

The COAST GUARD Journal of Safety & Security at Sea

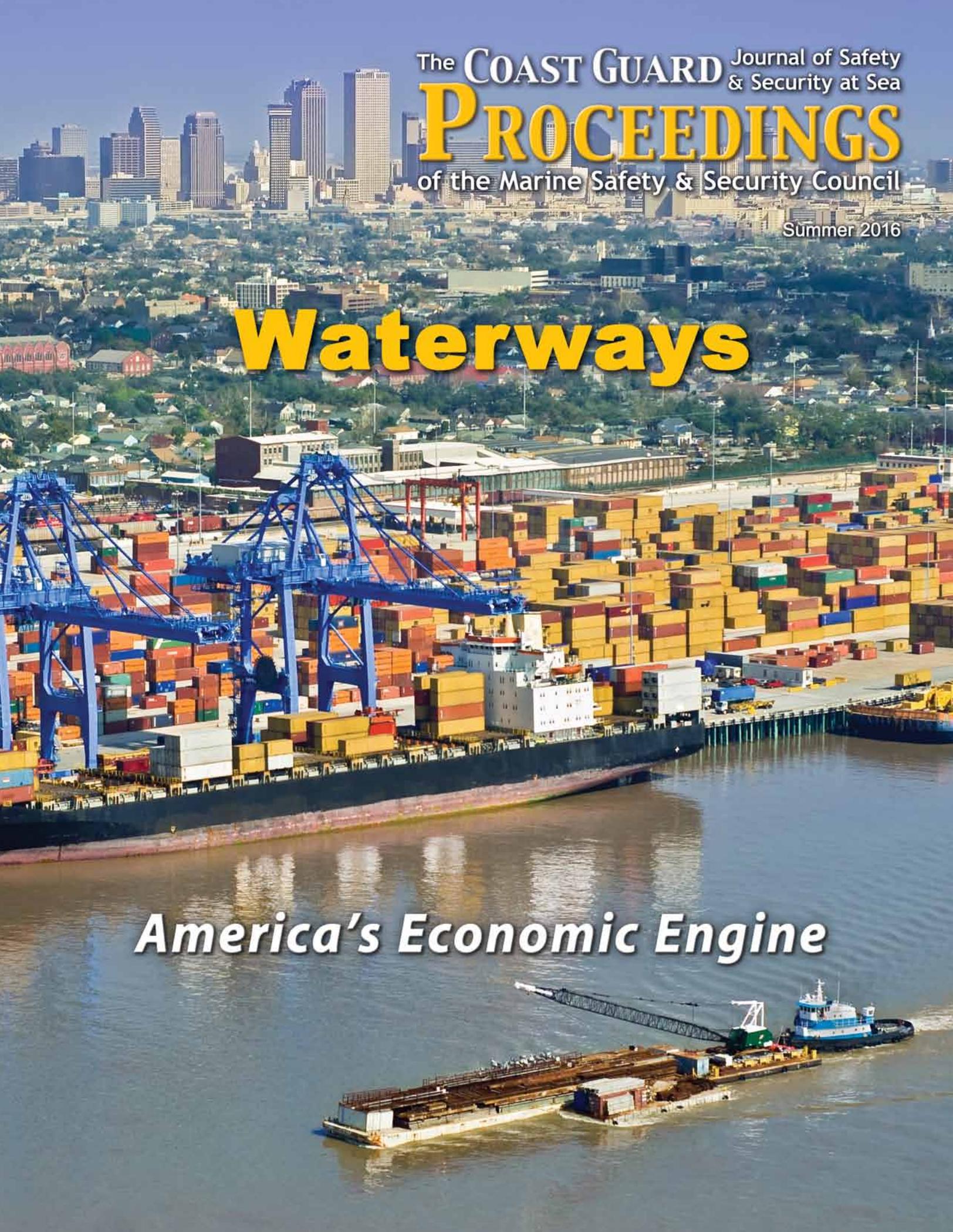
PROCEEDINGS

of the Marine Safety & Security Council

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Waterways

America's Economic Engine



Sector Hampton Roads Virginia

Strength and readiness through collaboration.

by LT KAREN LEE
Sector Hampton Roads
U.S. Coast Guard

LT ASHLEY DUFRESNE
Sector Hampton Roads
U.S. Coast Guard

MR. TREY CLIFTON
U.S. Coast Guard Auxiliary

The Sector Hampton Roads area of responsibility encompasses the Atlantic Coast from the Virginia/Maryland border to the Virginia/North Carolina border. It also includes all navigable waters including the Chesapeake Bay; the Elizabeth, James, and Rappahannock Rivers; the intracoastal waterway; and several inland lakes. It is a complex arrangement of missions and waterway users, with some of the deepest natural shipping channels on the East Coast. Not only is it home to the largest U.S. naval base in the world, the area also encompasses a rapidly growing infrastructure that supports all aspects of the Department of Defense.

The Port of Virginia, which is mainly situated in the cities of Newport News, Norfolk, Portsmouth, and Chesapeake, Virginia, is the third-largest port on the East Coast based on tonnage, generates \$165 million a day in commerce, and

provides 375,000 jobs to the region. It is the nation's leading coal exporter and facilitates the safe transport of millions of intermodal shipping containers. Virginia is the third-highest producing state (behind Alaska and Louisiana) for fisheries by volume and houses the largest manufacturer of fish oil and fishmeal in North America. To add to an already robust area of responsibility, the partners also ensure the safety of more than 250,000 registered recreational vessels.

Like a well-oiled ship engine is powered by myriad components, America's waterways are fueled by effective inter-agency collaboration. This is the basis for the relationship forged between U.S. Coast Guard Sector Hampton Roads and the Port of Virginia. The Virginia Port Authority, U.S. Navy, U.S. Coast Guard, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, Virginia Maritime Association, Customs and Border Protection, and numerous state and local agencies all share a common purpose: to promote the strength, readiness, safety, and security of this crucial piece of the Eastern Seaboard. This is highlighted through joint efforts in four areas of concentration: search and rescue, incident management, maritime security, and vessel safety.

Search and Rescue

More than 200 first responders and support staff from federal, state, and local agencies covering three states converge in Hampton, Virginia, every year for a Port of Virginia and U.S. Coast Guard-hosted search and rescue forum. The forum spans five days and includes joint training that emphasizes interoperability, including everything from the first contact in a dispatch center, to nighttime search patterns, to cold water survival. The week's training also incorporates maritime law enforcement and includes training specifically tailored to these



First responders and support staff representing federal, state, and local agencies from Virginia, Maryland, and North Carolina converge in Hampton, Virginia, for an annual search and rescue forum. U.S. Coast Guard photo by Auxiliarist Trey Clifton.



The national towing vessel seminar features a search and rescue demonstration and the annual Tug Boatman’s Challenge, where local mariners compete in practical skills and industry exercises. U.S. Coast Guard photos by Auxiliarist Trey Clifton.

tasks, from boarding and searching to demonstrations of drug and radioactive material-detecting equipment.

This collaborative training provides many benefits, including identifying challenges, building professional working relationships, and learning best practices. Mr. Bryan Miers, a participant from the Henrico County Fire Department, citing Richmond’s geographic distance from the rest of the

“Following the search and rescue forum, first responders in the Port of Virginia and the surrounding region will be better prepared to collaboratively conduct search and rescue, pollution response, and law enforcement operations.”
—Rear Admiral Stephen Metruck, commander, Coast Guard Fifth District

port, noted, “We wouldn’t know each other’s capabilities without this training.”

Incident Management

In 2015, the Coast Guard and other federal, state, and local agencies participated in a two-day, government-led, full-scale exercise to evaluate the capabilities and effectiveness of the U.S. Coast Guard Sector Hampton Roads Area Contingency Plan.

Coast Guard Sector Hampton Roads, along with Naval Station Norfolk, the Virginia Department of Environmental Quality, the Hampton Roads Incident Management Team, the Virginia Port Authority, and others participated in the

exercise simulating a worst-case discharge of fuel oil in the vicinity of U.S. Coast Guard Base Portsmouth and the Craney Island Fuel Depot on the Elizabeth River.

The exercise required participants to conduct the operations necessary in an emergency oil spill response, including creating a unified command; establishing the incident plan; creating finance, logistics, and public information components; and generating oil recovery strategies. This allowed participants to improve preparedness; identify weaknesses and strengths; assess the adequacy of resources, plans, and policies to support the pollution response mission; and share best practices.

Planning for this exercise required a joint effort among U.S. Coast Guard, U.S. Navy, and Virginia Department of Environmental Quality personnel for more than a year. According to LT Ashley Dufresne, contingency planner and public affairs officer for USCG Sector Hampton Roads, “The exercise was a great opportunity to work with other agencies within the port of Hampton Roads to test our ability to respond to incidents.”

Maritime Security

The Virginia Area Maritime Security Committee (VA AMSC) was established on October 23, 2003. Since that time, it has grown to comprise members from more than 20 state and federal agencies, including the U.S. Coast Guard, Federal Bureau of Investigation, U.S. Navy, Virginia Department of Public Safety, and numerous others. The committee’s main focus is to enhance maritime homeland security in the U.S. Coast Guard captain of the port area of responsibility, which includes developing and coordinating a comprehensive area strategy to minimize the threat of a transportation security incident and respond to any security incidents.





Oil skimmers simulate the response to an oil spill in a joint training exercise with participants from multiple agencies. U.S. Coast Guard photo by Petty Officer Joshua Canup.

With the growing number of possible security threats on Virginia’s waterways, the VA AMSC has correspondingly expanded its mission. The executive committee has chartered eight mission-specific subcommittees:

- lower Chesapeake Bay users,
- port readiness,
- marine transportation system planning,
- law enforcement,
- port risk assessment,
- recreational vessels,
- cybersecurity,
- radio nuclear threats.

The last two subcommittees were added in 2015 to focus the AMSC on such threats, collectively enhance waterway safety and security, identify threats, and ensure the most efficient and effective preventive, mitigation, and response measures.

For example, the radio nuclear threat subcommittee has acquired more than \$500,000 in radio nuclear detection equipment from the Department of Homeland Security to be strategically distributed to local law enforcement within the Port of Hampton Roads. This initiative will dramatically minimize transit time for

“A strong interagency approach is required to meet the challenges ahead.”
—CAPT Rick Wester, deputy sector commander, Coast Guard Sector Hampton Roads

responders and allow them to safely identify radioactive material.

According to Mr. Roger Tomlinson, Port Security Specialist for Sector Hampton Roads, “The mindset that we have here at Sector Hampton Roads, due to our collaborative spirit and mutual recognition, has made us a very forward-leaning port. This is just one example of what we have been able to accomplish.”

The VA AMSC doesn’t just fight terrorism; it continually looks over the horizon to stay proactive in addressing port growth, as the Panama Canal expansion will allow deeper and wider ships to transit from Eastern Asia through the United States and Europe. With its naturally occurring deep approaches, the Port of Virginia will be a major player in canal-related trade. However, with larger ships becoming the norm, we must work together

to balance the needs of the world’s largest naval fleet with the economic needs of the commercial shipping industry.



First responders, Coast Guard Station Little Creek personnel, and Virginia Beach EMS personnel practice search and rescue techniques at the annual search and rescue forum in Hampton, Virginia. U.S. Coast Guard photo by Auxiliarist Trey Clifton.

Vessel Safety

The first towing vessel seminar at Sector Hampton Roads took place more than 15 years ago. Ever since that first seminar, Coast Guard and Virginia Maritime Association (VMA) personnel have co-hosted the annual national Towing Vessel Safety Seminar, providing training for towing vessel crewmembers from the Port of Virginia and beyond.

“The Towing Vessel Safety Seminar provides valuable training for the local maritime community,” said CAPT Christopher Keane, commander of Coast Guard Sector Hampton Roads. “It also provides a venue to discuss the latest policies and trends impacting local industry.”

Topics for the 2015 seminar included casualty training, a safety management review, electronic charting, a mariner credential program update, and demonstrations of lifesaving equipment. The seminar also focused on the upcoming regulations applicable to the towing vessel fleet, commonly referred to as “Subchapter M,” since some vessels in this fleet will be regulated under 46 CFR Subchapter M.

The event also included a Coast Guard helicopter crew search and rescue demonstration. Seminar participants were able to experience the vessel-to-helicopter transfer like never before as communications were broadcast to those on shore. The seminar also included practical evolutions and the annual Tug Boatman’s Challenge, where local mariners competed in practical skills and industry exercises.

“Service to our nation requires that we safeguard America’s security and prosperity by maintaining and building the capabilities, capacities, and cooperative relationships that we use to accomplish our missions.”

**—Admiral Paul F. Zukunft, Commandant
U.S. Coast Guard**

“For 16 years the VMA and the Coast Guard have been partners in delivering vital safety and survival training to the tug and barge crews moving goods and assisting ships in Virginia’s ports,” said Mr. Art Moye, Virginia Maritime Association executive vice president. “Each year, participating mariners leave the Towing Vessel Safety Seminar better equipped to safely perform their work and respond to

hazardous situations. Their employers and our port industry are beneficiaries. More importantly, this training helps ensure the health and well-being of these crewmembers.”

No Weak Links

Over the next several years, the Coast Guard must confront complex challenges on America’s waterways. We must simultaneously continue to cultivate interagency partnerships to answer those challenges. Mr. Brian Vahey, American Waterways Operators Senior Manager Atlantic Region, summarized, “Our waterways are only as safe as our weakest link.”

Men and women from all branches of public safety and the maritime industry come together at every opportunity and work to make the Port of Virginia and mid-Atlantic region a safer place, ensuring that the engine that is America’s waterways works effectively and efficiently.

About the authors:

LT Karen Lee has served in the U.S. Coast Guard for 10 years in capacities in the prevention and response fields, most notably as a marine inspector at Sector Hampton Roads. She has received two achievement medals, a Commandant’s letter of commendation, a meritorious unit commendation, and a meritorious team commendation.

LT Ashley Dufresne has served in the U.S. Coast Guard for seven years as a deck watch officer on the Coast Guard cutter Alex Haley, a command duty officer at U.S. Coast Guard District One Command Center, and as a contingency planner at Sector Hampton Roads. She has received an achievement medal and five meritorious unit commendations.

Mr. Trey Clifton is a member of the U.S. Coast Guard Auxiliary and has worked for the Fifth Coast Guard District’s external affairs office since July of 2014. Additionally, he serves on the Public Affairs Directorate of the Coast Guard Auxiliary national staff. He joined the Coast Guard Auxiliary in 2010, and is currently the flotilla commander for Flotilla 054-05-03 in Chesapeake, Virginia.

For more information:

All stats courtesy of the Virginia Maritime Association.

For more information, visit the website:
www.vamaritime.com.



The Port of Virginia

A catalyst for commerce.

by Ms. CATHIE J. VICK
Chief Public Affairs Officer
Virginia Port Authority

Everyone is familiar with modern shipping containers. For more than 50 years, the ever-present 20-foot and 40-foot boxes have become a part of our lives. Ships carrying thousands of these containers transport cargo across the oceans, trucks carry them to and from distribution centers via the highway system, and railroads carry containers along rail lines into the heartland of our country.

These ubiquitous boxes hold the lifeblood of our economy. Businesses use containers to bring in or ship out goods. Businesses employ people. People buy things from stores stocked with items shipped in containers ... and so the cycle continues.

That brings us to ports (including the Port of Virginia), which are at the center of it all. A 2013 College of William & Mary economic impact study found that more than 374,000 jobs in Virginia—nearly 10 percent of Virginia’s workforce—have ties to this port, which is mainly situated in the cities of Newport News, Norfolk, Portsmouth, and Chesapeake, Virginia. Additionally, more than \$60 billion is spent on port-related goods and services.¹

At the Port of Virginia, we consider ourselves the stewards of tomorrow, which means:

- Ocean carriers rely on us to handle their vessels with efficiency.
- Cargo owners count on us to safely and expeditiously move their goods to and from market.
- Motor carriers depend on us for quick, consistent service delivery.
- Taxpayers want and deserve a port that’s a catalyst for job creation and economic development while staying mindful of precious environmental resources.

We also believe we can best serve our role by taking a strategic approach to three interrelated key areas:

- strategic planning,
- innovation, and
- collaborative partnering.

These areas form a continuum, each item feeding into the other, that we manage on a daily basis.

Strategic Planning

How do we ensure the port is meeting the needs of today and building for the future? By accounting for a long list of items, including sustainability, infrastructure needs, and changes in trade patterns.

On a hot Monday afternoon in June 2015, the port’s future got a boost. Two signatures on a feasibility coast-share agreement—those of John F. Reinhart, the port’s chief executive officer and executive director; and Colonel Paul B. Olsen, Norfolk District Engineer for the U.S. Army Corps of Engineers—started the clock on a three-year process to evaluate the economics of dredging the port’s channels to a depth of more than 50 feet. Deeper water and overall expansion of the port’s capacity and cargo handling capability put the Port of Virginia in the position to market to the rest of the world the deepest channels and the most modern terminals on the East Coast.

During the next decade, the port will require at least \$2 billion to add capacity to its terminals, modernize them, remain competitive, and prepare for the future. We are ever mindful of what must be done on a day-to-day basis to serve our customers, but in order to stay competitive and serve as an economic engine for years to come, we must always look to the future.

There are three large projects in the port’s future:

- targeted redevelopment at Norfolk International Terminals (NIT);
- expansion at Virginia International Gateway (VIG); and
- the continued eastward expansion of Craney Island, which will make way to develop Craney Island Marine Terminal.

Each project adds to the port’s capacity, increases its ability to safely handle the biggest ships in the Atlantic trade, and

ensures sustainable growth. Competitive participation in the global market depends in part upon being able to efficiently transfer goods through port facilities and keep pace with changes in the industry, including bigger vessels and changing trade patterns.

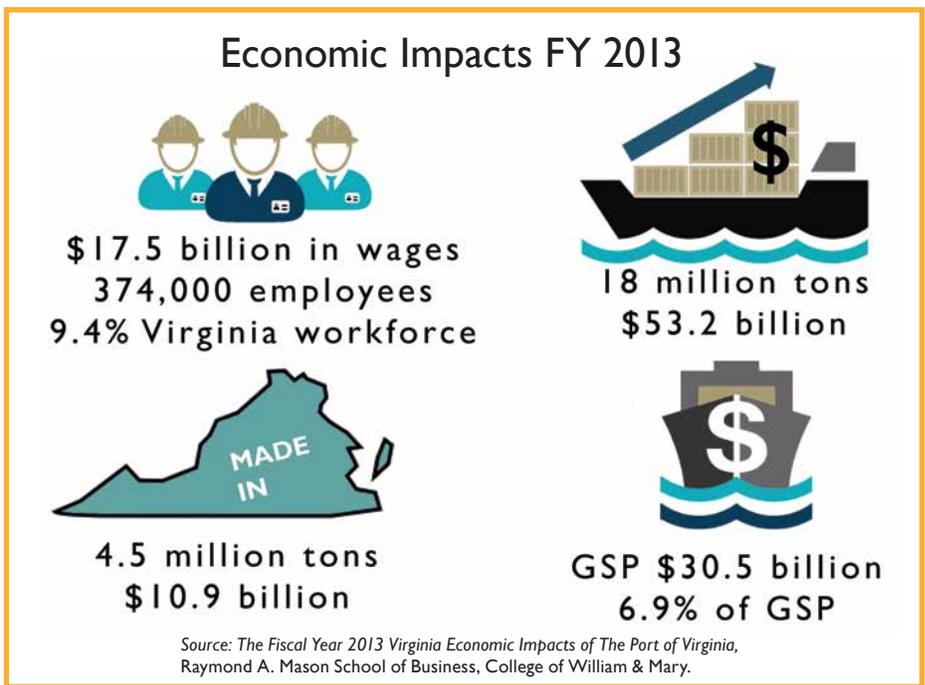
To leverage the shift in trade patterns and the move to shipping alliances and larger vessels, we must expand capacity and improve the port's ability to handle larger container ships—from the water and the land. The port's average annual growth rate since 2012 (measured in containers on a calendar-year basis) is 7.6 percent, and the port forecasts that growth will continue over the next several years.

Norfolk International Terminal redevelopment: By summer 2016, the new North Gate Complex—the first project of the first phase of the optimization of Norfolk International Terminals—is anticipated to be nearing its finish. Following the North Gate project, NIT will be re-engineered to become a rail-mounted gantry crane operation. This \$350 million project will increase NIT's capacity by 700,000 TEUs (20-foot equivalent units, the industry standard of measurement for container volume) without adding a single inch to the property. In addition to increasing capacity, it will increase efficiency and decrease emissions, as the rail-mounted gantries run on electricity rather than the diesel-powered straddle carrier operation the terminal currently utilizes.

Virginia International Gateway expansion: This project will provide the capacity to handle an additional 1.1 million TEUs annually and bring the terminal's total annual capacity to two-plus million TEUs. The \$320 million project entails expanding the rail operation, adding container stacks, introducing new cargo conveyance equipment, and extending the berth.

Craney Island Marine Terminal development: The expansion at VIG and NIT optimization will provide a bridge to the port's long-term goal of developing Craney Island Marine Terminal—a 28-crane, 5 million-TEU facility that will bring the port's total capacity to nearly 10 million TEUs.

Our natural assets, long-term capital plan, and deepening effort puts us on a path for sustainable growth over the long term. This will collectively result in jobs, revenue, investment, and reinvestment for the entire Commonwealth of Virginia.



Graphic courtesy of the Port of Virginia.

Innovation

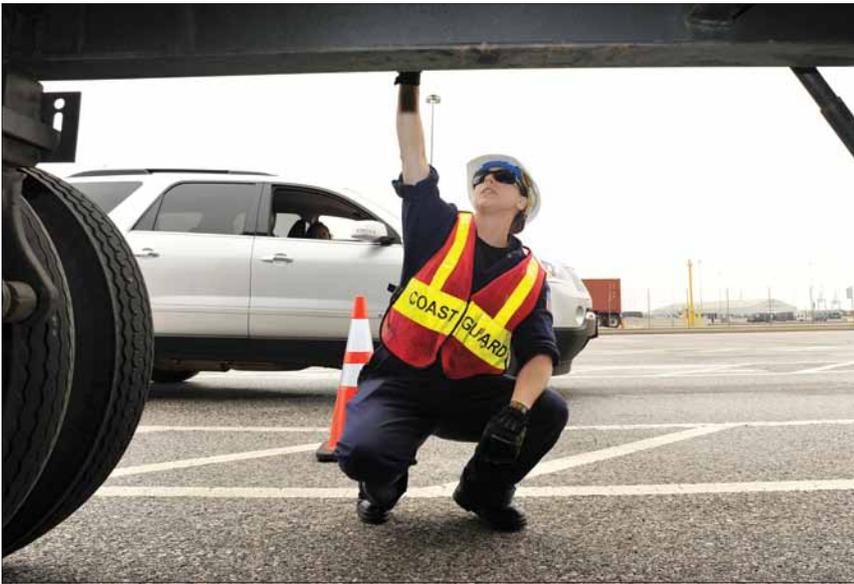
What are some of the innovative ways the Port of Virginia is making the port safer, more efficient, more effective, and more sustainable? Running a sustainable port requires a stable platform to ensure effective and efficient business operations that promote responsible future growth. That's why we have adopted and maintained certifications in the ISO 14001 environmental management system and ISO 9001 quality management system programs.

In the spirit of continual improvement, we have recently expanded these successful programs to create an enterprise-wide business operating system. In addition to combining our ISO 14001 and 9001 activities, the business operating system is the way we do business—codifying, promulgating, and following those best practices that make us the port of choice for our customers and key stakeholders.

Service-Level Improvements

We have achieved service-level improvements that increase the flow of cargo and reduce turn times and container dwell times. To do so, we made a number of innovative changes across our organization. At the time of this writing, we'd grown the size of our chassis pool by nearly 1,500 units over the previous 12 months—a 10 percent increase over the previous year. This larger pool allows truckers to more quickly access an appropriate trailer for their load.

Additionally, our empty container yard is located off of, but adjacent to, our marine terminals. With this configuration, we cut a trucker's turn time roughly in half compared to a



Marine science technician Petty Officer Tonya Mulhern inspects under a shipping container. U.S. Coast Guard photo by Petty Officer Robert Brazzell.

trip onto the terminals. Major improvements to our empty yard include incorporating four high-definition cameras that post real-time video on the Port of Virginia website to enhance truck volume awareness and safety oversight.

Our information technology colleagues also installed radio-frequency identification readers to allow us to measure and publish to the community empty yard turn time metrics as well as expanded turn times on all terminals. All roadways were graded to improve drainage and paved to provide a smooth drivable surface for our trucking partners. We also added a direct entrance from the empty yard to the Portsmouth marine terminal. Entrance booths were replaced and a new trailer was installed to keep operations colleagues safe from the elements as they manage the yard.

At the Virginia International Gateway, we expanded our rail container staging yard to provide a total of 308 additional “parking spaces” to provide additional flexibility for containers arriving from or awaiting movement by rail. This enlarged area allows our operations colleagues to segregate truck containers from rail containers, decreasing the size of our stacks, reducing rail dwell time, and increasing velocity.

Equipment

In early 2015, the Virginia Port Authority received \$750,000 in Diesel Emission Reduction Act funding from the U.S. Environmental Protection Agency to introduce the next wave of cargo-handling technology—hybrid diesel-electric shuttle carriers.

Three of these hybrid shuttle carriers have been phased into Port of Virginia daily operations. They are the first of their kind to be deployed at any U.S. port and are estimated

to consume 15 percent less fuel per unit and generate 30 percent fewer emissions on average than their diesel equivalents.

Programs

Fiscal year 2015 marked the seventh operating year of the Port of Virginia’s green operator (GO) diesel emission reduction program. The GO program is a comprehensive program designed to incentivize and introduce clean diesel and alternative fuel technology into all transportation and cargo-handling vehicles that support port operations.

The GO program offers incentives to dray truck owners, commercial shipping lines, United States Maritime Administration marine highway operators, railroads, and terminal operators supporting Port of Virginia operations. To date, the program has helped more than 400

dray truckers replace or retrofit their trucks to burn cleaner fuel, and between 2012 and 2015 enabled 580 ship calls to reduce 58.2 metric tons of sulfur dioxide, 9.71 tons of nitrogen dioxide, and 2.8 metric tons of particulate matter.

Software

In fiscal year 2015, integrating the Navis N4 terminal operating system was an area of keen focus for our operations and information technology teams. The N4 system is built on industry-standard platforms that allow the port to use “off the shelf” applications that provide more efficient services to port customers and port partners.

For example, upgrading the Norfolk International Terminals to N4 allowed the introduction of an automated gate system and a transfer zone automation system that improved on safety and efficiency. The automated gate moved staff from physical gate lanes into a safe office environment where they use computers to perform tasks previously done manually. Transfer zone automation also introduced a new level of safety and efficiency by allowing truck drivers to exit their vehicles and process their transactions in a protected kiosk in their truck lane. Straddle carrier operators pick up from or lower containers to trucks only when the driver is standing on the pressure pad inside the kiosk.

N4 also supports a reservation system, and we are working closely with our trucking partners in the early testing phase of a system that will allow drivers to pick up and drop off cargo even more expeditiously. Furthermore, the N4 system enables us to implement a global position detection system that will improve container management and enable pre-staging for containers to be picked up the next day.

Collaborative Partnering

The Port of Virginia does not operate in a vacuum. Our colleagues live and work in communities across the commonwealth. We operate facilities near neighborhoods and work ships along our waterways. That's why it's critical that we form and nurture relationships with community organizations, business organizations, and government at every level.

Working together, keeping each other informed, and being mindful of the needs of our communities helps ensure we are running an economic engine that is sustainable—in every sense of the word—for generations to come.

For example, we have embarked on a three-year study with the U.S. Army Corps of Engineers to produce a general re-evaluation report on the future of our shipping channel to ensure the Port of Virginia is deepened and widened to accommodate larger commercial vessels and the U.S. Navy's largest aircraft carriers. That report, which will be released in draft form in December 2016 and signed into effect by September 2018, will serve as the foundation for working with our congressional delegation and state legislators to secure funding for this critical asset.

A March 2015 partnership led to a prototype propane-powered truck. Personnel put the vehicle through the paces and agreed that it kept pace with conventional diesel trucks in the high-tempo marine terminal environment while keeping ground-level emissions around the vehicle cleaner than gasoline or diesel-powered trucks. Moving forward, we will continue to explore alternatives to diesel power in our vehicle and cargo-handling equipment fleets.

Further, to make the most meaningful impact in our communities, the port focuses on distinct areas of giving and service, including:

- education and workforce development,
- awareness and stewardship,
- harbors and navigable waterways,
- health and safety,
- community enrichment.

We also actively participate in programs including the United Way, Clean the Bay Day, and food drives for our local food banks. Additionally, through our Aid to Local Ports program, the Port of Virginia provides \$1 million each year to localities throughout the Commonwealth of Virginia to help fund projects including dock and bulkhead

replacements, constructing a breakwater and pier, and dredging assistance.

We are also active members of the Virginia Maritime Association as well as sponsors of the Elizabeth River Project, Virginia Aquarium, Boy Scouts of America, and many more.

Future Focus

The number and size of the vessels coming to the Port of Virginia keep growing—and will continue to grow. The revenue generated will be reinvested in all of the port's terminals. This unique port, because of its assets and ability to leverage those assets and expand, is well-positioned to capitalize on new markets, growing market share, shifting trade lanes, a dynamic industry, and the unforeseen opportunities that all these changes hold.

We know that each additional import container brings jobs to the port and business for our shipper, freight forwarder, and distribution center partners. Each new export container also brings jobs to the farms and factories that produce a "made in Virginia" product. Our mission is to foster economic development and create jobs across the Commonwealth of Virginia by serving as a global gateway for trade.

About the author:

Cathie J. Vick is the chief public affairs officer at the Port of Virginia, where she oversees economic development, government and community relations, marketing and communications, and maritime incident and emergency response for the third-largest port on the East Coast. Her background includes both the public and private side of government and public relations. Ms. Vick earned her J.D. from Georgia State University College of Law and her B.A. in political science and communications from James Madison University. She is currently pursuing her MBA at the College of William and Mary. She is a 2005 fellow of the Sorenson Institute of Political Leadership, a 2009 graduate of LEAD Hampton Roads, a 2015 graduate of LEAD Virginia, and has been named by Inside Business as one of the region's "Top 40 under 40" in 2005 and "Top Women in Business" in 2010.

Endnote:

¹ Raymond A. Mason School of Business, College of William & Mary, "The Fiscal Year 2013 Virginia Economic Impacts of the Port of Virginia."

For more information:

Statistics courtesy of the Port of Virginia. For more information, visit www.portofvirginia.com.



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