SeawayCompass

U.S. Department of Transportation • Saint Lawrence Seaway Development Corporation

ACTING ADMINISTRATOR'S COLUMN

Craig H. Middlebrook

Innovating Through New Technology

In late July, I made a presentation at the USDOT's (U.S. Department of Transportation) John A. Volpe National Transportation Systems Center (Volpe Center) in Cambridge, Mass., on the Seaway's tradition of technology innovation. For those of you who aren't familiar with the Volpe Center, they

continued on page 2

In This Issue:

www.greatlakes-seaway.com

Historic Fleet Renewal in the Great Lakes Seaway System Underway

More than two dozen new ships will likely be plying the Great Lakes Seaway System within the next five years. That assessment is based on several public announcements over the past year from major carriers trading in the Lakes. An informal tally of these public statements indicates an investment total to date in 'newbuilds' at well over $1 billion, making this a *bona fide* boom time for new ship construction.

The perception that the marine system is changing dramatically is widespread. Whether the issue is ballast water treatment equipment and invasive species, engine exhaust gas scrubbers to cut air emissions, new engines to improve fuel performance, double hulls to prevent accidental spills—throughout the industry, the attention on sustainable marine transportation is palpable. Little surprise, therefore, that companies pay special attention to these and other environmental challenges as they develop detailed designs for new classes of vessels that will be the fleet workhorses for a generation or more.

The largest international maritime bulk carrier in Canada is Fednav with a fleet of more than 80 vessels, many of which trade regularly in the Lakes. Recently, the company announced that a total of 21 new vessels would be added to its fleet, with eight of those being Seaway sized. The new vessels represent a major step forward in terms of environmental benefits, delivering 20 percent fuel savings with their new hull and propeller designs.

"The environment is one of the top priorities when we consider the design of a new vessel for the Great Lakes," said Paul Pathy, Fednav President and co-CEO. "It is very important to us and also to our customers that our vessels not only respect, but exceed environmental regulations in Canada and worldwide."

continued on page 3

Acting Administrator's Column, continued from page 1

are part of DOT's Research and Innovative Technology Administration and the preeminent national center of transportation and logistics expertise. The Center's work includes a broad mix of projects that cut across traditional transportation modes and technical disciplines. The Center assists federal, state, and local governments, industry, and academia in a number of areas of consultation including human factors research, system design, implementation and assessment, global tracking, strategic investment and resource allocation, environmental preservation, and organizational effectiveness.

This speaking opportunity at the Volpe Center allowed me to highlight the many areas of technological innovation that have been developed at the Seaway, some of which are cutting-edge and of significant interest for broader applications in the maritime industry. We have a strong culture of innovation at the Seaway, thanks to our skilled engineers and engaged stakeholders, as well as our customer-and performance-focused managers. Together, these individuals continually demonstrate a willingness to listen, partner, and creatively surmount many geographic and operational challenges. We pride ourselves at the Seaway on a "small is beautiful" culture that allows for innovation to be nurtured and ultimately to flourish.

From the civil engineering marvel of the 1950s, the Seaway has worked to raise the bar in vessel traffic management and infrastructure technology improvements. The first has brought us several innovations, beginning with the Electronic Chart Display and Information System (ECDIS), which Seaway users were among the first to adopt. The Canadian Laker fleet led development and implementation of this vessel charting system in the early 1990s. Both the U.S. and Canadian Seaway Corporations supported the testing and use of the technology in the Seaway. This system led to one of the most important technological innovation in the Seaway's 52-year history, the Automatic Information System (AIS). Building on the ECDIS, AIS Global Positioning System (GPS) and Digital Global Positioning System (DGPS) technology and represented a radical upgrade of the Seaway's Traffic Management System. Over the course of the 1990s, the Volpe Center designed and built the AIS for the U.S. and Canadian Seaway Corporations, and it was implemented in 2002. Its development was a model partnership among the Canadian and U.S. Seaway agencies, the Great Lakes St. Lawrence Seaway System commercial maritime industry, and the Volpe Center. Using a public-private cost-sharing model, it adopted the latest technological developments at modest cost and adapted to emerging international standards. AIS has become the global standard in traffic management systems and the Seaway's AIS has proven its "rock-solid" reliability over the last 10 years.

The newest technological innovation at the Seaway, the Draft Information System (DIS) was implemented on July 11, 2012 and is the most important development since AIS, representing advances in both vessel safety and efficiency. Like ECDIS, it was an idea that came from Seaway users, and put us ahead of the curve yet again by deploying cutting-edge technology in a world of emerging international standards. Using AIS as a key component, the DIS allows for even more precise vessel traffic management. The on-board software system integrates a variety of navigational information and data, and provides a projection of a vessel's under-keel clearance in real time. It provides a 3-D display, giving mariners information based on a real-time water levels along the vessel's route that is communicated by the AIS network. This technology is expected to greatly reduce the potential for groundings and will allow ships to carry more cargo. Use of DIS on the Seaway is expected to become commonplace for Seaway customers. As a technology that provides vessel operators with more accurate data and up-to-the minute operational and navigational information during a Seaway transit, DIS will prove to be a milestone for the Seaway and another pivotal technological innovation for the marine community.

Infrastructure technology innovations are also underway at the Seaway, as we are making the conversion to hydraulic lock components under our asset renewal program. The replacement of the operating machinery that is over 50 years old with new hydraulic components to match the upgrades being made at the Canadian Seaway locks will ensure the continued reliability of our valves and gates and remove our dependency on limited spare and replacement parts.

With our "old dogs willing to learn new tricks" approach, technological innovation at the Seaway has resulted in safety benefits, efficiency benefits, cost benefits, and an increase in customer and employee satisfaction. The challenge is to stay 'organizationally agile', and we do that by remaining focused on results and customer needs, by viewing challenges as opportunities, and by letting necessity spur invention.

Historic Fleet Renewal, continued from page 1

Canada Steamship Lines (CSL) has been garnering publicity with its Trillium Class vessels. The class includes four Panamax self-unloaders and four Great Lakes bulk self-unloaders. Work on the new Trillium Class is progressing and the first of the Laker self-unloaders, the M/V *Baie St. Paul*, is set to make her maiden voyage to the Great Lakes Seaway System within the next two months. It is expected that the remaining three Seaway sized Trillium Class vessels will be operating in the Lakes by 2013.

The Trillium class is Seawaymax at 35,500 dwt and is fully compliant with domestic and international laws and regulations. The four laker self-unloaders are a major investment for the company and its long term trading future in the Great Lakes. Trillium class features are detailed on the company's website and include advanced self-unloading equipment and water lubricated (vice oil) stern tube bearings (www.cslcan.com/trillium/features.html).

In June 2012, CSL announced the order for two new gearless bulk vessels; bringing the number to six new ships to be built as part of its major fleet expansion program for the Great Lakes Seaway System. Construction on the two bulkers is said to begin 'soon' and they are expected to enter service in the spring of 2014.

"Investing in sustainable technologies makes good business sense," said Dan McCarthy, CSL Vice-President for Marketing and Customer Service. "It creates a competitive edge with state of the art operational and energy efficiencies."

Algoma has been committed to fleet renewal plans following Canada's policy decision to rescind the duty on domestic ship companies contracting offshore for vessel construction. In total, eight new Equinox Class vessels will join the fleet including two gearless bulkers to be owned by the Canadian Wheat Board and managed by Algoma. The Equinox Class will include both self-unloaders and gearless bulk carriers. Construction on the first ship began in September 2011 with delivery scheduled for the beginning of the 2013 navigation season. The remaining seven will arrive over the course of the next 12 months.

Other regular traders on the Great Lakes Seaway System, such as Canfornav, Inc., Wagenburg, Shipping B.V., and Polsteam, Ltd., have also either recently completed or announced ambitious new-build programs for Seaway-sized vessels.

The new M/V Baie St. Paul has been named in honor of the historic 1960s era vessel pictured here.

HIGHLIGHTED GUEST

Stephen Burnett,
Great Lakes Cruising Coalition

Great Lakes Cruising attracts world-traveled cruise customers.

With a world of destinations under their belts, when I meet our end-user-customers, it never fails to astonish me how passionate and knowledgeable they are about the Great Lakes. However Great Lakes Cruising would not be possible without the talented planners who develop the itineraries, the entrepreneurs with their astonishing vision and a considerable degree of client loyalty. In this context *Travel Dynamics International* (TDI) based in Manhattan is an excellent case-study worthy of our attention. This mature cruise firm has carved a distinct niche for itself by focusing on enriched daily content which feeds the minds of their cruise customers — while talented chefs feed their bodies. They offer a pallet of exciting destinations — accessible by their fleet of shallow draft small-ships and by combining daily excitement with local enrichment they have created a powerful brand-identity that speaks to the special nature of what they offer. TDI has been cruising the Great Lakes over the past decade with several notable ships, such as the much loved *Le Levant*, the elegant sparkling *Orion* and more recently the US Flagged *Yorktown*. During the 2012 cruise season, talented onboard enrichment speakers included Admiral William J. Fallon former commander of the United States Atlantic Fleet and John Grant, the Emmy award winning movie producer with extensive knowledge of Great Lakes history.

The Great Lakes is featured alongside several exotic destinations in TDI marketing material, such as Australia, The Mediterranean and Africa. What is truly exciting — is that many of their guests are repeat cruisers who just love the Great Lakes cruise experience from their first lock transit on the St. Lawrence Seaway until they reach Duluth and Thunder Bay.

During the 2012 cruise season, I was aware of several extraordinary characters making their way through the Great Lakes, so here is a sampling of how meaningful this experience was for these well-traveled cruise intrepids. Consider Marg — 94 years young and just raring to experience Kayaking in the still waters of Manitoulin Island. That evening she entered the dining room to a standing ovation from her fellow guests who recognized her irrepressible joie de vivre. Consider Eleanor — originally from Houghton on the Michigan Upper Peninsula, 80 years young and cruising back to her birth place after a lifetime in the south. Eleanor had a car meet her in every port of call for a drive down memory lane. Consider Patricia — while everyone was ashore sampling award winning Niagara wines she insisted on transiting the Welland Canal from the ship's bridge, as she traced her former husband's voyage as he sailed for Europe and the Great War.

Many of these guests are well travelled experienced cruisers who recognize that the Great Lakes have just delivered an experience on-par with any of their other exotic cruise destinations. We have always known that our Great Lakes can deliver, and hearing our paying customers endorse that notion bodes well for the future.

For 2013 The *Yorktown* will offer a full season of cruises in The Great Lakes. Ports of call will be Kingston, Port Weller, The Welland Canal, Cleveland, Detroit, Alpena, Presque Isle, Sault Ste Marie, Mackinac Island, Manistique, Marquette, Houghton, Duluth, Charlevoix, Saugatuck and Chicago. For more information go to: www.greatlakescruisingcoalition.com.

Ballast Water Update

On August 2 & 3, 2012, the Great Lakes Ballast Water Collaborative (BWC) came together in Duluth with the facilitation help of the International Joint Commission (IJC) and the Saint Lawrence Seaway Development Corporation (SLSDC). The Collaborative has been about making connections and broadening understanding. That is what drives each BWC meeting, which in Duluth focused on: (1) The implementation of the newly emerging regulatory structure, and (2) how to get Ballast Water Management Systems (BWMS) in place in the Great Lakes Seaway System as quickly as possible. The group heard presentations from scientific, regulatory, and industry experts and engaged in lively discussions on these topics.

Since the last meeting of the Collaborative group in Baltimore in late summer of 2011, there have been several key developments: the publication of the U.S. Environmental Protection Agency's (EPA) proposed Vessel General Permit (VGP2) in November 2011; the publication of the proposed state new "401 Certifications" in April and May 2012; and the certification of the first Independent Laboratory consortium (which includes the Great Ships Initiative) in July 2012. The August BWC meeting was not only an opportunity to discuss these latest developments; it was also a chance to focus on what lies ahead.

U.S. and Canada Sign New Great Lakes Water Quality Agreement

On September 7, 2012, at the Canadian embassy in Washington, D.C., the U.S. and Canada renewed a 40-year-old Great Lakes environmental agreement to strengthen efforts to continue work on existing threats to health and the environment in the Great Lakes Basin such as harmful algae, toxic chemicals and shipping discharges.

The updated agreement was signed by Peter Kent, Canada's Environment Minister and Lisa Jackson, Administrator of the U.S. Environmental Protection Agency. "This agreement is more than just a commitment to each other," said Lisa Jackson. Mr. Peter Kent added, "And it will help us, together, to work towards our ultimate goal: preserving the Great Lakes for present and future generations of Canadians and Americans."

The original Great Lakes Water Quality Agreement was signed in 1972 and was last amended in 1987. The agreement committed the two countries "to restore and maintain the chemical, physical and biological integrity of the waters" of the Great Lakes and the portion of the St. Lawrence River that includes the Canada-United States border.

Under the renewed Great Lakes Water Quality Agreement, the governments conclude that the best means to preserve Great Lakes Basin Ecosystem and improve water quality is to adopt common objectives and cooperative programs, and assign special responsibilities to the Commission:

- Assess progress to restore and protect the Great Lakes;
- Engage people, communities, private and public institutions, First Nations and Native Americans, and all levels of government in collective efforts for Great Lakes water quality; and,
- Advise Governments on effective Great Lakes programs and policies, research and monitoring priorities, and approaches and opportunities to achieve objectives for Great Lakes water quality.

Left to right — Peter Kent, Canada's Environment Minister and Lisa Jackson, Administrator of the U.S. Environmental Protection Agency signing the new Great Lakes Water Quality Agreement.

The Seaway Continues to Advance in Social Media

The Saint Lawrence Seaway Development Corporation (SLSDC) and its Canadian counterpart, The St. Lawrence Seaway Management Corporation (SLSMC), remain committed to implementing new technologies that improve the safety, security and economic efficiency of the St. Lawrence Seaway transit experience. Likewise, the Seaway management organizations have been working to deploy new technologies on the Internet to better reach Seaway stakeholders and all other interested constituents.

Understanding water levels and the unique geography of the Seaway is not only of importance to mariners but to the thousands of interested students, teachers, stakeholders, and community members that engage with Seaway information online. To that end, the Seaway management organizations are currently deploying online web instruments to improve environmental data on the Seaway's signature binational site at www.greatlakes-seaway.com. Anticipated by January 2013, the updated Seaway binational site will feature enhanced displays of Seaway water levels, temperatures, wind speeds, and other real-time data elements capturing the environmental experience on the Seaway. This will complement other recent enhancements to the binational site, including updated graphics, a more sophisticated tablet-ready interface, and deployment of social media "share" functionality, allowing Seaway-specific content to be instantly engaged on Facebook, Twitter, Instagram, and other web 2.0 technologies.

The SLSDC's implementation of its Facebook page has already been incredibly successful. Available at www.facebook.com/usdotslsdc, the SLSDC's Facebook page has already become a hub of information for the Seaway management organizations and a clearinghouse for information on new and exciting developments within the Great Lakes St. Lawrence Seaway (GLSLS) System. In four short months, the SLSDC Facebook page has posted over 125 unique posts, photos, and other content; is reaching between 300 to 900 people per day; and has received over 100 individual "likes," all strong indicators of the influence and usefulness of Facebook for Seaway business.

With successes like these, the Seaway, its stakeholders, and its customers are benefiting every day from new and improved technologies. The GLSLS community can look forward to further significant technological advances in the months and years to come.

All Seaway stakeholders and constituents are encouraged to "like" the SLSDC at www.facebook.com/usdotslsdc.

DOT Official Visits the Massena, NY Operations

In early August, Deputy Secretary John Porcari traveled to Massena, NY to see the Seaway facilities first-hand. He held an all hands meeting; toured the maintenance facilities buildings; rode on the SLSDC Tugboat — Robinson Bay; met with the International Bridge officials; visited the vessel traffic control center; and toured lock infrastructure and the SLSDC Visitors' Center. He rounded out the busy day meeting with officials from our Canadian counterpart, The St. Lawrence Seaway Management Corporation.

Deputy Secretary Porcari told the employees, "We know you keep the U.S. Locks open 24 hours a day, seven days a week during the navigation season, and we know that your work makes it possible for American-made goods to get to markets around the globe."

Very early the next morning he traveled to the Port of Oswego where he met with their Board of Directors and local elected officials. Jonathan Daniels, Executive Director of the port, was honored to have a Department of Transportation official visit the port of which he is so very proud. To read more about the port's growth and achievements, check out the 2012 summer edition of the Seaway Compass (http://www.greatlakes-seaway.com/en/pdf/slsdc_newsletter_summer_2012.pdf)

Right to left — Deputy Secretary Porcari, Jonathan Daniels, Executive Director, Port of Oswego, and Acting Administrator, Craig Middlebrook, at the Port of Oswego.

Personnel News

Paul Vornholt, Director, at the Port of Milwaukee, has been appointed to the position of Operations and Trade Director. His job will be to provide continuity and support to port operations by enhancing government, business, and customer relations.

Mr. Vornholt most recently directed the City of Milwaukee's Intergovernmental Relations Division where he worked on port-related issues including ballast water rules and Wisconsin Department of Transportation rules on truck weight limits.

Robert Lewis-Manning is the Canadian Shipowners Association's (CSA) new president. Mr. Lewis-Manning joined the CSA as vice-president of operations after a 24-year career with the Royal Canadian Navy. His extensive sea-going career, appointments in senior corporate positions, and experience leading strategic change made him a strong choice for this key position. Welcome Mr. Lewis-Manning.

Paul C. LaMarre, III, is the new Director for the Port of Monroe. Most recently, Mr. LaMarre served in a leadership role for the Port of Toledo. He conceptualized, designed and developed the National Great Lakes Maritime Museum and secured major grant funds to make it possible. Congratulations!

Kenneth Johnson is the new Chairman of the Board of the Great Lakes Commission. He formerly served as the administrator of the Wisconsin Department of Natural Resources water division. He is a civil and environmental engineer.

Upcoming Events

November

November 15, 2012
HWY H_20 Conference
Toronto, ON
Contact: Ginadelleroseash@seaway.ca or
www.hwyh2o.com

December

December 6, 2012
Great Lakes Stakeholder Appreciation Reception
Montreal, Quebec
Contact: kyle.savage@dot.gov;
(202) 366-0095