the FY 2013 budget for the Coast Guard, \$1 million more than the FY 2012 enacted level. The Service intends to use this funding to replace temporary AIS hardware and infrastructure in four ports (Corpus Christi, TX; Albany, NY; Port of NY/NJ; and New Haven, CT) with permanent hardware and infrastructure.

*Long Range Identification and Tracking (LRIT):*

Long Range Identification and Tracking (LRIT) is a worldwide, satellite-based automated tracking system for vessels subject to SOLAS regulation (vessels on international voyages with 12 or more passengers or over 300 gross tons). Section 102 of MTSA required the Coast Guard to establish a long range tracking system, and the Safety and Accountability for Every Port (SAFE Port) Act (46 U.S.C. 70115) set an April 1, 2007 deadline for its implementation. Amendments to SOLAS were adopted in May 2006 to require all SOLAS-regulated vessels to carry LRIT. The system became operational on December 31, 2008.

Unlike AIS, LRIT is intended to be a secure system in which data transmissions are made in a protected format to data centers which distribute them to countries permitted to have the

information. This system allows SOLAS Contracting Governments access to flag, port, and coastal state LRIT information as necessary.

As a Contracting Government, the U.S. through the Coast Guard has developed a National Data Center to collect, request, receive, and distribute data within the LRIT system. The LRIT system provides information on vessel identity and position every six hours. The LRIT system allows the Coast Guard to receive information on:

- all U.S. flagged vessels anywhere in the world;
- vessels within 1,000 nautical miles of US territory; and
- all vessels bound for a U.S. port regardless of location.

*Notice of Arrival and Departure (NOAD):*

Section 4(a)(5) of the Ports and Waterways Safety Act of 1972 (33 U.S.C. 1223) authorizes the Coast Guard to require vessels bound for U.S. ports to file notices of arrival before arriving. Prior to the terrorist attacks of September 11, 2001, vessels over 300 gross tons submitted 24 hours before arriving notices of arrival directly to Coast Guard and Customs officials in the port of arrival. On October 4, 2001, the Coast Guard issued a temporary final rule (33 C.F.R. Part 160) to increase the submission time to 96 hours, expand the notice of arrival to include passenger, crew, and cargo manifest information, and require all data to be sent to a centralized Coast Guard data center.

On December 16, 2008, the Coast Guard published a NPRM (RIN 1625-AA99) to eliminate the 300 gross ton threshold and require passenger, crew, and cargo manifest information be submitted 96 hours before any foreign flagged vessel arrives at, or departs from, a U.S. port. The NPRM would also require 96 hour advance notice before any U.S.-flagged vessel arrives at a U.S. port. The final rule is still under development by the Coast Guard.

*Rescue 21:*

Rescue 21 is the Coast Guard's advanced distress call monitoring and response system built to replace the obsolete National Distress Response System (NDRS). NDRS was established in the 1970's as a VHF-FM-based radio communication system which had a range of up to 20 nautical miles along most of the U.S. shoreline. By the 1990's NDRS consisted of out-of-date and non-standard equipment with many limitations, including: no direction finding capability; numerous geographic communication coverage gaps; limited interoperability with other emergency response services; and single-channel radio operation, which prohibits the ability to receive multiple radio calls. Rescue 21 overcomes these problems by providing direction finding capability for VHF distress calls, interoperability with first responders, and Digital Selective Calling (DSC). Rescue 21 also closes coverage gaps along the coast of the continental United States.

In September 2002, the Coast Guard awarded a \$611 million contract to General Dynamics C4 Systems to begin work on Rescue 21. The work was supposed to be complete by September 2006. In May 2012, the Coast Guard completed installation work in Guam, the last

Coast Guard sector to receive the Rescue 21 system. Due to geographic and cost related issues, the Coast Guard no longer intends to install the Rescue 21 system in Alaska or along the Mississippi and Missouri River system. Instead, both areas will receive upgrades to the legacy NDRS system which will improve reliability and provide DSC capability. The Service has spent over \$1 billion to acquire Rescue 21.

The President did not request any funding for Rescue 21 in FY 2013. The Service expects to use previously appropriated funds to conduct work in FY 2013 to upgrade the legacy system in Alaska and the along the Mississippi and Missouri River system.

*Other Collection Sources:*

The Coast Guard also collects and shares information on the maritime domain through its day-to-day operations, intelligence programs, open source information, and agreements with other federal agencies, state and local governments, and the private sector. For instance, the Coast Guard has an agreement with the National Oceanic and Atmospheric Administration (NOAA) to receive Vessel Monitoring System (VMS) data from certain commercial fishing vessels required to carry the system. VMS provides the position and identification of certain commercial fishing vessels through a satellite-based system the Coast Guard uses for fisheries enforcement activities and to respond to search and rescue cases.

**Fusion, Analysis, and Dissemination**

Once information on the MDA is collected, it must be fused together and analyzed before being disseminated to decision makers for potential action. The Coast Guard uses the following programs and infrastructure to accomplish these tasks:

*Intelligence Coordination Center (ICC):*

The Coast Guard Intelligence Coordination Center (ICC) coordinates and integrates the collection, analysis, production, and dissemination of Coast Guard intelligence. The ICC provides all-source, tailored, and integrated intelligence to the Coast Guard Commandant, senior decision makers, and field commanders, as well as to the Department of Homeland Security (DHS), Department of Defense Combatant Commanders, other military and intelligence services, and civilian agencies. The ICC is collocated with the Navy and Marine Corps intelligence units at the National Maritime Intelligence Center in Suitland, Maryland.

*Maritime Intelligence Fusion Center (MIFC):*

The Coast Guard also operates Maritime Intelligence Fusion Centers (MIFCs) at its Atlantic and Pacific Area Commands. The MIFCs provide the Coast Guard and other maritime partners with intelligence analysis to support a wide range of maritime missions. MIFCs fuse real-time information fed from Coast Guard field units with other intelligence to produce a complete tactical intelligence picture and enhance situational awareness for area decision makers.



*Interagency Operations Center (IOC):*

Section 108 of the SAFE Port Act (46 U.S.C. 70107A) required DHS to establish Interagency Operations Centers (IOCs) in high priority ports by October 2009. IOCs were intended to bring together federal, state, and local regulatory, law enforcement, and intelligence authorities into a single command center at each of the nation's high priority ports. The intended goal was to improve coordination of activities, reduce operating costs, and enhance information and intelligence sharing.

To date, IOCs have been established at ports in Charleston, SC; Hampton Roads, VA; Jacksonville, FL; Detroit, MI; San Francisco, CA; San Diego, CA; Puget Sound, WA; and New York/New Jersey. Although space has been built to accommodate personnel from federal, state and local agencies, many of the facilities are now primarily staffed by Coast Guard personnel. The Coast Guard has informed Subcommittee staff that IOC partner agencies have not been able to provide dedicated staffing at IOCs due to budget constraints. The Coast Guard is now turning to "virtual IOCs" as a way to ensure better coordination and information sharing.

To build the "virtual IOC's", the Coast Guard relies upon a software program called WatchKeeper. This program allows IOC partner agencies to share information and coordinate port operations. To date, WatchKeeper software has been activated in 18 Coast Guard sectors. The Coast Guard expects to deploy WatchKeeper at the 17 remaining Coast Guard sectors by 2014.

The President did not request any funding for the Interagency Operations Center (IOC) in FY 2013. The Coast Guard intends to use previously appropriated funds to continue the deployment of WatchKeeper to the remaining high priority ports.

**MDA Related Initiatives***Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR):*

As part of the Coast Guard's ongoing 25 year, \$29 billion recapitalization of its legacy fleet of cutters and aircraft, the Service is also upgrading the Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) system on these assets and at shore installations. The C4ISR program is comprised of a core software and hardware suite for each Coast Guard asset that integrates sensors, communications systems, and intelligence information into a common operating picture. The program's goal is to deliver a C4ISR-equipped asset which can collect and process MDA information from a variety of inputs, such as surface or air search radars, friend or foe identification systems, AIS, and other sources and integrate it onto a user-defined common operating picture.

The Coast Guard is currently in the process of developing and deploying C4ISR Segment 2. Segment 2 replaces a proprietary software system owned and installed by private contractors under the former Integrated Deepwater System contract on certain air and surface assets, with a new, open source system owned and controlled by the Coast Guard. Segment 2 is being

deployed on the Service's National Security Cutter, HC-144A Maritime Patrol Aircraft, and C-130J Long Range Surveillance Aircraft.

The President requested \$40.5 million for C4ISR in FY 2013, \$2 million (or 5 percent) more than the FY 2012 enacted level. The Coast Guard includes \$40.5 million for each of the next five fiscal years in its Capital Improvement Plan for C4ISR. At this level of funding, the Service expects to continue to deploy and maintain Segment 2 on additional assets.

*Small Vessel Security:*

Small vessels are generally defined as those less than 300 gross tons. They include over 12 million registered recreational boats, small towing vessels, charter boats, and as many as 20 million small watercraft which are currently not registered by federal, state, or local governments. Historically, the federal government has been primarily concerned with tracking and ensuring the safety and security of passenger vessels and large commercial vessels. However, in response to concern over the security threat posed by small vessels, the Coast Guard recently began a review of ways to improve the situational awareness of these vessels.

In April 2008, DHS released the Small Vessel Security Strategy to address the security risks posed by small vessels. The goals of the Small Vessel Security Strategy are to:

- develop and leverage a strong partnership with the small vessel community and public and private sectors in order to enhance maritime domain awareness;
- leverage technology to enhance the ability to detect, infer intent, and when necessary, interdict small vessels that pose a maritime security threat; and
- enhance cooperation among international, federal, state, local, and tribal partners and the private sector (e.g., marinas, shipyards, small vessel and facility operators).

In January 2011, DHS released the Small Vessel Security Strategy Implementation Plan. The Plan is intended to provide guidance to interagency stakeholders on ways to implement the Small Vessel Security Strategy "without imposing excessive limits or costs on our maritime community". The plan calls for the following:

- increased coordination and information sharing on small vessel risks and anomalies observed during normal agency operations;
- enhanced outreach to the public and the encouragement to report suspicious activity;
- potential areas of research and development on technologies to improve maritime domain awareness; and
- the exploration of new regulatory requirements on small vessel owners, such as requiring small vessels to carry AIS, expanding NOAD requirements to small vessels, and mandating that small vessel operators "complete an education course conforming to a national standard"

**WITNESSES**

Vice Admiral Peter V. Neffenger  
Deputy Commandant for Operations  
United States Coast Guard



## **A REVIEW OF FEDERAL MARITIME DOMAIN AWARENESS PROGRAMS**

**TUESDAY, JULY 10, 2012**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON COAST GUARD AND  
MARITIME TRANSPORTATION,  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,  
*Washington, DC.*

The subcommittee met, pursuant to call, at 9:59 a.m., in Room 2167, Rayburn House Office Building, Hon. Frank LoBiondo (Chairman of the subcommittee) presiding.

Mr. LOBIONDO. Good morning. The subcommittee will come to order.

The subcommittee is meeting this morning to review the status of the Coast Guard Maritime Domain Awareness programs.

The Coast Guard operates a broad array of systems and sensors to gather data to enhance the Service's awareness of activities in the maritime domain. At a time when Coast Guard assets and personnel are stretched very thin, Maritime Domain Awareness programs can act as a critical force multiplier, but that can only happen if the programs are properly implemented and information is integrated and distributed for action at all levels of the Coast Guard. Unfortunately, that does not seem to be the case.

I remain skeptical as to whether the Coast Guard has ever looked at all these systems in totality to determine whether they are providing the data in an efficient manner. Each system was designed for a specific mission goal and developed independently of each other. As a result, many systems provide the Coast Guard duplicative information.

For instance, most large vessels are required to carry Automatic Identification System transponders in addition to a Long Range Identification and Tracking System to track their movements. The Coast Guard proposes that fishing vessels carry AIS transponders in addition to vessel monitoring system units they already are required to carry and operate.

Finally, the Department of Homeland Security's plan for small vessel security proposes to require boat owners to buy new technologies to track their vessels. Meanwhile, the Department proposes to develop radar systems to do the same thing.

Each of these requirements and proposed mandates are and will be very expensive and, in some cases, prohibitive for vessel owners. Yet it is unclear how they will benefit safety and security in our ports and waterways if the Coast Guard lacks the ability to properly integrate and analyze the data.

I am concerned that after 10 years and billions of dollars the Coast Guard still lacks the infrastructure to sufficiently tie these different systems into one common operating picture. Given the scant resources the Coast Guard plans to devote to these programs over the next 5 years, I question whether the Service remains committed to fully integrating these programs.

For example, the Coast Guard appears to be backing away from its stated goal of providing interoperability between all Coast Guard assets and shore-based facilities. The GAO recently found that the Service only intends to install an advanced communications system on less than half of its recapitalized assets.

Maritime Domain Awareness is a critical tool to maximize the Coast Guard's capabilities to safeguard American interests in U.S. waters and on the high seas. However, the duplicative mandates and the lack of progress in delivering a common operational picture have been a major source of frustration. Rather than continuing to devote time and money on programs that do not function as intended, it may be time to reevaluate the MDA strategy.

I am anxious to hear from the Admiral on what he thinks the future holds for MDA programs and how we can best move forward to ensure taxpayers getting a good return on the very significant investments they have made on the Coast Guard's MDA programs.

I want to thank Admiral Neffenger for appearing today and congratulate him on his recent promotion, and I look forward to hearing his testimony.

With that being said, I would now like to yield to Mr. Larsen.

Mr. LARSEN. Thank you, Mr. Chairman, and thank you for convening this morning's hearing to evaluate and assess the Coast Guard's important Maritime Domain Awareness activities.

Maritime Domain Awareness, or MDA, is defined by the Coast Guard as our understanding of anything in the global maritime environment that can impact the security, economy, or environment of the United States. The maritime domain remains critical to the Nation's security and economy, especially the maritime transportation system.

The maritime transportation system has over 300,000 square miles of waterways, 95,000 miles of shoreline, 10,000 miles of navigable waterways, and 361 ports of call. That includes 8 of the world's 50 highest volume ports.

Aside from infrastructure, over 60 million Americans are employed within 100 miles of our coasts and contribute over \$4 billion annually to the Nation's economy. These jobs rely on the security that comes with Maritime Domain Awareness, and I am pleased that several positive steps have been taken since 2002 to alert the Coast Guard and other Federal agencies of potential threats arising from beyond our shores.

Congress has expanded significantly the amount of data that commercial vessels must submit to the Coast Guard regarding their cargoes, registries, crews, and routes. For example, new international vessel tracking programs such as the Automatic Identification System and Long Range Identification and Tracking System have been implemented. We have also enhanced our situational awareness by requiring most commercial vessels to report to the Coast Guard their arrival times at U.S. ports at least 96 hours in

advance. Additionally, integrated operation centers have been established to better coordinate and facilitate information sharing between the Coast Guard and other Federal, State, and local law enforcement agencies.

The end result is that more assets and resources are now devoted to MDA. These resources are more sophisticated, better coordinated, and more capable of providing actionable intelligence concerning the maritime domain.

The question is whether these actions have made our shores more secure from potential maritime threats. Are our communities, industries, and infrastructure safer?

The assumptions underlying our assessment of maritime threats and our strategies to address these risks have received their share of criticism over the years. The Government Accountability Office, the Department of Homeland Security Inspector General, and the RAND Corporation have all raised legitimate concerns, especially regarding the threat characterization of small vessels; and unlike after September 11, 2001, when resources were freely available to address deficiencies in Homeland Security, we operate now in a much more difficult budget environment. Present fiscal constraints leave us little choice but to examine carefully the assets and resources we devote to MDA, especially to the Coast Guard, whose budget is already stretched thin.

I have said this before, and I will keep saying it. We cannot expect the Coast Guard to do more with less. The sad reality is that the Coast Guard is doing less with less, and MDA is no exception. The Coast Guard needs to maximize any investment in new technologies, new programs, and human resources to fulfill Coast Guard missions and whenever possible leverage those capabilities to support MDA. But we also need to ensure that those MDA programs and activities within the Coast Guard that remain funded are absolutely essential and that we eliminate MDA activities that are redundant or unnecessary or are an unnecessary drain on Coast Guard resources.

Admiral Neffenger confronts this dilemma on a daily basis as the Coast Guard's Deputy Commandant for Operations. Admiral, I commend you for your efforts in balancing these competing demands within the Coast Guard. I look forward to hearing from you this morning about how we might best maintain the quality of Maritime Domain Awareness provided by the Coast Guard in an era of constrained Federal budgets.

In closing, no longer can we simply ask how much MDA can we afford. Rather, we need to ask ourselves how much MDA can we afford not to have. To a large extent, the shape and effectiveness of our future maritime security will ride on how we answer that question.

Thank you. I yield back.

Mr. LOBIONDO. Thank you, Mr. Larsen.

Today, our witness is Coast Guard Vice Admiral Peter Neffenger, Deputy Commandant for Operations.

Admiral, you are recognized for your statement.

**TESTIMONY OF VICE ADMIRAL PETER V. NEFFENGER, DEPUTY COMMANDANT FOR OPERATIONS, UNITED STATES COAST GUARD**

Admiral NEFFENGER. Thank you, Mr. Chairman.

Good morning, Chairman LoBiondo, Ranking Member Larsen, distinguished members of the subcommittee, and thank you for the opportunity to testify today and for your continued advocacy, interest, and oversight of the Coast Guard's Maritime Domain Awareness efforts.

Having this past month assumed the role of Coast Guard Deputy Commandant for Operations, I am pleased to update you on the Coast Guard's approach to Maritime Domain Awareness and the improvements we have made toward achieving MDA goals.

As the Deputy Commandant for Operations, my primary responsibility is to set the strategic direction for the Coast Guard's mission to ensure the safety, security, and stewardship of the Nation's waters. This includes the very important matter of Maritime Domain Awareness. I have a brief opening statement and would like to submit my written testimony for the record.

During my previous tours as an operational field commander, I have observed our Nation's MDA capabilities improve over time. I was Commander and Captain of the Port of Sector Los Angeles-Long Beach from 2003 to 2006, Commander of the 9th Coast Guard District in the Great Lakes and Saint Lawrence Seaway Region from 2008 to 2010, and then most recently the Deputy National Incident Commander for the BP Deepwater Horizon oil spill response.

In each of these roles, I thought about what it meant to have effective Maritime Domain Awareness on a daily basis and how important it is in order to meet our mission. Whether looking for an oil sheen, a drug trafficker, or a person in distress, you need effective awareness to deliver the right capabilities to the right places at the right times with the right combinations of people and partners. This requires a combination of technology, sound regulatory regimes, and solid partnerships.

So, as you said, Mr. Chairman, we must not only understand the various systems and capabilities but also how they operate together as a whole; and our understanding of this has evolved over time. MDA is much more than technology, although this is an important enabler. In addition to having a picture of maritime activity, I need to understand that picture, know who the various stakeholders are at public and private levels, and understand how the system operates together; and this is a top priority for me as I enter this assignment.

We must also share a common definition of MDA. The National Strategy for Maritime Security spells it out as follows: The effective understanding of anything associated with the maritime domain that could impact the safety, security, economy, or environment of the United States.

That is a tall order. But as lead Federal agency for maritime safety, security, and stewardship, the Coast Guard has extensive authorities, dual status as a military and law enforcement agency, and is a member of the intelligence community. These traits suit us uniquely to take a national leadership role in developing Maritime Domain Awareness.



There are also many technical and regulatory pieces involved in MDA, many of which you have mentioned, including common operational picture, Automatic Identification System, the Long Range Identification and Tracking System, the Nationwide Automatic Identification System, interagency operation centers, and the various regulatory components such as advance notices of arrival, among others. And so if I could just highlight a few of these.

The current common operational picture integrates the Coast Guard with Department of Defense and intelligence community partners through DOD's Global Command and Control System, also known as GCCS. While this is an effective system, access is necessarily limited to Federal stakeholders with appropriate clearances. As such, strategically, I intend to continue moving the Coast Guard towards a Web-based delivery of information to partners at all levels in our seaports.

The Automatic Identification System enables maritime authorities to identify and locate large commercial vessels. Our current proposed AIS and notice of arrival regulation will improve MDA by covering smaller commercial vessels and requiring notices of departure from U.S. ports.

The global Long Range Identification and Tracking System became operational in 2008, and today more than 100 flagged States participate. The Coast Guard established the national data center in the United States to serve as the central collection point for ship reports received from U.S.-flagged vessels. We have transferred responsibility for the International Data Exchange to the European Maritime Safety Agency but continue to maintain backup capability for this service in the United States.

Overall, the LRIT program is functioning well and provides useful information on vessel arrivals and operations offshore, and it remains an essential component of our MDA efforts.

Domestically, we have interim Nationwide Automatic Identification System capability in 58 major ports and coastal areas. This will migrate to permanent capability over the next several years and will be collocated with Rescue 21 equipment to leverage existing investments.

NAIS complements the Long Range Identification and Tracking. Information from each system as well as from our advanced notices of arrival and other national technical means enhance our MDA domestically and overseas, and in fact information from these systems helped us to map locations of commercial vessels and to target relief efforts during the 2010 earthquake response in Haiti.

At the Department level, interagency operations centers provide partners at high-priority ports with a framework to plan, coordinate, and execute maritime operations in real time. WatchKeeper is a collaborative Web-based information system designed to provide shared awareness of port conditions, port assets, and coordination of operational activities among port partners. It allows coordination across operational networks without the physical collocation of watchstanders, and at present is up and running at 18 of our 35 sectors, with the remainder scheduled for installation by the end of fiscal year 2014.

Perhaps most important, underpinning our technical and regulatory regimes are critical partnerships. At the sector level, area

maritime security committees bring together partners from Federal, State, local, and private entities to improve communication and information sharing; and these partnerships have strengthened as they have matured and will remain a top priority in our seaports. And of course we have longstanding international partnerships as well.

Finally, to speak to overarching governance, I serve as senior chairperson of the Coast Guard's executive team charged with improving MDA and information sharing. I will convene the team for the first time under my direction this month and intend to provide robust oversight of our ongoing MDA efforts.

In closing, I am grateful for your advocacy, support, and interest in the Coast Guard and our priorities with MDA. Thank you again for the opportunity to testify, and I look forward to your questions.

Mr. LOBIONDO. Thank you, Admiral.

The Coast Guard collects data on a vessel's identification, position, crew, voyage history, and other matters through several systems that are supposed to fuse together into a user-defined common operational picture, as we understand it. Does the Coast Guard have the infrastructure and the capabilities to bring all of these different MDA systems together to produce a comprehensive common operational picture?

Admiral NEFFENGER. With respect to the common operational picture, I think I mentioned that we currently have a system that we are using for the DOD that provides us with a fairly comprehensive picture of what is operating in the oceans, and we gather that picture through both national technical means as well as through things like Long Range Identification and Tracking.

As you know, the goal is to have a user-defined picture in every seaport—every major seaport of this country, and to some extent we do have that. It does not fuse and fully integrate all information at this point. WatchKeeper will ultimately—we hope to ultimately migrate WatchKeeper, to evolve WatchKeeper to the point where you can do that.

Some of the challenges associated with that are the vast volume of information. So what we have discovered over time—and I can speak from my own experience on this—is that if you simply just load a picture with a bunch of information without an ability to sort and somehow delineate or discriminate within that, it becomes challenging for the WatchKeepers, for the watchstanders to understand what they are looking at and certainly challenging for local operational commanders.

So what we tried to do is integrate the most critical information initially into our various common operational pictures that we are pushing out to our ports through our current DOD-sponsored COP as well as WatchKeeper and then evaluating how to best integrate additional information, whether that be sensor information from camera systems in ports, photographs of vessels, and the like.

So I suppose the short answer to your question, sir, would be that I don't think our common operational picture is as fully integrated as I would like to see it in the future. I think it is much better than it has ever been, and it is providing our operational commanders with a much more complete picture of what is happening in their individual port environments at geographic regions

than they had before. The challenge is going to be in integrating the various individual types of sensors and feeds that each port has and in determining, you know, what best to put in there and also to bring into the picture more of our local port partners.

Mr. LOBIONDO. So it is safe to assume this will be a priority of yours?

Admiral NEFFENGER. Absolutely. Yes, sir. In fact, it is one of the questions that I have already asked of my staff.

Mr. LOBIONDO. And could we expect—we would like to hear back from you, recognizing you are relatively new in putting this together, of what are your kind of views. I want to give you a little bit of time, but we would like to come back and without waiting for another hearing or waiting 6 months or a year, because I think this is pretty important information.

Admiral NEFFENGER. Yes, sir, I would be happy to come back and brief the committee at anytime.

Mr. LOBIONDO. OK. The Coast Guard has spent over 10 years and almost \$700 million to build the C4ISR system for deployment on its recapitalized vessels and aircraft. How this highly touted program is supposed to have tremendous capabilities and the goal of the system was to deliver a C4ISR-equipped asset which can collect and process MDA information from a variety of inputs and share that data with other Coast Guard assets and shore-based facilities in a common operating picture, which I think is just outstanding for what we are looking to do.

But the GAO recently found that the Coast Guard apparently no longer plans to deploy the system on all recapitalized assets and is backing away from asset-to-asset data sharing. So the question is, to you, Admiral, is a fully interoperable C4ISR system installed on each Coast Guard asset still a goal for the Service? And, if not, why not?

Admiral NEFFENGER. Yes, sir, that is still a goal for the Service. Although, again, what we have learned over time is that one of the challenges associated with the program I think as it was originally envisioned is the rate at which technology refreshes and the rate at which certain technical systems become obsolete. Those are expensive systems, as you know, and you have already mentioned the amount of money that we have put into it.

Many of those acquisition baselines were developed in more favorable fiscal environments, so what we had to do, given what we believe will be the fiscal constraints into the future, is look at this again, determine whether we need to adjust our strategy going forward. But the goal is still to have complete interoperability with the ability to push the picture.

We are some measure along that road already. I would hate to put a percentage on it, but we do have a significant amount of capability to move information amongst our larger assets, aircraft, and cutter fleet. But we are not where we had originally envisioned the system being at this point, although it is still a goal of mine to get us there, sir.

Mr. LOBIONDO. Last question for now. In testimony before this subcommittee in 2009, the Coast Guard stated it was working with a commercial satellite provider to test the feasibility of pushing AIS coverage out to a range of 2,000 nautical miles. The Coast

Guard informed the subcommittee it hoped to have this system operational by 2010. Can you give us the status of the initiative?

Admiral NEFFENGER. Yes, sir. We actually did a proof of concept with a commercial satellite provider in 2010 to look at whether or not the capability could work. We found that it did work. But in the course of doing that we also discovered that we have much more capability through national technical means as well as through current LRIT information that we are getting that we don't think it is—we no longer have a program for putting our own satellite up. We think that there are less expensive ways to do it, whether that be through ultimately leasing some commercial space on commercial satellites. But the truth is that we are currently getting a significant amount of information, much more than we expected to get, through these other means. So we don't have a program right now to pursue our own Coast Guard satellite system, sir.

Mr. LOBIONDO. Mr. Larsen.

Mr. LARSEN. Thank you, Mr. Chairman.

Admiral, back to the C4ISR, I understand that with your answer you say you are still committed to making investments, but from what I understand of the progress of the C4ISR investments, there are eight separate segments. You are on segment two in the Coast Guard. That leaves six left. You are anticipating about \$40 million a year over the next 5 years for C4ISR investment. Some of that is going to get chewed up by the technology churn that you noted, leaving something less than \$20 million to meet a goal of \$681 million or to meet a goal to implement six more segments.

I don't see how you do that. I don't see how that happens given the budget constraints, given the challenges with turnover and technology. And so is it realistic to expect the Coast Guard will upgrade all of its C4ISR capabilities for the full eight segments, given this budget environment?

Admiral NEFFENGER. As you said, sir, I think the budget environment makes it challenging. Those programs, as you know, as I said, were developed during a time of greater fiscal certainty or what we expected to be greater fiscal certainty. I don't know what the current plan would allow, given where we may be with the budget over the next few years.

What I can promise you, however, is that that is a question that I have to ask and get detailed answers to as I move into this role, and I intend to explore that in more detail. And I would be happy to come back to you as I learn more about that myself and figure out where we are going with that, with our technology refresh, sir.

Mr. LARSEN. Yes, please do that. Please do that.

On the question of coordination and dissemination of vessel tracking data, as much as I want to commend the IMO and the Coast Guard for initiating multiple vessel tracking programs, some critics have expressed concern about some of the longer range tracking data being gathered as duplicative or redundant and therefore may be adding little value for the extra costs.

First, do you agree with that criticism? Second, what is the distinction between the AIS and the LRIT? And, third, what has the Coast Guard done to address the criticism?

So do you agree with the criticism about redundancy? How would you distinguish between AIS and LRIT data? And what has the Coast Guard done to address the criticism, sir?

Admiral NEFFENGER. Well, I mean, I understand concerns about redundancy. There is a certain amount of redundancy that is nice to have in a system, especially when you are looking for awareness. If you go back to the definition that says you want effective awareness of everything that is happening, sometimes you want to make sure you can verify that awareness through multiple sources. So I think a certain amount of redundancy actually improves the health of the system and makes the system more reliable, more dependable, and more sustainable.

With respect to the differences between AIS and Long Range Identification and Tracking, AIS is a VHF-based system, so it is primarily line of sight, although it can be bounced beyond line of sight through satellite connection. Long Range Identification and Tracking is a satellite-based system. It typically plays off of or reads off of something called the global marine distress and signaling system transceivers that are on board large commercial vessels, applies only to SOLAS-based vessels, as opposed to AIS, which applies to more than just our SOLAS-based vessels and is carried on other vessels, and in fact our rulemaking would extend it to others. So the difference is in the way in which they transmit information and then the types of vessels that would be required to carry it.

But with respect to redundancy, I would argue that the relative cost, particularly for large commercial vessels, is minimal to add one or the other systems to the vessel. They are both required for different reasons. AIS was originally envisioned as a collision avoidance system. So what we are doing is we are leveraging a system that was originally designed to tell each other where you were in a more robust way and finding out that you can actually gain good position information out of it.

And then a certain amount of redundancy I like as an operational commander to say—to know if, for example, without any malintent somebody's AIS system isn't transmitting or somebody's LRIT isn't transmitting, I have got another means of identifying that vessel, and it just becomes a backup system.

Mr. LARSEN. What steps has the Coast Guard taken to reduce the clutter in tracking data in order to produce actionable intelligence?

Part of the problem that we always have is we are collecting all this data, but there is no effective way to sift through it to get something to act on. So what steps has the Coast Guard taken to reduce that clutter and to sift through the data so that you have something that you can act on in a timely manner?

Admiral NEFFENGER. You have hit on a key to Maritime Domain Awareness effectiveness. As I said before, just a picture of dots on a screen doesn't tell you much. But what we have learned over the past 10 years or so in particular that we have been collecting data is you learn a lot about who is operating in the system. So some of the way you sift through that data is by just eliminating known trusted operators. So you can just erase them from the screen or just layer them out of the screen.

The goal is ultimately to be able to generate a picture for yourself, whether that be a common operational picture or an understanding picture that says, all right, I know who the trusted operators are, I know how the system normally works, I know what I expect to normally see in there. Remove all of that and show me what is left. And now I will pay attention to what is left.

That is sort of in a high-level answer as how we do that. There is some interesting technical ways in which that is done, and we would be happy to show you that in some detail at some time if you would be interested.

Mr. LARSEN. Yeah, that would be interesting.

With regards to the management of the LRIT data, it is my understanding the Coast Guard established the national data center to serve as a central collection point for ship reports received from U.S.-flagged vessels as required by the IMO LRIT regulation. In addition, the Coast Guard established the International Data Exchange to manage the global data. The Coast Guard maintained the IDE on an interim basis and then transferred that management to the European Maritime Safety Agency.

That being the case, can you explain why the Coast Guard continues to maintain an alternative IDE site for the international community? How much does that cost? Is that itself redundant and duplicative? And, given those questions, why does the Coast Guard continue to maintain an alternative site?

Admiral NEFFENGER. To your very last point, I think that we will look at whether it makes sense to do that for the long term.

I think the initial feeling was let's make sure that the European Maritime Safety Agency manages the site effectively and that it operates effectively for our purposes. So that was part of it.

I don't know the cost off the top of my head. I will get that for the record for you, sir, and find out what that has cost.

[The information follows:]

Direct cost associated with the U.S. Coast Guard operating and maintaining the Long Range Identification and Tracking (LRIT) International Data Exchange (IDE) Disaster Recovery (DR) site is \$35,000 per year in recurring annual support costs and software licenses.

The Coast Guard maintains the (alternative) LRIT IDE DR site to ensure continuous uninterrupted operation of the International LRIT System during any scheduled or unscheduled outage of the permanent LRIT IDE operated by the European Maritime Safety Agency. By doing this, the U.S. meets the security, safety, environmental protection, and search and rescue goals in accordance with SOLAS Chapter V/19-1.

Admiral NEFFENGER. And then I need to look at the actual agreement that we entered with the European Maritime Safety Agency to see what it puts us—if anything, what kinds of requirements it puts on us for maintaining that into the future.

But I know the initial concern was to have capabilities still there in the event the European Maritime Safety Agency system failed

for some reason. I can answer those other questions as I dig more deeply into it, and I will get back to you with those, sir.

Mr. LARSEN. Please do so.

Finally, on the AIS rulemaking, the Coast Guard published a Notice of Proposed Rulemaking on December 16, 2008, to expand the carriage requirement to carry AIS transponders to certain commercial vessels of less than 300 gross tons. It has been over 3½ years since the Coast Guard published the NPRM. How does the Coast Guard—sorry, when does the Coast Guard intend to publish a final rule?

Admiral NEFFENGER. Well, the rule is in final clearance now; and as soon as it clears, we will publish the rule, sir.

Mr. LARSEN. When do you anticipate it will clear?

Admiral NEFFENGER. I don't know exactly when. I know that it is in final clearance at this point, and we are just waiting for that to come through, sir.

Mr. LARSEN. And who is responsible for final clearance?

Admiral NEFFENGER. Well, it runs through the administration. So it is through the clearance process in the administration at this point.

Mr. LARSEN. So somewhere in the bowels of the White House?

Admiral NEFFENGER. But I can get you a specific answer for where that is.

[The information follows:]

This rulemaking project remains in final agency clearance. Once cleared, it will be formally submitted to the Office of Information and Regulatory Affairs (OIRA). Given the complexity of the rule and the potential costs that would be imposed on the maritime public, a timetable for the formal submission of the rule to OIRA cannot be provided at this time.

Mr. LARSEN. Thank you.

Thank you, Mr. Chairman.

Mr. LOBIONDO. Mr. Cravaack.

Mr. CRAVAACK. Thank you, Mr. Chairman.

Thank you, Admiral, for being here today, sir. Appreciate you being here and thank you for all the great things that the sailors and airmen of the Coast Guard do on a daily basis that none of us know about. So thank you very much for that.

Sir, the Department of Homeland Security released a Small Vessel Security Strategy in 2008 to address the risks associated with potential use of small recreational vehicles to stage an attack on the United States or U.S. interests. Everybody is keenly aware of USS Cole and what Commander Kirk Lippold had to go through.

In January of 2011 DHS released a Small Vessel Security Strategy Implementation Plan. What is the Coast Guard doing to monitor the potential risks emanating from small vessels in U.S. ports?

Admiral NEFFENGER. Well, that fits squarely into that question of Maritime Domain Awareness. So some of what we have done are the things that we have been doing for sometime now, which is every sector commander, port commander, every local Coast Guard office is required to understand who is operating in their ports. So

it begins with that understanding: What does normal look like in my port? What kind of marinas do I have? Who operates out of those marinas? Who owns the marinas? Who manages the marinas? And so forth.

We use our local small boat stations, our auxiliary. We bring those people into our area maritime security committees. So there is a governance piece associated with this. That is where it starts. Obviously, not the final answer, because you have still got potential bad actors out there.

The second piece is to continue to work with the States for more robust oversight of boating registration and more robust reporting of boating registration. We have got some ways to go yet, although we have come a long way on that score.

And then, ultimately, it is how do you balance the requirement to know where vessels are with the very real pressures to maintain low costs for operators; and, of course, there are some of the privacy concerns and others that people have with respect to requiring registration and the like.

Mr. CRAVAACK. The Coast Guard has gone through an implementation plan that calls for research for a low-cost, nonintrusive identification system for passenger vessels; is that correct?

Admiral NEFFENGER. Yes, sir.

Mr. CRAVAACK. OK. What is the current status of that research, sir?

Admiral NEFFENGER. That—again, I haven't got an answer to that question for you today, but I will get that for you, sir.

Mr. CRAVAACK. OK, I understand.

[The information follows:]

Current studies and testing include transponder-based systems, particularly the Automated Identification System (AIS) and Radio Frequency Identification (RFID) technologies, to enhance the information available to the U.S. Coast Guard while performing law enforcement operations. The research has provided an initial test of the feasibility of integrating AIS, RFID, and radar signals to improve maritime domain awareness.

Ongoing research on technical features of high-frequency surface radar for vessel tracking has been extended to focus on small vessels. This work leverages existing deployed coastal radar systems by refining the ways signals are processed, as well as combining the information these signals yield with other data about observed vessels, and making it available in useful and appropriate ways to Department of Homeland Security personnel for operational purposes.

As this research proceeds, it will be possible to estimate the effectiveness of systems that incorporate the capabilities of these technologies. The research effort is sensitive to potential deployment costs; as a result, it will include quantitative information about cost-effectiveness and the overall contribution of these technologies as awareness and



defense elements to the Department of Homeland Security's Small Vessel Security Strategy.

Amplifying information is contained in the Coast Guard's September 7, 2012, report to Congress titled: "Small Boat Attack Mitigation Efforts."

Mr. CRAVAACK. If the Government—if we are planning to have a nonintrusive type of vessel identification system to track vessels, what is the point, then, of having—you might not be able to answer this question, but what is the point of then having small vessel owners install an AIS system?

Admiral NEFFENGER. Well, again, going back to the idea that not all redundant systems are necessarily bad, it depends on how that redundancy plays into an overarching understanding of the system and feeding you information.

My understanding is that we would not be requiring AIS on absolutely everybody out there. You have still got some pretty small operators and some small craft that wouldn't be required to have that. And so a combination of a nonintrusive system, which might be more passive, less ability to spoof the system, if you will, or to take advantage of the system, combined with one where you have trusted operators, people who say I am putting this on board, I am operating it, it kind of gives you that ability to do a little bit of a cross-check among yourselves. So I think there is some value to thinking about some systems that give you the same kinds of information but from different sources.

Mr. CRAVAACK. Sir, from your position, what keeps you up at night? What do you think is the biggest threat to our global maritime situation?

Admiral NEFFENGER. Well, I think getting to that perfect state of effective awareness of what is operating. I don't know that we will ever get there, but, you know, that is a big ocean out there, and there is a lot of people operating in it. And I think that it is not so much that it keeps me awake at night, but it really keeps me thinking at night as to how—you know, what is the most effective way to understand what is happening in a way that tells me more than just what is out there? I mean, that is a piece of information. But what I really want to know is what is it doing out there, who can I trust, who are the people operating it, where are they going, and how are they connected to the various parts of the world where people put things on vessels and send them our direction?

Because ultimately what you are trying to do is find that one or two, you know, real bad actors out of the, you know, 50,000 or 60,000 or so really good actors out there, and that is a challenge. I used to think about that every day when I was sitting in Los Angeles and Long Beach and I would see 13,000—at the time it was 13,000 actual containers a day that were coming in the port, and that kept me up at night trying to think about, you know, how do you have any idea what is coming in.

So I think the trick is you have got to know a lot about the system. Going back to Chairman LoBiondo's earlier point, you really have to understand how all the pieces come together to paint a picture of what looks like normal in the environment.

Mr. CRAVAACK. All right. Thank you again, Admiral, and I will yield back.

Mr. LOBIONDO. Master Chief Coble.

Mr. COBLE. Thank you, Mr. Chairman. I am sorry I am late. I had two other hearings simultaneously going on.

Admiral, good to have you with us this morning.

Admiral, under current law, as you know, the Department of Homeland Security is required to establish interagency operation centers in all high-priority U.S. ports. However, at this time I am told that less than 10 such centers exist nationwide.

Let me put a three-part question to you, Admiral: Is this still a priority for the Coast Guard, A; B, do you have a strategy to establish joint operations centers in all Coast Guard sectors; and, C, what level of resources would be necessary to accomplish this?

Admiral NEFFENGER. Thank you, sir, and good morning.

With respect to IOC priority, it is still a priority for us, but let me tell you about how my thinking has evolved with respect to integrated operations centers. I think the concept is absolutely valid. If you don't have people talking to one another in a geographic region, people who have like responsibilities or overlapping like responsibilities and who have generally the same interests in the safety, security, or stewardship concerns that you do, then you run the risk of, at best, duplicating efforts or, at worst, working counter to one another.

So that was what I think was some of the thinking driving operations centers—integrated operations centers to begin with.

Now, how my thinking has evolved over time is that I think in some locations that means you have to be collocated physically, and that is possible to do, particularly in those very traditional port environments where everyone seems to be in the same general geographic location. But I think that it is possible to do that virtually in some locations and sometimes more effectively virtually.

I think about my time up on the Great Lakes. It would be very challenging there to do one or two integrated operations centers that could manage that whole system. Because from the perspective of the Great Lakes, that is a system that you care about. You almost have to think of it as a port system, and you want a bigger picture of how that goes. So, in that case, it is tough to figure out where you actually put one that can manage that system. So there is a virtual piece to that. So I think that there is a combination of both physical collocation as well as virtual collocation through software and looking at the same picture.

So where are we with respect to that? I think I mentioned before, fully integrating all of that information has been a challenge. We are about halfway through our implementation of the software piece of that integrated operations center. That is called WatchKeeper. So 18 of our 35 sectors. We have about 10 locations where we have got physical collocation.

Again, with the challenges we are facing—and these are not—this is not meant to be an excuse. It is simply a statement of fact as I dig into this. Interagency agreements are a little bit challenging. Sometimes it is hard to get people as they are facing budget cuts to continue to put people into those centers. They see that as a reduction of a capability elsewhere. So I think it is a matter

of moving enough capability into those collocated centers to have it not feel as if you are being asked to staff two different places at one time.

So some of those agreements are more challenging, I think, than were envisioned, and some of the longer term commitments as people face budget crisis and start to look to cut back certain staff overhead can become a bit of a challenge.

That said, I know that our port captains, our captains of the port, our sector commanders, working through their area maritime security committees, are doing some pretty significant work with respect to maintaining the connections that they need to maintain for sharing of information.

So I think the information sharing piece is coming along well. It is not ultimately where I would like to see it. And I think the question with respect to how many of those physical collocation centers is still open in my mind, sir.

Mr. COBLE. Thank you, Admiral.

Admiral, you may not want to insert your oar into these waters, but do you want to venture a guess as to the level of resources that would be needed? And you may not be able to do that.

Admiral NEFFENGER. Well, I think it is going to be challenging right now to put a dollar figure on it. What we are going to focus on right now is getting the software piece right. Because no matter what we do with respect to actual physical centers, you have got to have a backbone for sharing information. So we are putting efforts into that WatchKeeper software program, and then we will continue to work the centers that are currently existing and look to see what we have to identify for the future.

Mr. COBLE. Thank you, Admiral, for being with us.

Yield back, Mr. Chairman.

Admiral NEFFENGER. Thank you, sir.

Mr. LOBIONDO. Mr. Landry.

Mr. LANDRY. Thank you, Mr. Chairman.

Vice Admiral, the Coast Guard has still not released a final rule-making on the Automatic Identification System; is that correct?

Admiral NEFFENGER. Yes, sir, that is correct.

Mr. LANDRY. And, as you know, there are many unanswered questions even if it is feasible for the domestic supply industry to comply with the NOA regulations. Wouldn't it be better for the Coast Guard resources—a better use of Coast Guard resources and provide more certainty for the industry if the Coast Guard put domestic compliance with NOA on the back burner for now and focused on laying down the rules of the road as it pertains to AIS and once the AIS is tested and the Coast Guard finds itself needing more domain awareness, then returning back to notice of arrival?

Admiral NEFFENGER. As I understand, sir, with respect to notice of arrival, what we are looking at is adding notice of departure requirements and then changing somewhat the requirements for people who would have to provide notice of arrival information in addition to the AIS carriage requirement component of that notice.

Mr. LANDRY. A notice of departure. Could you explain?

Admiral NEFFENGER. It would be a notice that would be required prior to departure from a port for a vessel so that you have an

awareness of both the entry of the vessel as well as its intended departure.

Mr. LANDRY. Well, what happens to the supply vessels now in my district that basically move around from—they leave port and then go from one rig to another rig to another rig and then back to that port again? The problem we are having is that they don't—when they leave, they may be detoured to go to a different rig. And then it is kind of like a UPS guy goes from house to house to house, but sometimes they may bring him a package sent to another house. You see what I am saying? I am trying to understand how a notice of departure would help.

Admiral NEFFENGER. Yes, sir, I see exactly what you are saying. I will be honest with you. I would have to look at the specific rule as it applies to that. But my thinking is that it would be both unrealistic for us and unwieldy for us to even worry about those kinds of things. I mean, what we are really looking at is, first of all, what is a normal operation out there? So let me look—let me get to you with the answer specifically with respect to OSVs, but I don't believe that it would require them to report every single rig that they—

[The information follows:]

The Coast Guard has issued additional regulations for notice of arrival (NOA) for Outer Continental Shelf (OCS) activities in response to security measures as required by the SAFE Port Act of 2006. This rulemaking requires owners or operators of floating facilities, mobile offshore drilling units, and vessels to submit NOA information to the National Vessel Movement Center prior to engaging in OCS activities. The amendments are intended to enhance maritime security, safety, and environmental protection by increasing maritime domain awareness (MDA) on units and personnel engaging in OCS activities. The Coast Guard published a Notice of Proposed Rulemaking (NPRM) in June 2009 and made some adaptations to enhance clarity based on the comments received. No adverse comments were received regarding the applicability to U.S. vessels, and no significant impact on energy production was or is anticipated. The final rule cleared DHS and OMB, was signed by the Commandant of the Coast Guard on December 22, 2010, and published on January 13, 2011; effective date is February 14 (76 Fed. Reg. 2254).

As noted, the Coast Guard received no adverse comments pertaining to application of the rule to U.S. vessels in the NPRM. However, upon publication and implementation of the final rule, industry noted significant concerns. In response, the Coast Guard has initiated a redesign of the form used to collect the data, effectively suspending enforcement, and convened a working group under the partnership with the Offshore Marine Service Association to specifically address the design of an OCS-specific reporting form, as well as alternatives to the electronic submission of an NOA. The Coast Guard has made great strides towards creating a process and reporting form that is both

workable for industry, while also providing the Coast Guard the critical information it needs to maintain safety and security. This form will include: creating an offline option; third party vendor option; and an import function so that vessels operating on the OCS have the ability to copy, save, and email the required information.

The Coast Guard drafted and interprets current regulations (33 CFR Part 146) to require that OSVs give due notice while transiting from OCS block to OCS block area, but not within a single OCS block area (i.e., from rig-to-rig within a single OCS block area). This requirement was intended to maximize maritime safety and security, and to better protect mariners operating on the OCS, by providing real-time visibility of what and where vessels and personnel actually are or are anticipated to be in any given area. The information required to be submitted by this regulation will greatly assist the Coast Guard in evaluating risk associated with OCS activities and to manage appropriate resources should a significant incident occur (e.g., environmental or national security), and a coordinated response is necessary.

Finally, the Coast Guard is committed to working with the regulated public to find a way forward, in terms of policy and procedures, which will both achieve greater MDA and minimize any regulatory burden.

Mr. LANDRY. Because I am having a bigger problem with foreign-flagged vessels, OK, entering our ports and basically providing services in the Gulf of Mexico in a clear violation of the Jones Act. And so we have foreign-flagged vessels that if they have an AIS system and they turn it off, the Coast Guard just says don't do that, but then when our supply vessels would fail to comply with NOA, they would be fined. And so we basically, in my opinion, are placing a greater burden on our domestic fleet than we are placing on our foreign fleet. And yet I thought that these regulations and this rulemaking were made to try to get a grip on exactly who is coming in and out of the ports.

Admiral NEFFENGER. Yes, sir, that is the reason for the rule-making, is for awareness of coming in and out of the ports.

With respect to specific actions that have been taken with respect to U.S.-flagged versus foreign-flagged, I would be happy to look into some specific concerns you have. I am not aware of those instances that you refer to.

But the purpose behind AIS is specifically to understand—or the requirement for carriage of AIS is to understand who is operating, how they are operating, and where they are operating.

Mr. LANDRY. Well, but the problem is, as I see it, we are putting a bigger burden on our domestic fleet while we are letting the foreign vessels operate really without any penalty. And so the costs of doing business by our domestic fleet is raised by your regulations, and basically the cost to that foreign fleet hasn't changed. So then the day rates on the foreign-fleet vessels stay the same, and

our domestic vessels have to raise their rates. Do you understand? You are putting a greater burden on our people.

Admiral NEFFENGER. I don't believe that was the intention, sir. I would be happy to look into the detail on that. I don't—I am not aware of the fact that the foreign fleet is evading any of the same requirements if they are operating coming in and out of U.S. ports.

Mr. LANDRY. And I appreciate that comment. I really do. Because the chairman was so grateful to work with us last year and insert language clarifying that Congress never intended NOA to apply to domestic vessels, and it passed the House of Representatives. And so my question is, do you all feel like the language that the House put out, an intent—and clarifying that intent is just something you can ignore and continue to move the NOA forward and apply it to domestic vessels?

Admiral NEFFENGER. No, sir. Actually, I pay a lot of attention to congressional intent. It is how we can interpret what the law really means for us. So I certainly pay attention to the intent of Congress. It is one of the questions I ask: What was the intent behind the legislation that was passed and how do we meet that intent most effectively?

Mr. LANDRY. Well, we passed that. I would like you to take a look at that language if you don't mind, sir.

Thank you so very much.

Thank you, Mr. Chairman.

Admiral NEFFENGER. Thank you.

Mr. LOBIONDO. OK, thank you, Mr. Landry.

Admiral, thank you very much. Good luck. You have got a big job to pull this together, and we will look forward to getting back with you soon.

The committee stands adjourned.

[Whereupon, at 10:46 a.m., the subcommittee was adjourned.]



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**TESTIMONY OF  
VICE ADMIRAL PETER NEFFENGER  
DEPUTY COMMANDANT FOR OPERATIONS**

**ON  
"U.S. COAST GUARD MARITIME DOMAIN AWARENESS EFFORTS"**

**BEFORE THE  
HOUSE TRANSPORTATION AND INFRASTRUCTURE SUBCOMMITTEE  
ON COAST GUARD AND MARITIME TRANSPORTATION**

**JULY 10, 2012**

Good morning Mr. Chairman and distinguished Members of the Subcommittee. It is a pleasure to be here today to update you on the Coast Guard's efforts to improve our Nation's maritime security through Maritime Domain Awareness (MDA).

**Maritime Domain Awareness**

The maritime environment is inherently dangerous, complex, and difficult to govern. The maritime domain's continuously changing weather and sea state, along with wide expanses which may be exploited by criminals, adversaries, and those with sinister intent present significant challenges to assessing risk. Along with legal regimes and operational assets, MDA is an integral part of the Coast Guard's toolset through which the Coast Guard manages and mitigates maritime risk directed at U.S. ports, coastline and territorial seas. MDA-related capabilities, which support all levels (strategic, operational, and tactical) of maritime decision-making, provide a continuum of maritime knowledge combining unclassified situational awareness information sources with current and predictive maritime intelligence. The Coast Guard's MDA is facilitated by its broad statutory authorities, membership in the Intelligence Community, and strong international, Federal, State, local, tribal, and non-governmental partnerships.

MDA entails knowledge of:

**People:** Crew, passengers, owners, and operators;

**Cargo:** All elements of the global supply chain;

**Infrastructure:** Vital elements of the nation's maritime infrastructure, including facilities, services, and systems;

**Operating Environment:** Weather, environmentally sensitive areas, and living marine resources;

**Trends:** Shipping routes, migration routes, and seasonal changes; and

**Threats, Indications, and Warnings:** Intelligence preparation of the maritime domain; including analysis of threats and challenges from terrorism, illegal fishing, narcotics smuggling, and illegal migration.

A key element of the Coast Guard's Maritime Homeland Security Strategy is to use awareness of activity in the maritime domain to prevent illegal activity such as narcotics smuggling or trafficking in persons. We can better intercept those who would do us harm if they cannot blend in with the millions of recreational boaters who lawfully enjoy our ports and coastal waters.

Today, I will discuss how the Coast Guard continues to improve its MDA through its systems and partnerships, and how it leverages and shares MDA in our day-to-day security operations.

#### **Maritime Domain Awareness Systems**

MDA is facilitated through all-source fusion and analysis from a variety of Coast Guard and other systems, including the Nationwide Automatic Identification System (NAIS), the Long Range Identification and Tracking (LRIT) system, Vessel Screening and Targeting, and partnerships with the Intelligence Community, international, Federal, State, local, and tribal government entities, and industry and private sector partners. Coast Guard access to national capabilities through the Coast Guard Cryptologic Group, Coast Guard Counter Intelligence Service, Coast Guard Investigative Service, and cyber capabilities, all combine to provide intelligence support to enhance our MDA. Moreover, Coast Guard operations both in port and at sea are robust sources of information that enhance our MDA.

**Automatic Identification System (AIS):** AIS is a communication system that has been adopted internationally by the International Maritime Organization (IMO). It is used by ships, Vessel Traffic Service (VTS) units, and maritime authorities to identify and locate vessels. AIS provides a means for ships to electronically exchange ship data, including identification, position, course, and speed, with other nearby ships, VTS stations, and shore-based AIS receivers used for maritime situational awareness.

**AIS Regulation:** The Coast Guard issued a Notice of Proposed Rulemaking on December 16, 2008, to require Notice of Departure from U.S. ports, and expand the applicability for Notice of Arrival and AIS requirements by changing the minimum size of vessels covered by these regulations to include smaller commercial vessels. The proposed AIS regulation expands the requirement to carry AIS to certain commercial vessels of less than 300 gross tons, and will enhance the Coast Guard's ability to identify and track vessels, detect anomalies, and heighten MDA. The regulation is focused solely on commercial vessels and does not include recreational vessels. Recreational vessels may voluntarily equip with AIS if they desire but they are not subject to this regulation.

**NAIS:** NAIS is a multi-year Coast Guard acquisition project to enhance maritime security and MDA-related capabilities. NAIS uses a series of shore-based transceivers along the coast of the United States to facilitate vessel tracking.

The Coast Guard has temporary NAIS capability in 58 ports and major coastal areas and is in the process of replacing this with a permanent system over the next several years. The permanent system is co-located with Rescue 21 towers and equipment sites to leverage existing infrastructure and investments.



**LRIT:** Using existing shipboard communication satellite capabilities and automated LRIT equipment, the LRIT system tracks the position of all vessels subject to the Safety of Life at Sea regulation. LRIT is designated by the IMO as a worldwide automated tracking system designed to collect and disseminate position information received from vessels subject to the LRIT regulation. The worldwide LRIT system became operational at the end of 2008. Today, over 100 flag states participate in the system, which generates approximately 11,650 vessel position reports daily.

The Coast Guard established a LRIT National Data Center in the United States, as required by the IMO LRIT regulation, to serve as the central collection point for ship reports received from U.S. flag vessels. The Coast Guard also developed the LRIT International Data Exchange (IDE) to manage the flow of LRIT information between various LRIT National Data Centers around the world. After operating the IDE on an interim basis for three years, the Coast Guard successfully transferred this critical function to the European Maritime Safety Agency ; a positive example of international cooperation. The Coast Guard continues to maintain an alternate IDE site for the international community.

LRIT complements existing classified and unclassified tracking systems that enhance MDA. The Coast Guard's unclassified Common Operational Picture (COP), which receives LRIT and NAIS information, is available to all classified COP managers to distribute to U.S. interagency users. LRIT and NAIS are complementary systems that, along with the Advance Notice of Arrival and other classified systems, collectively enhance our awareness of vessel movement through our waters.

This increased MDA was effectively leveraged to help support the earthquake response efforts in Haiti in 2010. By assembling commercial vessel tracking information from a variety of unclassified sources such as commercial satellite AIS and LRIT, the Coast Guard was able to assemble a publicly releasable surface shipping picture for the use of all government and non-government participants in the relief operations.

**Vessel Screening and Targeting:** As the lead Federal agency for maritime homeland security, the Coast Guard screens ships, crews, and passengers for all vessels required to submit a 96-hour Advanced Notice of Arrival (ANOA) to a U.S. port. The ANOA is collected by the National Vessel Movement Center which receives arrival information from over 100,000 foreign ship port arrivals annually. The compliance rate is greater than 99 percent (less than 2 per 1,000 arrivals are non-compliant).

The ANOA information is assembled in the Ship Arrival Notification System. This information is provided to the Coast Guard Intelligence Coordination Center's Coastwatch program and the Coast Guard's Maritime Intelligence Fusion Centers, which evaluate the ANOA to identify suspicious activities in the maritime domain. Coastwatch has provided thousands of advanced warnings about arriving individuals identified in Federal counterterrorism, law enforcement, and immigration databases as national security or criminal threats. In 2011, Coastwatch screened 28.5 million people, more than 121,000 ship arrivals, and generated 120 advance warning reports regarding arriving ships, people, or cargo posing a potential national security or criminal threat.

The Coast Guard has collaborated with U.S. Customs and Border Protection (CBP) to physically stand up a 24/7 maritime screening operations facility at the National Targeting Center (NTC). The Indications and Warning Center at the NTC screens 100 percent of crew and passengers for vessels required to submit an advanced notice of arrival. The co-location better enables the development of new information sharing practices and improves network and system capabilities to create more effective and efficient intelligence

and targeting practices for the maritime domain, resulting in higher quality intelligence delivery to the field. Coastwatch also has the capability to provide information to the Federal Bureau of Investigation, CBP, and the National Counterterrorism Center for persons discovered with possible terrorism links.

The Department of Homeland Security's (DHS) Interagency Operations Center (IOC) for Port Security, Coast Guard Sector Command Center, Coast Guard Sector Intelligence Staff, and CBP utilize NTC screening results in the local screening of vessels 24 hours prior to arrival. The Coast Guard may activate the Maritime Operational Threat Response Plan if the Coast Guard determines that a vessel poses a special security risk. Coastwatch has successfully uncovered and disrupted human smuggling organizations using commercial ships to illicitly move Special Interest Aliens under the guise of crew and stowaways.

The Coast Guard has imposed additional security measures for all Liquefied Natural Gas (LNG) shipments arriving in the United States from Yemen. Security measures include the recommended or required presence of additional security personnel while the vessel is berthed at the LNG facility in Yemen, stricter notice of arrival and crew vetting requirements, an underwater vessel survey, additional security searches, and enhanced communication between the ship operator and the Captain of the Port. The Coast Guard uses electronic biometric technology with support from DHS's US-VISIT program and Department of State Consular data to screen and verify the identity of foreign crewmembers of these vessels. The actual biometric verification takes place during joint Coast Guard/CBP boardings of the LNG vessels prior to entry into the U.S. port. Boarding officers, carrying handheld biometric devices, conduct biometric verifications of the crew using the data stored on the devices. The Coast Guard's Maritime Intelligence Detachment (MID) at the El Paso Intelligence Center (EPIC) generates a tactical intelligence summary of the crew's biometric and biographic signatures to identify any derogatory data or national security threats.

#### **Partnerships and Information Sharing**

Leveraging longstanding partnerships and unique maritime authorities and capabilities, the Coast Guard and our interagency partners have significantly enhanced the Nation's maritime security. Effective MDA requires efficient information sharing that demands coordination amongst all levels of government as well as with private sector partners, as appropriate.

**Interagency Approach to MDA:** The Maritime Security Interagency Policy Committee implemented an interagency MDA governance structure consistent with the National Strategy for Maritime Security. The Coast Guard, as the DHS MDA Executive Agent, interacts with the Executive Agents of the other principal MDA stakeholders (Department of Defense (DoD), Department of Transportation, and the Intelligence Community). This interagency MDA Executive Steering Committee serves as a collaborative forum for MDA strategy, policy, and implementation issues among the various Departments.

**DHS IOC:** Mandated by the SAFE Port Act of 2006, the DHS IOC project is improving real time information sharing, situational awareness, and planning and coordination of operations amongst all levels of government and port stakeholders. The IOC project focuses on improving partnerships through the installation of a basic, common information technology (IT) capability at interagency operations centers in our maritime ports. The Secretary of Homeland Security delegated to the Coast Guard the authority to establish IOCs, which will provide partners at high priority ports nationwide a framework to plan, coordinate, and execute maritime operations in real time. A basic, common IT capability, WatchKeeper, is being developed by the Coast Guard as a web-based information management and display tool to

provide a COP to achieve enhanced situational awareness, provide shared awareness of assets within the port, and coordinate planned vessel boardings. It allows coordination across operational networks without physical co-location of agencies. As of today, the Coast Guard has delivered WatchKeeper to 18 of 25 ports with the remainder scheduled for installation by the end of Fiscal Year 2014.

Last year, the Coast Guard, CBP, and U.S. Immigration and Customs Enforcement (ICE) developed a cross-component Maritime Operations Coordination (MOC) plan to enhance the Department's coordination capabilities when responding to threats against the United States. The MOC plan acknowledges the unique nature of the maritime domain, reinforces the need for a layered approach to security, and strengthens Coast Guard, CBP, and ICE coordination, planning, information sharing, and intelligence integration for maritime operations, while reducing duplication of effort between the components.

#### **Coast Guard Operations and MDA**

Coast Guard assets and people depend upon adequate MDA in executing the Service's statutory missions. Whether it is patrolling and conducting law enforcement missions within the U.S. Exclusive Economic Zone or conducting counternarcotics operations in the Caribbean and eastern Pacific, MDA is a key security mission enabler.

**Maritime Security & Response Operations:** The Coast Guard conducts a diverse suite of anti-terrorism, maritime security, and response operations nationwide. After 9/11 these were embodied in the Coast Guard's Operation Neptune Shield operation order and were refined in 2010 in the Maritime Security and Response Operations Manual. Operational activities include, but are not limited to: patrols; presence and response (focused near maritime critical infrastructure/key resources); security boardings; escorts; fixed security zone enforcement; surveillance and tracking; intelligence; surge operations and National Special Security Event support; deployable specialized mission units and capabilities; and support of military outloads. These activities are conducted by cutters, boats, and aircraft, as well as shore-side personnel.

Many of these activities both rely upon and contribute directly back to MDA, such as:

- Pre-entry security boardings of selected vessels and small vessel security boardings;
- Waterborne, shore-side, and aerial surveillance patrols of ports and coastal approaches; and
- Cutter offshore presence.

For example, the Coast Guard has provided intelligence support to successful National Oceanic and Atmospheric Administration/Coast Guard efforts to protect the living marine resources of the oceans by suppression of Illegal, Unregulated, and Unreported (IUU) fishing. Specifically, Coast Guard Intelligence (CGI) supported operations before, during, and after the seizure of the illegal High Seas Drift Net (HSDN) M/V BANGUN PERKASA. In advance of the HSDN season, CGI provided pre-deployment planning support to Coast Guard cutters. During patrols, daily Coast Guard Intelligence-developed MDA products were provided to operational commanders. Post-interdiction, CGI provided amplifying information on HSDN activities and facilitated information sharing with foreign enforcement partners to better police Pacific maritime commons.

Through Field Intelligence Reports (FIRs), Coast Guard units promptly report raw, unevaluated information on foreign or U.S. activities that impact Coast Guard operations and missions. Some FIRs identify Maritime Security and Response Operations activity successes and problems, and are reviewed for policy implications. Other FIRs identify security successes and breaches of private sector vessels and maritime critical infrastructure/key assets and likewise, are evaluated for their impact on vessel and facility security plans. The Coast Guard shares relevant FIRs with other DHS components (e.g., CBP/Integrated Planning Division Joint Operations Directorate), the Federal Interagency, and the Intelligence Community. The Coast Guard is a core participant in the Nationwide Suspicious Activity Reporting Initiative.

**COP:** The Coast Guard has long employed a COP as an effective operational coordination and dissemination tool. However, our early COP was run on a DoD/Intelligence Community IT backbone that made sharing information to non-military partners quite difficult. As noted previously, the Coast Guard is implementing web-based access to its COP. For example, WatchKeeper provides a port-oriented COP as a web-based service to non-DoD port partners. We are working closely with the DHS COP Integrated Planning Team to further this service, and to ensure that the Coast Guard is aligned with departmental and interagency data standards and protocols.

**Area Maritime Security Committees (AMSC):** Each Sector conducts MDA outreach primarily through oversight of their AMSCs. AMSCs are comprised of members selected from Federal, State and local law enforcement agencies, and the maritime industry. Each AMSC develops an Area Maritime Security Plan with the primary purpose of providing a framework for communication and coordination among port stakeholders and law enforcement officials, and to identify and reduce the vulnerabilities, risks, and security threats in and near the maritime transportation system. This plan is updated and exercised regularly and is not static. The AMSC refocuses their efforts accordingly to respond to the dynamic and evolving threats — illicit drug and human trafficking, piracy, terrorism, weapons of mass destruction, illegal fishing, and environmental crimes. Through these committees, the Coast Guard Sector builds and maintains relationships and actively shares information.

MDA is enhanced in various ways such as by coordinating patrol schedules and information pertaining to high risk port areas, identifying and addressing uncharacteristic vessel operations, and conducting joint training exercises. The Committee also serves as the conduit for communicating threats and changes in Maritime Security levels and disseminating appropriate security information to port stakeholders.

#### **Conclusion**

Through a whole-of-government approach, the Coast Guard continues to implement and improve MDA to meet the unique challenges of the maritime environment. Combined efforts to attain MDA enhance all our missions and especially those focused on maritime security. As the Coast Guard proceeds with its major cutter and aircraft recapitalization projects, including development of unmanned aerial systems, the continuing process of enhancing operational capabilities and sensor packages on our assets will expand our MDA capability.

Thank you for the opportunity to testify today, and for your continued support of the U.S. Coast Guard. I'd be pleased to answer any questions you may have.