



# Environmental Standards Update



## USCG and Smithsonian Institution Work Together to Reduce Risk of Marine Invasions

By Amanda Gilborn and Dr. Whitman Miller, SERC

Because ballast water is a primary pathway for the transfer of non-native species around the world, understanding nationwide patterns of ballast water delivery and management is vital to preventing and mitigating the arrival of non-native species to U.S. coastal ecosystems. To address this need, the National Ballast Information Clearinghouse (NBIC) was created at the direction of the National Invasive Species Act of 1996 (P.L. 104-332) as a joint program between the Coast Guard and the Smithsonian Environmental Research Center (SERC).

Since 1997, the NBIC has been responsible for collecting, analyzing, and interpreting data on ballast water management practices of commercial ships that operate in the waters of the United States. All commercial ships arriving to U.S. ports or places report information to NBIC about the quantity, origin, and age of ballast water, as well as any management measures taken for ballast water being discharged. In turn, the NBIC quantifies the amounts and origins of ballast water discharged into U.S. coastal ecosystems, and reports the quan-

ties that have undergone open ocean ballast exchange prior to discharge. By exchanging coastal water with open ocean water, the likelihood of introducing exotic species that will succeed in U.S. coastal waters is reduced.

The results of the NBIC analyses are reported to the Coast Guard, and then to Congress on a biennial basis to assist these bodies as they promulgate regulations and create and modify federal legislation to address the issue of marine invasive species. By working together, the Coast Guard and SERC are able to cooperatively address timely questions related to ballast water delivery patterns as they arise.

In response to the mandatory ballast water reporting and exchange regulations, and their accompanying penalties implemented in August of 2004, the NBIC now receives an estimated 50-60,000 ballast water reports per year from ships that have operated outside the U.S. Exclusive Economic Zone and an additional 50-60,000 reports per year from commercial vessels that operate domestically. To handle this upsurge in reporting, the NBIC has



Ship discharges ballast water in open ocean.  
(Photo courtesy of SERC)

developed an e-mail and web-based reporting system that allows ships to complete and submit their reports to the NBIC electronically. Currently, 86% of all report submissions are e-mail or web-based, with the remaining 14% submitted by fax. The NBIC has also created a quality control feedback mechanism whereby electronic reports are screened and filtered for omissions, inconsistencies, and other errors prior to upload into the NBIC Information Management System. To increase the completeness and quality of data, a summary of errors and remedies

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is automatically incorporated into an e-mail message that is sent directly back to the BW report sender with a request for corrective measures and resubmission.

Ballast water information is now readily accessible to Coast Guard personnel through web-based queries. Now Coast Guard personnel have direct access to the

data in the NBIC Information Management System, allowing them to use up-to-date ballast water reporting information for regulatory and other purposes.

Over the past nine years, the Coast Guard and SERC have built extensive ties around the issues of marine invasive species, shipping, and ballast water. Because of our complementary fields

of expertise, the joint effort embodied by the NBIC has grown into an ever more effective program for reducing risk of marine invasive species in the United States.

To learn more about NBIC or how to submit a ballast water reporting form, please visit our website at <http://invasions.si.edu/nbic/>.

## Dry Cargo Residues on the Great Lakes

*By Ronald P. Jackson, J.D. and LCDR Mary Sohlberg, USCG*

The United States Coast Guard is exercising its statutory authority to regulate incidental dry cargo residue discharges on the Great Lakes and is striving to issue new regulations before the September 2008 expiration of the Coast Guard's "interim enforcement policy" (IEP) for such discharges. The Coast Guard has concluded the public scoping phase for the National Environmental Policy Act analysis of the regulatory project and, in September 2006, began the sampling of specific areas of the Great Lakes associated with discharges of dry cargo residues. The Coast Guard has completed sonar mapping and water sampling of discharge areas in Lakes Erie, Michigan, and Superior, respectively. Sampling will resume in the Spring of 2007, using the sonar mapping data already collected to determine areas where sediment samples will be collected. The data gathered during the sampling phase will be analyzed to determine the environmental effects from dry cargo residue discharged on the Great Lakes. The data

analysis will be published in a draft Environmental Impact Statement for public comment.

The historical practice of bulk dry cargo vessels on the Great Lakes is to wash cargo residues ("dry cargo residue" or "cargo sweepings") overboard. Those residues include limestone and other clean stone; iron ore (such as taconite); coal; salt; and cement. Washing the residues off the decks and other working spaces eliminates unsafe conditions onboard the vessels, without requiring alternatives that could involve time delays or added cost. The implementing regulations for the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL Annex V)—which are codified at section 151 in Title 33 of the Code of Federal Regulations—prohibit the discharge of "garbage," which these sweepings are considered, into the navigable waters of the United States. Hence, the current U.S. environmental statutes—if strictly enforced—would prohibit these incidental discharges. Under the IEP

first adopted by the United States Coast Guard's Ninth District in 1993, section 151.66 has been applied in the Great Lakes to allow the continuation of cargo sweeping in designated areas that are relatively far from shore, and that meet depth and other restrictions. Moreover, Congress has expressly endorsed the IEP and given the Coast Guard the power to regulate incidental dry cargo residue discharges in the Great Lakes "notwithstanding any other law." Nevertheless, the IEP will expire on September 30, 2008, by statute, unless the Coast Guard implements new regulations to replace the IEP before the expiration date. The Coast Guard will enforce the existing statutes, commencing October 1, 2008, if the new regulations are not in effect.

Additional information on the Dry Cargo Residues program can be found on the Coast Guard Environmental Standards Division's homepage at [http://www.uscg.mil/hq/g-m/mso/dry\\_cargo.htm](http://www.uscg.mil/hq/g-m/mso/dry_cargo.htm).

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## Progress at MEPC 55

By LT Heather St. Pierre, USCG

The 55<sup>th</sup> session of the International Maritime Organization's Marine Environment Protection Committee (MEPC) was recently held from 9-13 October in London, UK. Two agenda items of particular interest were harmful aquatic organisms in ballast water and recycling of ships.

There was significant progress made on ballast water management. Of the fifteen sets of guidelines being developed to accompany the Ballast Water Management Convention of 2004, twelve have been adopted; the last five of which were adopted at MEPC 55. The most recently adopted guidelines include guidelines for sediment and ballast water reception facilities, designation of areas for ballast water exchange, ballast water exchange design and construction standards, and design and construction to facilitate sediment control. The remaining guidelines will be discussed at follow-on subcommittee and MEPC sessions.

Once ratified, the Ballast Water Management Convention will require, beginning in 2009, ballast water management technologies to be used by certain vessels, based on their construction date and ballast water capacity. As part of the requirements



of the Convention, a review of ballast water management technologies was conducted at MEPC 55. The Committee determined that there will likely be adequate technologies available by 2009 to meet the ballast water discharge standard outlined in the Conven-

tion. The Committee will conduct another review of available technologies at MEPC 56.

Another major agenda item at MEPC 55 was the recycling of ships. The Committee has assigned a ship recycling work group to further develop the text of the draft International Convention for the Safe and Environmentally Sound Recycling of Ships. The aim of this draft Convention is to develop a legally binding global instrument on ship recycling to promote safe, environmentally sound practices by ship owners and recycling facilities. The goal is to have the draft Convention prepared to adopt in the 2008-2009 biennium.

The next session of MEPC, MEPC 56, will be held from 9-13 July in London, where additional work will be conducted on both harmful aquatic organisms in ballast water and ship recycling.

## Testing the Performance of Ballast Water Treatment Technologies

By Dr. Richard Everett and LT Keith Donohue, USCG

As part of the on-going effort to develop regulations for ballast water treatment, the Environmental Standards Division is working with other federal partners to draft and validate rigorous test protocols for evaluating the

performance of ballast water treatment technologies.

In 1995, the U.S. Environmental Protection Agency (EPA) instituted the Environmental Technology Verification (ETV) Program, to verify the performance

characteristics of commercial-ready environmental technologies through the evaluation of objective and quality-assured data. The ETV Program was created to substantially accelerate the entrance

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of innovative environmental technologies into the domestic and international marketplaces. The independent technology verifications generated through the ETV Program provide purchasers and regulators of technologies with an independent and credible assessment of the technology they are purchasing or permitting.

The ETV program was identified by the Environmental Standards Division as a valuable existing effort that could greatly facilitate the development of testing protocols for ballast water treatment technologies. The EPA and the USCG subsequently signed a memorandum of understanding (MOU) to collaborate in the development and implementation of standardized test proce-

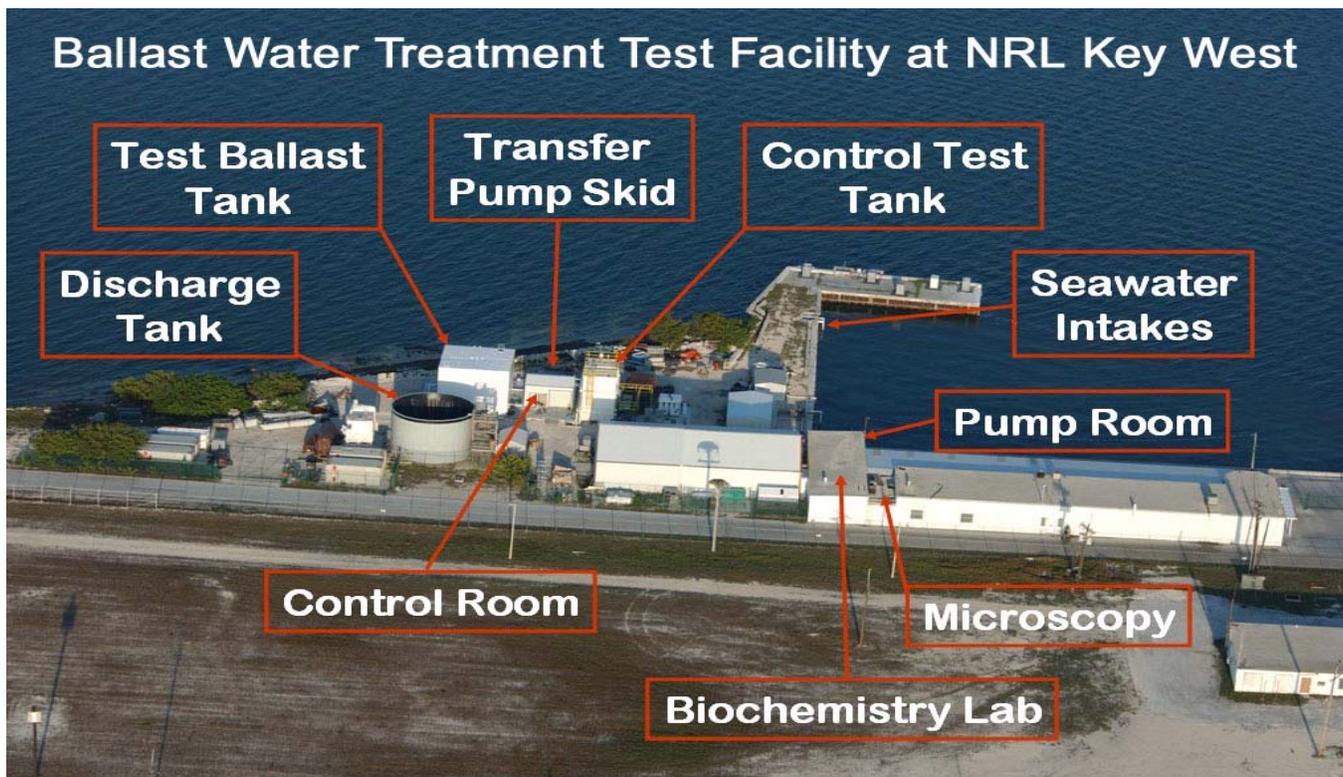
dures for ballast water treatment technologies. We anticipate that the testing protocols and infrastructure resulting from this collaboration will also directly support the development of approval procedures for ballast water treatment systems under the Coast Guard's National Ballast Water Management Program.

Through its protocol development process, the ETV Program produced a draft protocol for verification of ballast water treatment systems in 2004. Subsequently, Coast Guard partnered with the Naval Research Laboratory (NRL) to validate the procedures and test facility specifications contained in the draft protocols. NRL has designed, constructed and operates a prototype ETV Ballast Water Treatment

Test Facility (BWTF), as specified by the draft protocols, at its Center for Corrosion Science and Engineering Facility in Key West, Florida.

The BWTF functions as an instrumented scientific test platform for the evaluation of technologies designed to eliminate aquatic nuisance species in shipboard ballast. This land-based facility provides for the uplift and discharge of ocean water into and from holding tanks representative of shipboard ballast systems. Pumping capabilities provide flow rates up to 1320 gpm and include two test ballast tanks of 101,000 gallons and 40,000 gallons respectively, and a 104,000 gallon discharge tank. The facility provides for the injection of

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(Photo courtesy of NRL Key West)

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specified test organisms and water quality augmentations, as well as the means for monitoring test conditions, in-line sampling, and laboratory analysis. All water from testing will be treated prior to final discharge in accordance with existing site permit requirements. To accommodate a full spectrum of potential treatment technologies, the system can be reconfigured to accommodate treatment at uplift, in-tank, or discharge locations in the flow path. Testing operations may occur over continuous periods of up to several weeks.

The NRL and the USCG are currently conducting a pilot test of the ETV protocols at the

BWTF, using a full-scale treatment system supplied by a commercial vendor. The system, the BalPure Ballast Water Treatment System, was one of several offered by vendors in response to a general solicitation by the Coast Guard. The BalPure system, manufactured by Severn Trent DeNora, was identified as the most appropriate system for the purpose of validating the test protocols, based on an extensive set of technical criteria.

Further information regarding the EPA ETV Program may be accessed at: <http://www.epa.gov/etv/>. (Note – the draft Protocols for Verification of Ballast Water Treatment Tech-

nologies are not yet posted on this site, pending completion of the validation work and any required revisions)

Further information regarding the Ballast Water Treatment Test Facility at NRL Key West may be accessed at: <http://keywest.nrl.navy.mil/default.aspx>.



## Coast Guard Seeks Comments on Ballast Water Reporting Requirements

By LT Heather St. Pierre, USCG

The Coast Guard is seeking comments on our current ballast water management reporting regulations contained in 33 C.F.R. part 151, subparts C and D. (71 FR 65445) Within these regulations, there are requirements for reporting ballast water management conducted by vessels operating exclusively within the Economic Exclusion Zone (as established in 33 C.F.R. § 151.2043).

The ballast water management reporting requirements are currently being reviewed to determine if any appropriate revisions are required by the Coast Guard. During this review process, we are interested in receiving comments

on current reporting and record-keeping requirements contained in the mandatory ballast water management regulations in 33 C.F.R. part 151, subparts C and D. Specifically, we are seeking public comments on the current ballast water management reporting submission requirements, including comments on vessel types currently required to submit ballast water management reporting forms. Finally, we are seeking comments on the ballast water reporting form itself to determine whether or not the form should be updated.

In a later notice we will publish information on two public

meetings that we plan to hold in the Great Lakes and Gulf of Mexico regions, respectively. All stakeholders and interested parties are encouraged to submit comments to the docket and to attend a public meeting in or near their region.

The Notice with a request for comments can be found by visiting the Federal Register website at <http://www.gpoaccess.gov/fr/index.html>, and can also be viewed by visiting the Docket Management System at <http://dms.dot.gov>. Upon accessing this web site, proceed to simple search, and under docket number, enter 26136.

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## Coast Guard attends International Standards Organization Meetings

By Bivan Patnaik and LT Heather St. Pierre, USCG

The International Standards Organization's (ISO) Technical Committee on Ships and Marine Technology (TC 8) recently held its annual plenary meeting from October 16-19 in Hamburg, Germany. In association with this meeting, TC 8's Subcommittee on Marine Environmental Protection (SC 2) held two intersessional working group meetings. SC 2 is tasked with the standardization of marine pollution abatement materials, equipment and technologies and environmental matters to be used in shipbuilding and operation of ships, comprising sea-going ships, vessels for inland navigation, offshore structures, ship-to-shore interface and all other marine structures subject to International Maritime Organization requirements.

The U.S. Coast Guard is the Secretariat for SC 2 and is

charged with providing procedural guidance, assisting the SC 2 Chairman, recording all decisions made, and preparing all relevant documents. There were two intersessional work group meetings held by SC 2—WG 2 and WG 3—where two main issues were discussed: the development of the third Oil Skimmer Testing Standard for viscous oils, and continued development on the Committee Draft Standard for the Handling of Ship-Generated Garbage.

WG 3 met to continue work on a draft ISO standard for the testing of oil skimmer standards for viscous oils. WG 3 also discussed the status of two draft ISO standards for testing oil skimmers under moving water conditions and static water conditions. Once all three sets of standards are completed and approved, they will be submitted for publication. WG 3 also began their 5-year review of

the standard, ISO 16165, Terminology Relating to Oil Spill Response.

The Draft Standard for the Handling of Ship-Generated Garbage was discussed further by WG 2. WG 2 agreed that there was a great deal of work remaining on this issue; therefore they agreed to continue to correspond and work on the draft standard via electronic correspondence.

Other items of note are that TC 8, under a special work group, will be developing ISO standards for ship recycling. This is a topic that is being discussed at the International Maritime Organization's (IMO) Marine Environment Protection Committee.

The next ISO/TC 8/SC 2 meeting is tentatively being planned for the Spring of 2007, to be hosted by the Republic of Cyprus.

## Coast Guard Holds First Great Lakes Ballast Water Conference

By Bivan Patnaik, USCG

On Wednesday, September 27, 2006, the U.S. Coast Guard held its first Great Lakes Ballast Water Conference. The theme of the conference was, "Targeting Ballast Water Technology," and almost 100 people including scientists, technology developers, the shipping industry, and government

officials gathered to discuss solutions for preventing invasive species from entering the Great Lakes. CAPT Randy Helland, Chief of the Prevention Division, Ninth Coast Guard District, kicked off the conference by welcoming the participants and stressing the importance of protecting the Great

Lakes from invasive species.

The National Ballast Information Clearinghouse began a full day of presentations by providing some a stimulating information on ballast water discharges and shipping traffic patterns in the

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Great Lakes followed by a coordinated presentation from the Coast Guard, Transport Canada, and the Saint Lawrence Seaway Development and Management Corporations on the joint effort to regulate, enforce, and educate vessels entering the Great Lakes on all four agencies' ballast water management regulations.

Presentations later in the morning discussed research on the efficiency of ballast water exchange and the salinity tolerances of organisms found in vessels declaring no ballast onboard (NOBOB).

Ballast water treatment developers gave the next set of presentations regarding their respective treatment systems and the status of where they are in their

development process. A few of the treatment technologies discussed at the conference have been submitted to the Coast Guard's Shipboard Technology Evaluation Program and are under review.

The last set of presentations came from those working on ballast water treatment testing facilities such as the Naval Research Laboratory in Key West, FL, and the Great Ships Initiative.

At the end of the conference, participants were asked to critique it and provide comments. Most participants felt that this was a worthwhile conference and stated they looked forward towards the next conference and the continued search for solutions to prevent invasive species from entering the Great Lakes.

## Calendar of Events

- ↳ **November 7-9, 2006**  
**Aquatic Nuisance Species Task Force**  
 Arlington, VA  
[www.anstaskforce.gov](http://www.anstaskforce.gov)
- ↳ **November 16-17, 2006**  
**Northeast Aquatic Nuisance Species Panel**  
 Sheraton South Portland Hotel  
 South Portland, ME  
<http://northeastans.org/meetings.htm>

## Environmental Standards E-mail Address

*A note from the Editors*

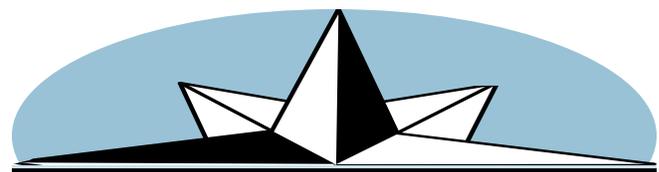
As many already know, USCG Headquarters has changed phone numbers for many offices, and is continuing to migrate others.

We reported in error last month that we would be changing the environmental standards e-mail address. We have been informed that this address will not be changed in the near future, and will remain EnvironmentalStandards@comdt.uscg.mil, as listed

below.

If you or anyone you know would like to subscribe to this newsletter and receive a copy via e-mail, please send an e-mail to this address requesting to be added to our distribution list. You can also be added by visiting our website at: <http://www.uscg.mil/hq/g-m/mso/estandards.htm>.

Thank you for your continued patience during these changes.



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