

## SUMMARY OF EXISTING AND PROPOSED REGIONAL BALLAST WATER LEGISLATION (as at February 2010)

- **Antarctica** – IMO's 55<sup>th</sup> Environmental Protection Committee meeting held in October 2006 (MEPC 55) adopted guidelines applying to all shipping in Antarctic waters. The general requirements are for ballast water exchange to be used as an interim measure until suitable treatment technologies have been developed, vessels to have a Ballast Water Management Plan, to record ballast water operations, and to additionally conduct ballast water exchange for tanks intended to be emptied in the area at the Antarctic Polar Frontal Zone. Ballast to be discharged in Antarctic waters should first be exchanged before arrival in Antarctic waters (preferably north of the Antarctic Polar Frontal Zone or 60 degrees S, whichever is the farthest north) and at least 200nm from the nearest land in water at least 200m deep. If this is not operationally possible, such exchange should be undertaken in waters at least 50 nm from land in water at least 200 m deep. Special conditions apply to ships that have spent significant time in the Arctic regions including discharging ballast water sediment and cleaning tanks before entering Antarctic waters.
- **Australia** - On July 1<sup>st</sup> 2001 the Australian Quarantine and Inspection Service (AQIS) introduced mandatory ballast water management requirements that prohibit the Discharge of "high-risk" ballast water from ships anywhere inside Australia's territorial seas (12nm limit generally applies). Any ballast water that has been exchanged at sea, by an approved method, is deemed to be acceptable for discharge in Australian ports / waters. Vessels must retain all ballast water records and any relevant logbooks, and make these available to quarantine officers on request. Vessels undertaking ballast water management to comply with Australian requirements should do so in accordance with the IMO guidelines. All ships arriving in Australia from international waters are required to submit a *Quarantine Pre-Arrival Report (QPAR)* to AQIS. This report includes the reporting of ballast water management procedures undertaken, and the ship's master is required to send the QPAR to AQIS between 12 – 48 hours prior to arrival in Australia, usually via the ship's local agents. Ships that do not submit the QPAR to AQIS will not be given formal quarantine clearance to enter port and additional AQIS charges to the vessel will be incurred. No ballast water may be discharged from internationally trading vessels in Australian waters without express **written** permission from AQIS. Such permission may be given following lodgement of the QPAR with AQIS – provided acceptable ballast water management has been reported on the QPAR. If details / intentions about discharge of international ballast water as originally submitted change for any reason, a revised QPAR must be sent prior to discharging any ballast water that has not already been specifically authorised. Ships must also complete the *AQIS Ballast Water Log* with details of ballast water uptake ports; usage of the *AQIS Ballast Water Decision Support System (BWDSS)* (a non mandatory automated computer application

that supports AQIS' ballast water management requirements); ocean exchanges; and, intended Australian discharge locations. This form need not be sent to AQIS under normal circumstances – AQIS Officers will examine it during their physical attendance on board each vessel. Completed forms must be retained on the ship for a period of two years and produced to AQIS on request.

**The State of Victoria** – introduced revised legislation, effective 1 July 2006 detailing the fees and fines charged by EPA Victoria in relation to ballast water applicable to all ships entering Victorian Ports. The fees charged are either on a ship visit basis or a discounted annual agreement for regular callers. The most recent legislation is a revision of Victorian Government introduced legislation that entered into force 1 July 2006 specifying:

- ballast water reporting requirements for owners and masters of ships with capacity to carry ballast water
- offences for ship owners and masters for not meeting reporting and/or paying prescribed fees
- cost recovery fee structure for administering the ballast water management system and its implementation by EPA.

Additional requirements apply to Victoria State coastal traffic that stipulate ballast water must be exchanged a minimum of 3nm offshore.

- **Argentina** – Regulations adopted in 1998 require mitigation measures for all vessels that carry ballast water entering through the River Plate waters from foreign ports. There is a requirement to discharge or change ballast water before entry into designated sea with a mandatory requirement for ship's ballast water to be chlorinated between 1.5 – 2.5 PPM chlorine; this must be declared on the Argentina Free Pratique Request. The Ballast Water Report, NORMAM-20/DPC, must be completed and sent to Argentina Port Agent 72 hours prior ship's arrival and upon entering the river. Upon arrival ballast water discharge valves must be shut and sealed with numeral seals and no ballast water is to be discharged in port until health clearance and authorities authorize breaking the seals. Ships navigating in the River Plate must not discharge ballast water until they are out of the rivers exterior limit. Upon approaching the River Plate entering the river, the ship must contact by radio CONTRASE and inform the radio operator of the following:
  1. position of ship (latitude and longitude) date and time of last ballast operation
  2. total of ballast water discharged or changed (in m3 or tons)
  3. origin of ballast water discharged
  4. identification and capacity of tanks operated (including emergency ballast tanks)
  5. amount of ballast retained on board and in which tanks
  6. position of ship (latitude and longitude) date and time completed of last ballast operation
  7. system of change of ballast waters (one of 3 below)
    - 1) totally emptied and refilled

- 2) constant flow
- 3) overflow

- **Bermuda** - A ship shall not discharge any ballast water within Bermuda's territorial waters except to preserve the safety of the ship, environment, and life. Bermuda's territorial waters are defined as the sea within twelve nautical miles of the baselines. The baseline is measured as generally the low water line, except that, between points at 32° 15.2'N 64 °52.3'W and 32° 22.7'N 64° 39.7'W on the coast inshore of Hogfish Cut and Town Cut respectively, the baseline follows the seaward limit of the main reef as shown on Admiralty chart 334 to the west and north of the main group of the islands of Bermuda. Where there is a break or passage in that reef, the baseline is a straight line joining the seaward entry points of that break or passage (Bermuda (Territorial Sea) Order in Council 1988).
- **Brazil** - On 15 October 2005, the Brazilian NORMAM 20 regulations entered into force requiring all vessels to carry out ballast water exchange prior to entering a Brazilian port or terminal. The regulations require vessels to exchange water ballast by using a recognized method in an area no less than 200 nautical miles from the coast and with a water depth of at least 200m. If this is not possible, an exchange that takes place not less than 50 nautical miles from land at a water depth of at least 200m is acceptable. Ships entering the Amazon River or the Para River from international voyages are required to undertake a second ballast water exchange in specified areas prior to entering these rivers. In this second exchange it is necessary only to pump through the tank once. Regulation requiring ships to have on board a Flag State approved ballast water management plan was postponed to 30 June 2006; for vessels from a flag state that has not ratified the Ballast Water Management Convention the plan must be approved by a "Letter of Compliance" from Class. Ships must send a ballast water report form (NORMAM 20 Annex B) to the Harbour Master or his agent 24 hours prior to arrival in port. A copy of this report is to be retained on board for possible presentation to any other authorities. It is informed that failure to employ ballast water management practices will result in a penalty, unless the vessel is exempted due to safety or voyage constraints or specifically exempted from the regulation.
- **Canada** – introduced new mandatory regulations (replacing the earlier voluntary guidelines) for waters under its jurisdiction effective June 28, 2006, intended to be harmonized as much as possible with the U.S. Coastguard requirements and those of the International Convention. The regulations require vessels carrying ballast water taken up outside Canadian waters to either;
  - a) exchange ballast water more than 200nm from land in a water depth greater than 2000m, or
  - b) if during its voyage they have not navigated to an area more than 200nm from shore with a water depth of 2000m, to exchange

ballast in an area at least 50nm from land with a water depth at least 500m.

The ballast water volumetric exchange efficiency is required to attain 95%, and if the exchange is conducted in an area not less than 50nm from shore a ballast water salinity of at least 30 parts per thousand is required. If a ship is unable to exchange ballast water due to stability or safety concerns, then the Canadian authorities must be notified at least 96 hours before entering Canadian waters, or as soon as is practical, alternative exchange zones may be designated or the ship may be required to retain the ballast on board. All ships are required to complete a ballast water report form in the format described in TP 13617 and submit this to the Canadian authorities on completion of ballast water exchange. Report forms must be retained on board for a period of two years. All ships are required to have a ballast water management plan (BWMP) onboard.

- **Chile** – As from 10 August 1995 there has been a mandatory requirement for ballast water exchange in deep water with entries in bridge and engine room logbooks, showing geographical co-ordinates, amount replaced and what percentage of total ballast capacity represented. The accepted alternative to ballast water exchange is in-tank treatment by the addition of 100 grams of powdered sodium hypochlorite, or 14 grams of powdered calcium hypochlorite, per tonne of ballast water, ensuring thorough mixing, and then allowing 24 hours before beginning discharge of the treated ballast water is also accepted.
- **China** – Requires a completed Ballast Water Reporting Form to be submitted to port agent's e-mail address. This form must be prepared before arrival and submitted again to the Quarantine Officer when they come onboard. Only clean, colorless and odorless ballast water is allowed to be discharged in Hong Kong harbor. Authorities may check logbooks and sample ballast water.
- **Croatia** – From 1 September 2007 - Ship must have an Administration approved ballast water management plan. Deep sea exchange or Ballast Water Treatment required in order to de-ballast. A completed Croatia Ballast Water Reporting Form to be submitted 48 hours prior to port call. Sampling may be required to check for specific list of species which must not be contained in ballast water to be discharged.
- **Egypt** - The port authorities in Alexandria are requiring the Master to prepare a letter requesting the discharge of ballast water. The letter is to detail the number of ballast tanks, the quantity of ballast water in each tank, the total quantity of ballast water to be discharged and a statement that the ballast water was changed in the Mediterranean Sea. Port authority permission is to be obtained prior to ballast discharge and a ballast tank sample may be taken.

- **Israel** – As from 19 July 1996 has required vessel Masters to provide ships' inspectors (Pilots) with a completed ballast water exchange report. Ballast water that has not been taken on in the open ocean must be exchanged in open ocean beyond any continental shelf or fresh water current. Ships bound for Eilat must carry out exchange outside the Red Sea, when practicable. Ships bound for Mediterranean Ports must exchange in the Atlantic Ocean, when practicable.
- **Namibia** – No ballasting or deballasting shall take place within a port, except with the permission of the Port Captain and under such conditions as the Port Captain may impose in the interest of the safe, environmentally friendly, orderly, effective and efficient port working. A Ballast Water Declaration must be completed and sent to Port Captain of the port of arrival 48 hours prior ship's arrival.
- **New Caledonia** – Ships intending to discharge ballast water must have previously conducted ballast water exchange in a minimum depth of 2000 metres, by means of either the sequential method in which each ballast tank is pumped out and refilled, or the flow-through method in which each ballast tank is simultaneously filled and discharged, by pumping at least three times the tank volume, and allowing the water to overflow. The ship must provide a completed New Caledonia Ballast Water Reporting Form to the Port Agent in New Caledonia, 24 hours before arrival, and to the pilot upon his arrival onboard.
- **New Zealand** – Introduced updated legislation in June 2005 requiring mid ocean ballast water exchange (>200nm offshore) and prohibiting the discharge of sediments from the cleaning of holds, ballast tanks or anchor chain lockers into New Zealand's territorial waters (12 mile territorial limit). Any sediment must be disposed of by use of an approved landfill. Vessels needing to discharge ballast must record in their logs where the ballast water was loaded together with volumes, location and dates of all exchanges undertaken. Before arriving in New Zealand every vessel using ballast water must complete a NZ ballast water declaration form (Part 1) which is to be sent to the ship's agent in New Zealand accompanying the Advance Notice of Arrival Form. Vessels intending to discharge ballast water must also complete Part 2 of the Ballast Water Declaration and this should also be sent to MAFQS before arrival in New Zealand together with Part 1. Permission to discharge is granted when an inspector approves the discharge and signs the "Discharge of ballast permitted" form, and sends this back to the ship. Before the ship leaves New Zealand the original of Part 2 of the form must be completed with details of the discharge. The original signed declarations must be kept on board while in New Zealand. These are taken by MAFQS at the last NZ port of call. An exemption may be granted if it can be shown that exchange of ballast water could not have been undertaken safely, such exemptions are granted while the vessel is on route. No exemptions will be granted when ballast water has been taken up in high risk

areas, these areas include Tasmania – Australia, and Port Phillip Bay – Victoria – Australia.

- **Norway** - adopted a new regulation on ballast water management on 7 July 2009 which is to enter into force on 1 January 2010 (Entry into force has been postponed until 1 July 2010). This regulation implements the requirements of the Ballast Water Management Convention except for the requirements for installing BWT systems to meet the treatment standard. The essence of the regulation is that ships will be required to comply with the following:
  - Implementation of a Ballast Water Management Plan according to Regulation B-1 of the BWM-convention
  - Have on board a Ballast Water record book and make entries according to Regulation B-2 of the BWM Convention
  - Ships that are to discharge ballast water in Norwegian internal waters and ports that has been taken up outside near Norwegian waters shall carry out ballast water exchange in accordance with Regulation B-4 of the BWM Convention.

The regulation is at present only available in Norwegian; it is understood that a number of amendments are to be made prior to release of an English language version.

- **NW Europe** – The HELCOM and OSPAR countries adopted its “General Guidance on the Voluntary Interim application of the D-1 Ballast Water Exchange Standard” in the North East Atlantic and the Baltic Sea. The Guidance is to be applied on a Voluntary basis from 1<sup>st</sup> April 2008. It is to be noted that these Guidelines are also supported by the European Commission and are intended to be phased out slowly once the Convention is ratified and ships are required to treat ballast water to the D-2 standard. The measures requested are:
  1. Vessels to have a ballast water management plan complying with the G4 Guidelines and keep a record of all ballast water operations.
  2. Vessels entering these waters to exchange all ballast tanks to the D-1 standard. If this exchange is not done then exchange is expected at least 200 nm from the nearest land in water at least 200m deep within the North East Atlantic. The Guidance specifically addresses vessels entering the OSPAR Maritime area from transatlantic routes and those routes passing West Africa; it does not apply to vessels entering the area from the Mediterranean Sea.
  3. The release of sediments from ballast tank cleaning should not take place within 200nm of the coastline of the North-East Atlantic or within the Baltic Sea.

Additional measures to reduce the risk from the transfer of non-indigenous species from ballast water for vessels operating between ports

within the OSPAR and HELCOM regions are under development (planned by December 2009).

- **Panama** – The Canal Authorities have prohibited the discharge of ballast water in the Canal.
- **Peru** - As of May 2006 revised regulations regarding change of ballast water before arriving to Peruvian ports applies. Ships agents must provide updated instructions to all ships prior arrival, including the format of reporting to local authorities on arrival at the port of call. All ships arriving to Peruvian ports must continue to change ballast water to be discharged in Peruvian ports at sea 12 miles beyond the coast.

The latest ballast water regulations require:

1. Submission of a “Ballast Water Notification” to the Maritime Authority (Harbourmaster) as per Annex A of the Resolution.
2. The ship to maintain a special “Ballast Water Register book”. (Ballast water management plan and records).
3. A prohibition to discharge unchanged ballast water. Should the need to discharge unchanged ballast arise the ship must request authorization from the Harbourmaster and sail to a designated area to discharge/change ballast.
4. The obligation to change ballast water to be discharged at Peruvian ports beyond 12 miles from the Coast even if the Ballast Water has been taken at another Peruvian port.
5. Local authorities to establish sensitive no discharge zones

Port State Control enforced by the Maritime Authority may:

- Ensure the existence of a “Ballast Water Management Plan”.
- Ensure designation of key crewmen to put the Ballast Water Management Plan in practice.
- Verify crew training or familiarization with the above plan.
- Take samples of ballast water to determine presence of harmful agents.

Ballast Water to be discharged at Peruvian Ports should be exchanged/taken as may be possible in the adjacent area beyond 12 miles from the coast.

- **Portugal** – It is recommended that when sailing to the port ballast is replaced by ocean water as long as shipping, weather and sea conditions allow it. There is no distance or depth written for the description of ocean water for these requirements, but should be considered outside the port. Ships destined for Lisbon must submit a survey on ballast water. This survey must be sent to the agent upon or before arrival. A ballast sample may be requested by the Port Authority. Ballast tanks may be sounded whenever considered convenient by the Port Authority. Taking into consideration port water contamination with pathogenic organisms, or those alien to the River Tagus water, ballast / deballast operations from and into the river should be reduced to those strictly necessary for the ship’s safety.

**RSA (ROPME Sea Area)** - With effect from November 1, 2009, all ships, regardless of flag, will be required to exchange and treat all Ballast water taken up outside the ROPME Sea Area (the waters of the regions States - Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates). All the ships passing Strait of Hormoz will be required to complete the Regional Ballast Water Reporting Form (RBWRF). Ships are required to have on board an approved Ballast Water Management Plan in accordance with the IMO standards. Ships should also have and maintain a ballast water Record Book. Ships will be inspected by the Port State Control Officers to ensure the Regional requirements are fully implemented. Ships arriving from outside the ROPME Sea Area should undertake ballast water exchange en route in water over 200 nautical miles from the nearest land and in water at least 200 metres depth; If this is not possible for safety reasons, then vessels should be expected to make minor deviations to areas within the 200 nautical miles limit that can be identified as discharge area, so long as such areas are more than 50 nautical miles from the nearest land in waters at least 200 metres depth; If this is not achievable, then the ship shall provide the respective authority with the reason why she has not done so, and further ballast water management measures may be required, consistent with the Ballast Water Management Convention and other international laws. Ballast Water, which has been treated with a ballast water treatment system approved in accordance with IMO standards, does not need to be exchanged.

- **Russia** - *Novorossiysk* Black Sea, effective 1 May 2006, new port regulations stipulate de-ballasting is permitted only if ballast water has been taken from/changed in the Black Sea.
- **Turkey** – There have been reports that local port requirements are being applied that in some cases completely ban the discharge of ballast water, also that ballast water reporting has been required since 2006. It is recommended that local requirements are checked with the vessel agents prior to arrival to avoid the possibility of fines being levied against the ship. Turkey has submitted an INF paper to MEPC 59 (July 2009) informing that Draft National Legislation has been prepared that will enter into force with ratification of the Ballast Water Management Convention by Turkey. The submission also informs of a pilot implementation project on Iskenderun Bay (BOTAS Harbour Master) situated on the Eastern Mediterranean coast of Turkey where it is decided that all the ships calling at Iskenderun Bay should undertake ballast water exchange en route in water over 50/200 nautical miles from the nearest land and 200 metres in depth before entering the port, with respect to regulation B-4 of the Ballast Water Management Convention, after November 2009. Turkish port authorities are going to start routine inspections and take water samples from ballast tanks in order to report the current situation.
- **Turks and Caicos Islands** - Whenever possible, conduct ballast water exchange at least 200 nautical miles from the nearest land and in

water at least 200 metres in depth, taking into account Guidelines developed by IMO; in cases where the ship is unable to conduct ballast water exchange as above, this should be as far from the nearest land as possible, and in all cases at least 50 nautical miles from the nearest land and in water at least 200 metres in depth

- **United Kingdom** – See the North West European strategy reported above. It is to be noted that DEFRA through the Marine Management Organisation (MMO) may impose additional requirements to reinforce protection of the environment.
- **Ukraine** – requirements for the protection of the Black Sea include:
  - On entry segregated ballast water must be exchanged for Black Sea ballast water.
  - Record this exchange in the oil record book and the logbook.
  - Declare to the agent the amount of ballast water to be discharged at the loading berth.
  - On berthing the ballast water will be sampled and tested before discharge is allowed.

It should be noted that even when a ship complies with the Black Sea ballast water exchange requirements the ballast water can fail the testing process due to either oil, iron or suspended solids content which may result in fines against the master and the ship or instructions to leave the berth to de-ballast outside the 12 mile zone.

- **USA** – is presently considering a rulemaking in its Federal Register dealing with the issue of ballast water discharges. The proposed rule (PR) establishes standards for the allowable concentrations of living organisms in ships' ballast water discharges to US waters. The PR also includes detailed regulations for the testing and approval of ballast water management systems by the USCG for both US and non-US flag vessels. The standards contained in this proposal are in two parts. Phase one correlates with the standard and implementation schedule contained in the IMO Ballast Water Convention. The phase two standard represents a 1000 fold more stringent standard than the phase one standard effective at the first drydocking of a vessel after January 1, 2016 or 5 years after a phase one compliant system has been installed. A practicability review to determine if technology is available to meet the phase 2 standard and whether scientifically valid test protocols have been developed which can measure the efficacy of a given system to meet this more stringent standard is proposed prior to implementation of the phase 2 requirements. These requirements will apply to all vessels with ballast tanks, regardless of flag, which call in US ports, if accepted.

Present Situation - General - The situation with respect to ballast water discharge is especially complex in the USA. Vessels have to comply

with various Federal, State and local regulations and these can change as the different legislative boundaries are crossed. Unfortunately the requirements of each regime are not always the same. Ballast water discharges are also covered under US Environmental Protection Agency (EPA) Vessel General Permit (VGP) that entered into force June 19 2009 and requires Notice of Intent (NOI) to be provided in accordance with part 10 of the permit; in general the EPA requirements are that all ballast water discharges must comply with CFR Part 151. Federal legislation has been proposed in Congress that generally conforms to the IMO Ballast Water Convention requirements except that the regulation D-2 biological efficacy standard is some 100x more stringent and the existing ship phase-in dates for compliance with regulation D-2 under regulation B-3 are reduced. It may be anticipated that this proposed regulation will be subject to further amendment prior to a final acceptance; however the timing of completion of any such legislation is uncertain. Until the U.S. government can develop a clear view on the treatment standard it wishes to establish, vessels will be required, as a minimum, to continue to perform mid-ocean ballast water exchange and follow the best management practices as mandated in the EPA VGP. It is strongly recommended to check that the situation has not changed, either Federally or State wise on a regular basis.

**California** – on 22 March 2006 updated ballast water management regulations entered into force. Vessels arriving at a California port or place from another port or place within the Pacific Coast region must employ at least one of the following practices:

- Exchange the vessel's ballast water in near-coastal waters, before entering the waters of the state, if that ballast water has been taken on in a port or place or within the Pacific Coast region retain all ballast water onboard the vessel.
- Use an alternative, environmentally sound method of ballast water management that, before the vessel begins the voyage, has been approved by the State Lands Commission (SLC) or the United States Coast Guard (USCG) as being at least as effective as exchange, using mid-ocean waters, in removing or killing non-indigenous species.
- Discharge the ballast water to a reception facility approved by the SLC.
- Under extraordinary circumstances, perform a ballast water exchange within an area agreed to by the SLC in consultation with the USCG at or before the time of the request

For the purposes of the above:

- "Near-coastal waters" means waters that are more than 50 nautical miles (nm) from land and at least 200 metres (656 feet or 109 fathoms) deep
- Ports and places in the San Francisco Bay area east of the Golden Gate Bridge, including the ports of Stockton and Sacramento, are considered the same "California port or place"

- The ports of Los Angeles, Long Beach and the El Segundo marine terminal shall be considered the same “California port or place”
- The “Pacific Coast region” is defined as all coastal waters (within 200 nm of land) on the Pacific Coast of North America east of 154°W longitude (approximately equal to Cooks Inlet, Alaska) and north of 25°N latitude (Baja California, Mexico), exclusive of the Gulf of California

Vessels arriving at a California port or place from a port or place outside the Pacific Coast region must continue to exchange ballast water in mid-ocean waters, or retain all ballast water on board.

All vessels are required to develop and maintain a vessel-specific ballast water management plan, develop and maintain a ballast water log, submit a completed and signed ballast water reporting form, and remit the required fee to the Board of Equalization.

California is deliberating proposed ballast water regulations that will set a performance standard of zero detect.

**Michigan** – legislation requires all vessels to report annually to the Michigan Department of Environmental Quality (MDEQ) confirming compliance with the proscribed practices. Legislation effective 1 January 2007 requires all ocean going vessels engaged in port operations in Michigan waters to obtain a permit from MDEQ. A discharge permit will be issued only if environmentally-sound technology and methods are utilized for the discharge of ballast water, other waste or waste effluent.

**Port of Oakland** – In 1999 mandated a ballast water reporting requirement and mandated ballast water exchange from 1 July 2000 for all vessels carrying ballast arriving from outside the US exclusive economic zone (EEZ). A vessel must not discharge ballast into San Francisco bay or the Gulf of the Farallones National Maritime Sanctuary, including open waters within the Port State area.

Exceptions may be granted for:

1. Vessels arriving from ports located between the southern boundary of Baja California and the northern boundary of Alaska, if the ballast to be discharged originated from those waters.
2. Vessels for which satisfactory proof is submitted to the port of implementation of measures to control the introduction of non-indigenous species as described in the IMO Resolution A868 (20).
3. Where the ocean exchange was not made because of stress of weather or stability or hull stress concerns.

**Oregon** - The Oregon Ballast Water Management Program requires exchange and reporting from all transoceanic vessels calling on its ports. The Oregon program also requires ballast water exchange when it is taken onboard in a North American coastal port located north 50 degrees N latitude or south of 40 degrees N latitude.

**Washington State** - by 1 July 2006 ship operators must submit a report describing how they plan to implement treatment alternatives to exchange that will meet the 1<sup>st</sup> July 2007 requirements. On July 1 2007 the discharge of improperly exchanged or treated ballast water into Washington State waters is to be prohibited, current safety exemptions for exchange will no longer be valid.

**Great Lakes (North America)** - U.S. Coast Guard regulations require all vessels bound for the U.S. Great Lakes ports from beyond the exclusive economic zone (EEZ) to exchange their ballast water at sea. If the vessels have not complied, they may be required to retain the ballast water on board, pump the ballast water ashore, treat the ballast water in an environmental sound manner, or return to sea to conduct a ballast water exchange.

As part of the Enhanced Seaway Inspection (ESI) program for foreign flagged vessels, the SLSDC and U.S. Coast Guard verify a vessel's successful ballast water exchange through its boarding program, which includes measuring the salinity of on board ballast. Ballast with a salinity of 30 ppt (parts per thousand) or more is considered evidence that the tanks have been adequately exchanged and provide a reasonably harsh environment for any remaining organisms.

In August 2005, the U.S. Coast Guard issued a "Best Management Practices for Vessels Declaring No Ballast Onboard (NOBOB) that Enter the Great Lakes." If NOBOB vessels are unable to conduct a mid-ocean ballast water exchange they are encouraged to conduct saltwater flushing of their empty ballast tanks.

In Canada, Transport Canada has issued proposed regulations that require mandatory ballast water management and implement the ballast water performance discharge standard approved by the International Maritime Organization (IMO).

The St. Lawrence Seaway Corporations have announced a further strengthening of requirements of ballast water management practices in 2008 above the Seaway regulations that state that every vessel entering the Seaway after operating beyond the EEZ must agree to comply with the "Code of Best Practices for Ballast Water Management" of the Shipping Federation of Canada dated September 28, 2000, while operating anywhere within the Great Lakes and the Seaway. The additional; requirements are for salt water ballast tank flushing at least 200 nm from shore and a vessel inspection to ensure ballast tanks have a minimum salinity of 30 parts per thousand to demonstrate compliance.

- **Vanuatu** – Ballast operations alongside the berth or anywhere within the harbour are prohibited.