

# BALTIC SEA CLEAN SHIPPING GUIDE 2016

Information for mariners on environmental and  
safety of navigation measures in the Baltic Sea



# BALTIC SEA CLEAN SHIPPING GUIDE 2016

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# A SPECIAL SEA CALLS FOR SPECIAL CAUTION

Particular environmental caution should be taken when sailing in the Baltic Sea, a special area in terms of environmental regulation of shipping.

This information publication aims to give you a general overview of the regional environmental and safety of navigation measures applied in the Baltic Sea to maritime traffic. The focus is on commercial shipping which have to comply with IMO rules but some of the material might also be relevant for smaller vessels (fishing vessels, working vessels and pleasure craft). Even if specific coastal countries or ports may have deviating practices the content should represent the regional best practice.

For detailed and authoritative information on requirements please consult the original documents published by IMO, HELCOM or other referred organization.

The information included reflects the situation in June 2016, please check the HELCOM website if a newer version of this publication is available: [helcom.fi](http://helcom.fi).

*Sail clean and safe on the Baltic!*

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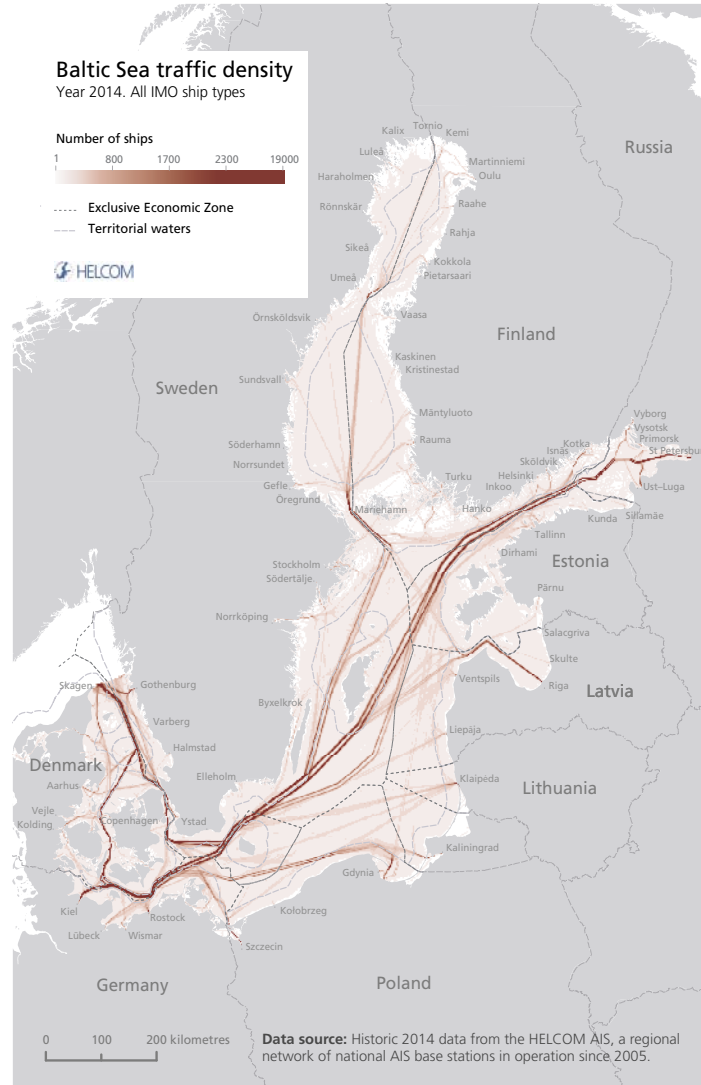
Please note that this publication is a renamed, revised and expanded 2016 edition of the "Clean Seas Guide" published by HELCOM in 1999, and revised in 2004, 2009 and 2012.

An electronic version is freely available from the HELCOM website: [helcom.fi](http://helcom.fi).

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## I: INTRODUCTION

### BALTIC SEA

For the purposes of this publication the Baltic Sea is defined as the sea and its entrance separated by the North Sea by the parallel 57°44.43'N between Skagen in Denmark (approximately Grenen point) and NW Gothenburg in Sweden (approximately St. Oset lighthouse).

Main parts include the entrance area between Denmark and Sweden, the main central basin Baltic Sea Proper, to the east Gulf of Riga and Gulf of Finland as well as Gulf of Bothnia north of Åland.

Seabed and coastline is mostly rocky in the north, with a labyrinth of skerries and islands, while south and southeast are dominated by sand and gravel with open sandy shores. The entire sea is very shallow with an average depth of around 50 meters.

During winter on average half of the sea area is covered with ice. Largest ice extent is observed during February—March.

There are practically no tides in the Baltic Sea. The exception is the Kattegat area, where average tide amplitude is in the order of 10-30 cm on the Danish coast and 4cm on the Swedish coast, with higher amplitudes observed during spring tides. However, the sea level may vary significantly during periods with strong winds.

With a total area of about 370,000 km<sup>2</sup>, approximately the same size as Japan, the Baltic Sea is world's second largest brackish (low salinity) water basin after the Black Sea. Marine and freshwater life forms live side by side in a unique and sensitive environment.

Exchange of water between the Atlantic Ocean and the Baltic Sea is very limited due to the narrow and shallow straits between Denmark and Sweden. Due to this any introduced pollutants will remain in the sea for a very long time.

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## THE HELSINKI CONVENTION AND HELCOM

In order to have a firm basis for working together for a cleaner Baltic Sea the coastal countries adopted an international legal treaty, the Helsinki Convention (Convention on the Protection of the Marine Environment of the Baltic Sea Area) in 1974 (entered into force 1980). A revised Convention was signed in 1992 (entered into force 2000) in order to extend, strengthen and modernize the legal regime for the protection of the marine environment of the Baltic Sea area.

The Helsinki Convention aims to prevent pollution from ships (including dumping), pollution from land-based sources, and pollution resulting from the exploration and exploitation of the seabed and its subsoil. The Convention also regulates the co-operation to respond to marine pollution by oil and other harmful substances. Current signatories are Denmark, Estonia, European Union, Finland, Germany, Latvia, Lithuania, Poland, Russian Federation and Sweden.

The Convention also established an international organization, the Helsinki Commission or HELCOM, to oversee that the Convention is put into practice. The Commission issues instruments called Recommendations which, together with the Helsinki Convention, form the main regional corpus of marine environmental protection in the Baltic Sea.

In the field of shipping the nine coastal member countries work within HELCOM Maritime Working Group to ensure efficient and harmonized regional implementation of IMO regulations such as MARPOL and the Ballast Water Management Convention, but also to develop new regional initiatives around emerging topics.

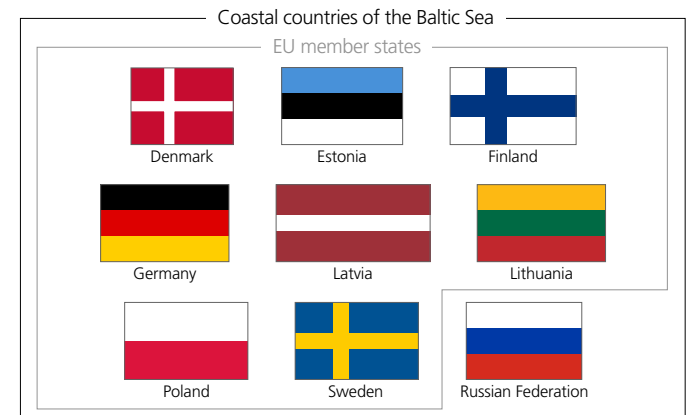
More information on HELCOM, the Helsinki Convention text and HELCOM Recommendations can be found in the internet, see: <http://helcom.fi>.

## CLEAN AND SAFE BALTIC SHIPPING IS A SHARED RESPONSIBILITY

Navigation on the Baltic Sea area has always been of great importance to the people living around it. Your personal contribution in making shipping both cleaner and safer is of essence.

The responsibility for avoiding operational or accidental discharges of oil or other harmful substances to the Baltic Sea rests not only with the master and his crew but also with the charterer, the ship-owner and the ports:

- The master and his crew should be aware of the regulations in force, fully proficient in carrying out the correct procedures and should apply them carefully and consciously.
- The charterer should include in the Charter Party a clause stating his policy on pollution prevention compliance. The ship-owner should ensure sound management in safety and pollution prevention, as required by the International Safety Management Code for certain categories of ships.
- Ports should be adequately prepared to accept ship-generated wastes.



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## II: ENVIRONMENTAL REGULATION OF SHIPPING IN THE BALTIC SEA

The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main global instrument on environment and shipping and is the central source of environmental shipping law also in the Baltic Sea. The Baltic Sea has been designated as a special area for the purposes of MARPOL Annex I (oil), Annex IV (sewage), Annex V (garbage) and Annex VI (Prevention of air pollution by ships). The Baltic Sea has also been designated by IMO as a Particularly Sensitive Sea Area (PSSA).

To protect the marine environment of the Baltic Sea area from pollution, every ship entering the area is urged also to comply with the anti-pollution regulations of the 1992 Helsinki Convention. This applies to all ships, irrespective of whether or not they are flying the flag of a Contracting Party to the Helsinki Convention.

Special requirements of the Helsinki Convention exceeding MARPOL requirements include mandatory delivery of ship-generated wastes, the prohibition of incineration of ship-generated wastes in the territorial seas of the Baltic Sea States and incineration of other wastes (not incidental to or derived from the normal operation of ships) in the entire Baltic Sea area.

Also other international conventions regulate environmental issues around shipping, including for example the 2004 IMO Ballast Water Management Convention, which is not yet in force but has triggered regional recommendations on ballast water exchange and a joint harmonized procedure for granting exemptions.

### OIL AND PETROLEUM PRODUCTS

Subject to the provisions below any discharge of oil or oily mixtures into the Baltic Sea area is prohibited based on MARPOL and its Annex I as well as the Helsinki Convention Annex IV.

Oil means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products. The prohibition applies not only to discharges from the cargo tanks of oil tankers but equally to discharges from the machinery spaces of any ship.

The Baltic Sea was designated as a MARPOL Annex I special area in 1973 (in effect from 2 October 1983). Based on this a discharge can be permitted only if the oil content in the effluent does not exceed 15 parts per million (ppm).

For ships of 400 tons gross tonnage and above the oil filtering equipment must be provided with arrangements that ensure that any discharge of oil or oily mixtures is automatically stopped when the oil content in the effluent exceeds 15 parts per million.

Based on the Helsinki Convention and HELCOM Recommendation 19/10 these MARPOL Annex I special area requirements for oil separator arrangements apply also to ships of less than 400 tons gross tonnage, flying the flag of a Baltic Sea State.

The permitted concentration 15 ppm is so low that it is not possible to see it with bare eyes. Thus, a non-accidental visible slick implies an illegal spill in the Baltic Sea.

In addition, Finland has prohibited the use of bilge water separators in her inland waterways and in the territorial waters, within the area 4 nautical miles from the nearest land.

Denmark has a total ban on the discharge of oil in territorial waters.

#### Port reception

Oil loading terminals and repair ports are provided with reception facilities to receive and treat all the dirty ballast and tank washing water from oil tankers. Additionally, all ports are provided with reception facilities for other residues and oily mixtures from all ships.

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The consignor in the loading port is responsible for reception arrangements for cargo-related wastes covered by MARPOL Annex I (oil residues from cargo tanks).

As a general rule a “no-special-fee” system is applied in Baltic Sea ports to oily wastes from machinery spaces, in order to avoid incentives for illegal disposal, see HELCOM Recommendation 28E/10.

## HAZARDOUS AND NOXIOUS LIQUID SUBSTANCES CARRIED IN BULK

The Baltic Sea is not a special area under MARPOL Annex II (Noxious liquid substances in bulk) and the same MARPOL Annex II rules apply as elsewhere.

MARPOL Annex II and the IMO International Bulk Chemical (IBC) Code divide substances to Categories X (major hazard/very harmful), Y (hazard/harmful), Z (minor hazard/minor harm) and OS (considered not harmful, not subject to any requirements of MARPOL Annex II).

The carriage and discharge into the sea of noxious liquid substances which have not been categorized to these categories, provisionally assessed or evaluated, is prohibited. This prohibition applies also to non-categorized substances contained in ballast water, tank washings, or other residues or mixtures.

According to MARPOL Annex II every ship certified to carry substances of Category X, Y or Z shall have on board a Procedures and Arrangements (P&A) Manual approved by the Flag State administration.

Tanks having contained IBC Code Category X substances must be pre-washed and the resultant tank washings must be delivered to a reception facility before a ship leaves the port of unloading. The

concentration of the substance in the effluent to the facility must be at or below 0.1% by weight and after this the tank must be fully emptied to the facility.

Tanks having contained IBC Code Category Y or Z substances must be pre-washed if unloading of cargo has not been carried out in accordance with the P&A Manual and the resultant tank washings must be delivered to a reception facility before a ship leaves the port of unloading. The exception is high-viscosity or solidifying substances in IBC Code Category Y for which specific pre-wash procedures (Appendix 6 of MARPOL Annex II) must be applied and the residue must be discharged to a reception facility at the port of unloading until the tank is empty.

The eventual discharge of any residues of substances in Categories X, Y or Z into the sea, remaining after the tank washing and discharge specified above, must be done below the waterline while proceeding en route at a sufficient speed (7kn for self propulsion) at minimum 12 nm distance from the nearest land and in water depth of at least 25 m.

## SEWAGE

The Baltic Sea has been designated by IMO as the world's first MARPOL Annex IV sewage special area for passenger ships engaged in international voyages in the Baltic Sea area (400 GT and above or which are certified to carry more than 15 persons). These special area regulations will be applied on or after 1 June 2021 for existing IMO-registered passenger ships. For new passenger ships the regulations come into effect on or after 1 June 2019. For direct passages between St. Petersburg and the North Sea, there is an extension until 1 June 2023.

Before these dates the general provisions of MARPOL Annex IV apply in the Baltic Sea, according to which the discharge of sewage from ships is prohibited within 12 nautical miles off the near-

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est land unless sewage has been comminuted and disinfected using an approved system and the distance from the nearest land is longer than 3 nautical miles. According to MARPOL Annex IV discharging from a sewage holding tank, the discharge must be at a moderate rate and the ship must be proceeding en route at a minimum speed of 4 knots.

When the special area under MARPOL Annex IV takes effect any discharge of sewage from passenger ships in the Baltic Sea will be allowed only for sewage processed through an especially advanced on-board sewage treatment plant which reduces also nitrogen and phosphorous concentrations to specified levels. These Annex IV special area-compliant treatment plants are approved by national administrations taking into account the standards and test methods developed by IMO, see resolution MEPC.227(64).

## **Port reception**

The passenger ports around the Baltic Sea have worked hard to improve their facilities during the last years and all Baltic Sea coastal countries have informed that they consider their port reception facilities for sewage from passenger vessels as adequate. Fixed link sewage port reception facilities with high capacity are available in the main cruise ports (see e.g. HELCOM 2015 Baltic Sea Sewage Port Reception Facilities -Revised Second Edition [www.helcom.fi](http://www.helcom.fi)) Sewage is part of the "no-special-fee" system and usually it is free to leave a certain amount of sewage to port reception facilities without any additional costs, see HELCOM Recommendation 28E/10.

## **GARBAGE**

The Baltic Sea was designated as a MARPOL Annex V special area in 1973 (in effect from 1 October 1989). The discharge of any garbage in the Baltic Sea area is consequently prohibited. However, food wastes resulting from normal operations of the ship is an exception and may be discharged, but in any case not less than 12

nautical miles from the nearest land. Food waste discharged outside 12 nautical miles from the nearest land must be comminuted or ground.

## **Port reception**

Adequate port reception for garbage should be available in all Baltic Sea ports. Where "no-special-fee" system is used MARPOL Annex V is also included, see HELCOM Recommendation 28E/10.

## **EXHAUST GASES AND FUEL OIL QUALITY**

The Baltic Sea was designated as a MARPOL Annex VI SOx Emission Control Area ("SECA") in 1997 (in effect from 19 May 2006) and the emission limits have been further tightened in 2008. The valid requirement, from January 2015, is that all ships navigating in its waters use fuel oil with a sulphur content not exceeding 0.10% m/m. In order to prove compliancy a bunker delivery note accompanied by a representative sample of the delivered fuel oil shall be kept on board the ship for port state control inspection.

Alternatively, the ship may use an exhaust gas cleaning system/ any other technical abatement method reducing the total emission of sulphur oxides from ships ensuring the same level of efficiency as with fuel containing 0.10% m/m of Sulphur.

New exhaust gas cleaning systems must be approved in accordance with resolution MEPC.259(68), 2015 Guidelines for Exhaust Gas Cleaning Systems.

Discharge of scrubber washwaters is not allowed in German rivers and ports. In most of the other countries ports can set their own rules but have not yet done so (by 2015).

In accordance with general provisions of MARPOL Annex VI deliberate emission of ozone-depleting substances is prohibited. In 2016 the coastal countries of the Baltic Sea submitted an appli-



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cation to IMO to designate the Baltic as a NOx Emission Control Area ("NECA") under MARPOL Annex VI.

## **Port reception (scrubber residues)**

Most ports in Denmark, Finland and Sweden can receive residues from exhaust gas cleaning systems. In Germany Port of Rostock and in Lithuania Port of Klaipeda are able to receive such residues. In other ports/countries reception facilities are considered and will be likely provided in the near future.

## INCINERATION

Incineration means the deliberate combustion of wastes or other matter at sea for the purpose of their thermal destruction, excluding activities incidental to the normal operation of ships or other man-made structures.

Based on MARPOL incineration, except for the incineration of ship-generated wastes, is prohibited throughout the Baltic Sea area.

In addition, incineration of wastes deriving from the normal operation of the ship is prohibited in the territorial seas of the Baltic Sea States based on the Helsinki Convention (Annex IV, Regulation 7).

Using MARPOL Annex V type approved incinerator for incinerating ship-generated wastes outside the territorial sea waters / in the EEZ is allowed in the Baltic Sea.

## SHIPS' BALLAST WATER AND SEDIMENTS

Even if the 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) is not yet in force the coastal countries have co-operated regionally on future implementation, especially on implementation of ballast water exchange as well as exemptions (Reg. A-4).

## **Ballast water exchange: within the Baltic Sea**

The IMO Ballast Water Management Convention's Regulation B-4 on water depth and distance from the shore requirements for Ballast Water Exchange (BWE) cannot be met in the Baltic Sea area. Due to this and as most of the alien species in the Baltic Sea have a wide tolerance in salinity, the coastal countries have concluded within HELCOM that BWE is not a suitable option within the Baltic Sea. Consequently, no BWE areas have been designated in the Baltic Sea area.

BWE is not recommended during voyages between ports within the Baltic Sea area (separated by the North Sea by the parallel 57°44.43'N).

## **Ballast water exchange: to or from the Baltic Sea**

The coastal countries of the Baltic Sea (HELCOM), the North-East Atlantic (OSPAR) and the Mediterranean (Barcelona Convention) have co-operated on a set of three joint IMO voluntary interim guidelines indicating where ballast water is to be exchanged during voyages involving these three sea areas. The guidelines depend on the route of the ship and their content could be summarized as follows:

- Vessels leaving the Baltic and transiting through the North-East Atlantic area to other destinations will be requested, starting from January 2010, to delay discharging their ballast water until the vessel is 200 nm off the coast of North West Europe in waters deeper than 200 m, with the aim of avoiding BWE within Baltic Sea and North-East Atlantic Area (BWM.2 Cir. 22 2009, applicable from January 2010).
- Vessels on long-distance routes heading to the Baltic Sea passing through the North-East Atlantic Area, or to destinations in North-East Atlantic Area, which are passing the West African Coast or transiting the Atlantic are requested to conduct, on a voluntary basis, BWE offshore (at least 200 nm from the nearest



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land in water at least 200 m deep) before entering the North-East Atlantic Area (BWM.2 Cir. 14 2008, applicable from April 2008).

- Vessels operating between the Mediterranean Sea and the North-East Atlantic and/or the Baltic Sea should exchange all their ballast tanks at least 200 nm from the nearest land in water at least 200 m deep, as soon as they enter or leave the North-East Atlantic, depending on the direction of their route, but outside the Mediterranean Sea (BWM.2 Cir. 39 2012, applicable from October 2010).

Please note also:

- No recommendations on BWE exist for vessels operating between the Baltic Sea and the North-East Atlantic.
- BWE areas exist for voyages within the North-East Atlantic area (see [www.ospar.org](http://www.ospar.org)).

## **Exemptions from ballast water treatment (Regulation A-4)**

On certain low risk routes the BWM convention Regulation A-4 enables a party to grant exemptions to any requirements to apply ballast water management for ships (Regulation B-3), or additional measures (Regulation C-1). In 2013 the coastal states of the Baltic Sea (HELCOM) and the North-East Atlantic (OSPAR) agreed on a joint harmonized procedure (JHP) on A-4 exemptions, a joint interpretation of how and by which general criteria such exemption applications should be granted. See [http://jointbwmexemptions.org/ballast\\_water\\_RA](http://jointbwmexemptions.org/ballast_water_RA) for more information.

A transitional period for these regional A-4 procedures has been agreed upon which lasts five years from the entry into force -that is to say, the point in time when the Convention (i.e. Regulation D-2) is fully applied for all ships.

The procedure is based on information on presence of alien species in the ports in question as documented by sampling with a common methodology. This information, combined with a list of target species and a joint risk assessment model, available from the above website, will provide an initial assessment to be used in national decision making.

## DUMPING

Dumping means any deliberate disposal at sea of wastes or other matter from ships, or any deliberate disposal from ships at sea.

Dumping is prohibited throughout the Baltic Sea area based on the IMO London Convention and the 1992 Helsinki Convention.

The prohibition of dumping does not apply to the disposal of dredged materials at sea, provided specific provisions are complied with. In 2015 HELCOM adopted revised Guidelines for Management of Dredged Material at Sea for this purpose.

## III. GENERAL INFORMATION ON DELIVERY OF WASTES TO PORT RECEPTION FACILITIES IN THE BALTIC SEA

Based on the 1992 Helsinki Convention and MARPOL, all ships, with some exceptions, are under a general obligation to deliver to the reception facility of a port of call all ship-generated wastes and cargo residues generated since the port of departure that cannot be legally discharged in the sea under MARPOL or the Helsinki Convention.

Information on reception facilities in ports of the Baltic Sea States can be found in the IMO Global Integrated Shipping Information

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System (GISIS) on <http://gisis.imo.org/Public/>. Detailed waste discharge procedures and arrangements for specific ports are described in waste management plans elaborated by the ports.

To ensure the use and efficiency of the port reception facilities, an information sheet must be forwarded to the next port of call 24 hours in advance of the intended use of a port reception facility or, if the voyage takes less than 24 hours, on departure from the previous port.

If the ship's next port of call is determined less than 24 hours before arrival thereto, the notification shall be submitted immediately upon determination of the next port of call. The sheet must include the following information: the capacity of the waste storage tanks/bins on board; the amounts of wastes delivered at the last port of call; and the estimated amounts of wastes to be delivered at the next port of call.

As a general rule a "no-special-fee" system is applied in Baltic Sea ports to oily wastes from machinery spaces, sewage and garbage as well as litter caught in fishing nets in order to avoid incentives for illegal disposal (HELCOM Rec. 28E/10). According to the "no-special-fee" system, a fee covering the cost of reception, handling and final disposal of ship-generated wastes is levied on the ship irrespective of whether or not ship-generated wastes are actually delivered. The fee is included in the harbour fee or otherwise automatically charged from the ship.

However, please note that many coastal countries and ports have their own interpretations what the "no-special-fee" means or covers in practice. Additionally, in many Baltic Sea ports economic incentives have been introduced to encourage environmentally friendly shipping, such as a system of environmentally differentiated fairway dues.

## IV. ENVIRONMENTAL REGULATIONS AND SMALL VESSELS (FISHING, WORKING AND LEISURE VESSELS)

Even if the international regime described in the previous chapters is focused on certain larger vessels as defined by IMO, all the discharge regulations described above apply equally to small vessels, including fishing vessels, working vessels and pleasure craft based on the Helsinki Convention 1992 (entered into force 17 January 2000).

### Sewage

As an example, small vessels built on or after 1 January 2000 and fitted with a toilet should as a general rule comply with the sewage discharge regulations of Annex IV to MARPOL (1992 Helsinki Convention Annex IV, Regulation 5) and be able to connect to sewage reception facility pipes (Guidelines available in HELCOM Rec 22/1).

Small vessels built before 1 January 2000 can be exempted by the Baltic Sea countries from this obligation if the installation of toilet retention systems in these ships is technically difficult or the cost of installation is high compared to the value of the ship. Currently Finland and Sweden have national regulations in place on sewage discharge from small vessels under their flag.

### Garbage

Small ships flying the flag of a Baltic Sea State should also have onboard garbage retention appliances suitable for collection and separation of garbage.

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## V. ROUTEING MEASURES AND PILOTAGE

In addition to the pollution prevention measures referred to above, the Baltic Sea States have agreed on a number of safety measures in the Baltic Sea area, including ship routeing systems such as Traffic Separation Schemes (TSS) and deep-water routes, mandatory Ship Reporting Systems (SRS), pilotage requirements and measures related to safety of winter navigation such as icebreaker services. Vessel Traffic Service (VTS) provides services to mariners and follow the implementation of such measures all over the Baltic Sea.

This chapter provides a list of routeing measures and related recommendations. For detailed information please consult up-to-date charts and sailing directions. A Baltic wide chart "Mariners' Routeing Guide for the Baltic Sea" has been prepared within the region and is available from the German authorities (BSH) as chart 2911 as a single source of IMO routeing measures for ships sailing in the Baltic Sea (last update 2011). For more details see [http://www.bsh.de/en/Products/Charts/Routeing\\_Guides/index.jsp](http://www.bsh.de/en/Products/Charts/Routeing_Guides/index.jsp).

### MANDATORY SHIP REPORTING SYSTEMS

Four mandatory Ship Reporting Systems (SRS) adopted by the IMO are in force in the Baltic Sea area, requiring a ship to submit a report to the Vessel Traffic Service (VTS) Centre operating the

Reporting system & Notes	IMO Circular reference	Established / Revised meeting
In the Gulf of Finland (GOFREP) <i>Applying to ships of 300 GT and upwards</i>	MSC.139(76) 2002 MSC.231(82) 2006	MSC 76 2002 MSC 82 2006

Continue →

Reporting system & Notes	IMO Circular reference	Established / Revised meeting
On the approaches to the Polish ports in the Gulf of Gdansk (GDANREP) <i>Applying to passenger ships certified to carry more than 12 passengers, ships with a gross tonnage equal to or exceeding 150 gross tonnage and all vessels engaged in towing.</i>	MSC.249(83) 2007	MSC 83 2007
In the Sound between Denmark and Sweden (SOUNDREP) <i>Applying to ships of 300 GT and upwards</i>	MSC.314(88) 2010	MSC 88 2010
In the Storebaelt (Great Belt) Traffic area (BELTREP) <i>Applying to ships of 50 GT and upwards, and all ships with an air draught of 15 metres or more</i>	MSC.63(67) 1996 A.978(24) 2005 MSC.230(82) 2006 MSC.332(90) 2012	MSC 67 1996 A.978(24) 2005 MSC 82 2006 MSC 90 2012

Mandatory ship reporting systems have also been established nationally by the Baltic Sea States in approaches to oil terminals.

### DEEP-WATER ROUTES

A set of deep-water routes provide passages to/ from and within the Baltic Sea. As an example for vessels sailing in via the Skagerrak, a transit route (Route - T) through the Kattegat, the Great Belt and the Western Baltic has been established for deep draught ships passing through the shallow entrances to the Baltic Sea. When passing through the entrances to the Baltic Sea, ships should note that the maximum obtainable depth in most parts of Route - T is 17 metres. However, in some areas the maximum obtainable depth is to some extent permanently reduced due to sand migration.

Such IMO adopted deep-water (DW) routes have been established in six areas of the Baltic Sea:

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DW Route & Notes	IMO circular reference	Established / Revised meeting
Recommendation on navigation through the entrances to the Baltic Sea <i>See Route - T above</i>	A.339(IX) 1975 A.427(XI) 1979 A.579(14) 1985 A.620(15) 1987 MSC.138(76) 2002 SN.1/Circ.263 2007	A.339(IX) 1975 A.427(XI) 1979 A.579(14) 1985 A.620(15) 1987 MSC 76 2002 MSC 83 2007
Deep-water route between Hatter Rev and Hatter Barn <i>For ships with a draught exceeding 13 metres. The minimum depth of water below mean sea level is 19 metres.</i>	A.338(IX) 1975 A.527(13) 1983	A.338(IX) 1975 A.527(13) 1983
Deep-water route off the east coast of Langeland <i>For ships with a draught exceeding 10 metres. The minimum depth of water below mean sea level is 19 metres.</i>	A.338(IX) 1975 A.475(XII) 1981 SN.1/Circ.309 Corr.1 2012 SN.1/Circ.309 2012	A.338(IX) 1975 A.475(XII) 1981 MSC 90 2012 MSC 90 2012
Deep-water route north-east of Gedser <i>For deep draught ships. The minimum depth of water below mean sea level is 16.5 metres. "Kadetrenden"</i>	A.338(IX) 1975 Colreg.2/Circ.51 2002 SN.1/Circ.263 2007	A.338(IX) 1975 MSC 75 2002 MSC 83 2007
Deep-water route off Gotland Island <i>For all ships passing east and south of the island of Gotland bound to or from the northeastern part of the Baltic, with a draught exceeding 12 metres.</i>	SN.1/Circ.250 2005	A.977(24) 2005
Deep-water routes leading to the Åland Sea <i>Deep-water routes inside the borders of the "In Åland Sea" traffic separation schemes (south and north) The minimum depth of water below mean sea level is 17.9 metres.</i>	SN.1/Circ.272 2008	MSC 85 2008

Please note that the following DW route was revoked in 2013: "Inside the borders of the TSS from Gogland Island to Rodsher Island" intended for the passage of ships with a draught up to 15 metres, including laden tankers sailing from Primorsk (Colreg.2/Circ.51 2002, MSC 75 2002, SN.1/Circ.317 Corr.1 2013) as it was replaced with "Recommended tracks between the traffic separation schemes Off Rodsher Island and Off Gogland Island" (SN.1/Circ.317 Corr.1 2013) included in the table "Other routeing measures and recommendations on navigation" below.

## TRAFFIC SEPARATION SCHEMES (TSS)

Traffic Separation Schemes (TSS) adopted by the IMO are established in the following parts of the Baltic Sea area by 2015. These can consist of several elements.

TSS Name	IMO circular reference	Established / Revised meeting
At Hatter Barn	Colreg.2/Circ.20 1983 Colreg.2/Circ.60 2008	MSC 48 1983 MSC 85 2008
Between Korsoer and Sprogøe	A.338(IX) 1975 Colreg.2/Circ.38 1992 Colreg.2/Circ.54 2004	A.338(IX) 1975 MSC 60 1992 MSC 78 2004
South of Gedser	A.338(IX) 1975 Colreg.2/Circ.56 2005	A.338(IX) 1975 A.977(24) 2005
In the Sound	A.284(VIII) 1973 A.338(IX) 1975 Colreg.2/Circ.37 1991 Colreg.2/Circ.59 2007	A.284(VIII) 1973 A.338(IX) 1975 Colreg.2/Circ.37 1991 Colreg.2/Circ.59 2007
Off Falsterbørev	A.284(VIII) 1973 A.374(X) 1977 Colreg.2/Circ.37 1991	A.284(VIII) 1973 A.374(X) 1977 MSC 59 1991
Off Kiel Lighthouse	A.284(VIII) 1973	A.284(VIII) 1973
North of Rügen	Colreg.2/Circ.56 2005	A.977(24) 2005
Adlergrund	Colreg.2/Circ.61 2010	MSC 87 2010
In Bornholmsgat	A.977(24) 2005 Colreg.2/Circ.56 2005 Colreg.2/Circ.[tbc.] 2016 <i>(circular number not issued by printing of this publication)</i>	A.977(24) 2005 A.977(24) 2005 MSC.96 2016
Off Öland island	A.284(VIII) 1973 Colreg.2/Circ.37 1991	A.284(VIII) 1973 MSC 59 1991
Slupska Bank	Colreg.2/Circ.61 2010	MSC 87 2010
On the approaches to the Polish ports in the Gulf of Gdansk	Colreg.2/Circ.59 2007	MSC 83 2007

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TSS Name	IMO circular reference	Established / Revised meeting
North Hoburgs bank (formerly "Off Gotland Island")	A.284(VIII) 1973 Colreg.2/Circ.37 1991 Colreg.2/Circ.56 2005	A.284(VIII) 1973 MSC 59 1991 A.977(24) 2005
South Hoburgs bank	Colreg.2/Circ.61 2010	MSC 87 2010
West Klintehamn	Colreg.2/Circ.61 2010	MSC 87 2010
Midsjöbankarna	Colreg.2/Circ.61 2010	MSC 87 2010
Off Kopu peninsula (Hiiumaa island)	A.284(VIII) 1973	A.284(VIII) 1973
Off Hankoniemi Peninsula	A.284(VIII) 1973 Colreg.2/Circ.38 1992 Colreg.2/Circ.52 2003 Colreg.2/Circ.61 2010	A.284(VIII) 1973 MSC 60 1992 MSC 76 2002 MSC 87 2010
Off Rodsher island	A.284(VIII) 1973 Colreg.2/Circ.51 2002 Colreg.2/Circ.64 2012	A.284(VIII) 1973 MSC 75 2002 MSC 91 2012
Off Kallbådagrund Lighthouse	A.284(VIII) 1973 Colreg.2/Circ.38 1992 Colreg.2/Circ.61 2010	A.284(VIII) 1973 MSC 60 1992 MSC 87 2010
Off Porkkala Lighthouse	A.284(VIII) 1973 Colreg.2/Circ.38 1992 Colreg.2/Circ.52 2003 Colreg.2/Circ.57 2006 Colreg.2/Circ.61 2010	A.284(VIII) 1973 MSC 60 1992 MSC 76 2002 MSC 81 2006 MSC 87 2010
Off Hogland (Gogland) island	A.284(VIII) 1973 Colreg.2/Circ.51 2002 SN.1/Circ.317 2012	A.284(VIII) 1973 MSC 75 2002 MSC 91 2012
Off Sommers Island	A.284(VIII) 1973 Colreg.2/Circ.51 2002	A.284(VIII) 1973 MSC 75 2002
In Åland Sea (north and south)	Colreg.2/Circ.60 2008	MSC 85 2008
In Norra Kvarken	Colreg.2/Circ.63 2012	MSC 90 2012

## OTHER ROUTEING MEASURES AND RECOMMENDATIONS ON NAVIGATION

Name	IMO circular reference	Established / Revised meeting
Two-way route "Salvorev", north of Gotland Island	SN.1/Circ.286 2010	MSC 87 2010
Recommendations on navigation through the Gulf of Finland Traffic area	SN/Circ.224 2003	MSC 76 2002
Recommended directions of the traffic flow in the precautionery area of the separation scheme "Off Porkkala lighthouse"	Colreg.2/Circ.61 2010	MSC 87 2010
Recommended tracks in the approaches to the Polish ports in the Gulf of Gdansk	Colreg.2/Circ.59 2007	MSC 83 2007
Recommendations on navigation to the Polish ports through the Gulf of Gdansk Traffic area	SN.1/Circ.263 2007	MSC 83 2007
Recommended tracks between the traffic separation schemes Off Rodsher Island and Off Gogland Island	SN.1/Circ.317 Corr.1 2013	-
Recommended two-way route leading to the Åland Sea	SN.1/Circ.309 Corr.1 2012 SN.1/Circ.309 2012	MSC 85 2008

## AREAS TO BE AVOIDED (ATBA)

Two IMO areas to be avoided exist in the Baltic for vessels of 500 GT or above around two shallow banks, Norra Midsjöbanken and Hoburgs bank, south of Gotland.

## PILOTAGE

Certified Baltic deep sea pilots are available in all Baltic Sea coastal states and ships' masters are recommended through IMO Resolution A.1081(28) to use their services.

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IMO recommends specifically the following regarding pilotage in the entrances to the Baltic Sea according to SN.1/Circ.263, paragraph 1.9:

## ***The Sound (Öresund)***

When navigating the Sound (between Denmark and Sweden) local pilotage services should be used by:

- loaded oil tankers with a draught of 7 metres or more;
- loaded chemical tankers and gas carriers irrespective of size; and
- ships carrying a shipment of irradiated nuclear fuel, plutonium and high-level radioactive wastes (INF-Code cargoes).

## ***Route - T***

When navigating Route – T established pilotage services should be used by:

- ships with a draught of 11 metres or more;
- ships irrespective of size or draught carrying a shipment of irradiated nuclear fuel, plutonium and high-level radioactive wastes (INF-Code cargoes).

## **VI. ECDIS, AIS AND E-NAVIGATION**

### ***Electronic Chart Display and Information Systems (ECDIS)***

International ECDIS requirements with an implementation phase from July 2012 until July 2018 are applied in the Baltic Sea. Mariners are advised to seek information on operation of ECDIS in IMO Circular MSC.1/Circ.1503 on ECDIS Guidance for Good Practice.

### ***Re-surveys***

Intensive re-survey activities have been ongoing in the Baltic Sea region since the countries committed to joint re-surveys in 2001.

### ***AIS***

International Automatic Identification System (AIS) carriage requirements are applied in the Baltic Sea. SOLAS Chapter V requires AIS to be fitted aboard all ships of 300 tons gross tonnage and upwards engaged on international voyages, cargo ships of 500 tons gross tonnage and upwards not engaged on international voyages and all passenger ships irrespective of size. The requirement became effective for all ships by 31 December 2004. Ships fitted with AIS shall maintain AIS in operation at all times.

Please note that in the Baltic Sea region AIS could be installed on some Aids to Navigation. Virtual aids to Navigation (AtoNs) could further be used by some coastal states in dynamic situations like when temporary dangers occur like new wrecks etc., or when preferred routes are marked out electronically in heavy ice conditions. Mariners could seek information of AIS AtoN symbols in IMO Circular SN.1/Circ.243/Rev.1. Please also note that some countries like Sweden and the Russian Federation provide weather data via AIS for specific suitable devices if carried on board.

The Baltic Sea area is covered by a dense network of coastal AIS network of shore based antennas to receive and share the information which in normal conditions enable coverage all over the



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region. Since 1 July 2005 the national AIS networks in the Baltic Sea area are linked together as HELCOM AIS, which gives to all coastal countries a real time picture of traffic situation in the entire region.

A joint drift forecasting and backtracking system SeaTrackWeb used by the national authorities is linked to the regional AIS network and can be used to identify likely oil polluters for later port state control and investigation.

## *e-navigation services*

The Baltic Sea region is also an active region in the rapidly emerging world of e-navigation services/ maritime cloud and will likely be among the first regions where such services will be available. Consult national information sources for more information.

## VII. SAFETY OF WINTER NAVIGATION

During winter on average half of the Baltic Sea area is covered with ice. Largest ice extent is observed during February-March.

Based on HELCOM Recommendation 25/7 adequate ice strengthening is needed for ships sailing in Baltic Sea during ice season depending on the thickness of level ice. Below restriction categories according to ice classes of the Finnish-Swedish Ice Class Rules (Baltic Ice Classes) and Russian Maritime Register of Shipping Rules 2008 (see table of ice class comparisons):

- in ice thickness in the range of 10-15 cm, and if the weather forecast predicts continuing low temperature, a minimum ice class Ice 1 or equivalent should be required for ships entering the ports of a Contracting Party.

- in ice thickness in the range of 15-30 cm, and if the weather forecast predicts continuing low temperature, a minimum ice class IC or Ice 2 or equivalent should be required for ships entering the ports of a Contracting Party.

- in ice thickness in the range of 30-50 cm, a minimum ice class IB or Ice 3 or equivalent should be required for ships entering the ports of a Contracting Party.

- if ice thickness exceeds 50 cm, a minimum ice class IA or Arc 4 or equivalent should be required for ships entering the ports of a Contracting Party.

If in force, these requirements will be announced to the mariners as traffic restrictions which can be lightened and finally removed after the melting period of ice has started in spring and the strength of the level ice fields has started to decrease.

Information on ice conditions, traffic restrictions, ice breakers and other issues relevant to mariners navigating in the Baltic Sea during winter time can be obtained from the website [www.baltice.org](http://www.baltice.org).

Additional information about ice conditions in the Baltic Sea countries, including contact information of the national ice services can be obtained from the common website of the national ice services of the Baltic Sea States [www.bsis-ice.de](http://www.bsis-ice.de).



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Approximate correspondence between Ice Classes of the Finnish-Swedish Ice Class Rules (Baltic Ice Classes) and the Ice Classes of other Classification Societies (HELCOM Recommendation 25/7 – Safety of winter navigation in the Baltic Sea area, as revised by 2016)

Classification Society	Ice Class				
<b>Finnish-Swedish Ice Class Rules</b>	<b>IA Super</b>	<b>IA</b>	<b>IB</b>	<b>IC</b>	<b>Category II</b>
<b>Russian Maritime Register of Shipping (Rules 1995)</b>	UL	L1	L2	L3	L4
<b>Russian Maritime Register of Shipping (Rules 1999)</b>	LU5	LU4	LU3	LU2	LU1
<b>Russian Maritime Register of Shipping (Rules 2008)</b>	Arc 5	Arc 4	Ice 3	Ice 2	Ice 1
<b>American Bureau of Shipping</b>	Ice Class I AA	Ice Class I A	Ice Class I B	Ice Class I C	D0
<b>Bureau Veritas</b>	ICE CLASS IA SUPER	ICE CLASS IA	ICE CLASS IB	ICE CLASS IC	ID
<b>CASPPR, 1972</b>	A	B	C	D	E
<b>China Classification Society</b>	Ice Class B1*	Ice Class B1	Ice Class B2	Ice Class B3	Ice Class B
<b>Det Norske Veritas</b>	ICE-1A*	ICE-1A	ICE-1B	ICE-1C	ICE-C
<b>DNV GL</b>	Ice(1A*)	Ice(1A)	Ice(1B)	Ice(1C)	-
<b>Germanischer Lloyd</b>	E4	E3	E2	E1	E
<b>IACS Polar Rules</b>	PC6	PC7	-	-	-
<b>Korean Register of Shipping</b>	IA Super	IA	IB	IC	ID
<b>Lloyd's Register of Shipping</b>	Ice Class 1AS FS (+) Ice Class 1AS FS	Ice Class 1A FS (+) Ice Class 1A FS	Ice Class 1B FS (+) Ice Class 1B FS	Ice Class 1C FS (+) Ice Class 1C FS	Ice Class 1D Ice Class 1E
<b>Nippon Kaiji Kyokai</b>	NS* (Class IA Super Ice Strengthening) NS (Class IA Super Ice Strengthening)	NS* (Class IA Ice Strengthening) NS (Class IA Ice Strengthening)	NS* (Class IB Ice Strengthening) NS (Class IB Ice Strengthening)	NS* (Class IC Ice Strengthening) NS (Class IC Ice Strengthening)	NS* (Class ID Ice Strengthening) NS (Class ID Ice Strengthening)
<b>Polski Rejestr Statków</b>	L1A	L1	L2	L3	L4
<b>Registro Italiano Navale</b>	ICE CLASS IA SUPER	ICE CLASS IA	ICE CLASS IB	ICE CLASS IC	ID

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## VIII. INFORMATION ON UNDER KEEL CLEARANCE IN THE BALTIC SEA

The shallow Baltic Sea requires also special caution when calculating ships' Under Keel Clearance (UKC). This chapter is intended to provide basic information on determination of a ship's minimum under keel clearance (UKC) to provide safe navigation through sea areas with restricted available depth of water and thus enhancing the safety of navigation and protection of the marine environment.

The purpose is to provide masters, navigating officers and other appropriate bodies with a framework enabling them to respond effectively to ensure that a ship maintains sufficient UKC and safe draught during its intended voyage.

This information is primarily applicable to non-restricted waters as well as transit routes in connection with IMO routeing measures in the Baltic Sea, but also covers other parts of the Baltic Sea and coastal waters as appropriate.

Nothing in this chapter should limit the rights of masters to act accordingly in circumstances allowing for a reduced UKC in order to ensure the safety of life at sea, safety of the ship, protection of the environment, or any other legitimate circumstances.

### **Local requirements**

It should be noted that coastal states or port authorities may establish mandatory or recommended requirements for minimum UKC or maximum draught.

## GENERAL GUIDANCE

The following two different conditions should be considered when calculating the UKC for a specific ship:

- Open shallow waters
- Confined shallow channels and waters

The master is responsible for estimating the minimum UKC during the entire voyage from berth to berth, including those areas where the services of a pilot will be used.

To assist the master with this requirement the Company, as defined in the ISM Code<sup>1</sup>, could provide the master with written UKC guidance. The master and the relevant pilot should discuss and agree the voyage plan including the anticipated UKC.

## UNDER KEEL CLEARANCE FACTORS

Under Keel Clearance should be determined by three types of factors (Figure 1):

- Water level factors in the Baltic Sea. These include the reference of water level, mainly due to meteorological effects, which can have a positive or negative value.
- Ship related factors. These include ship's manoeuvring characteristics, as given in the IMO Resolution A. 601(15) on Provision and Display of Manoeuvring Information on Board Ships. The effect of water density should be further considered.
- Sea bottom related factors. These include allowance for sea bed level uncertainties and allowance for bottom changes etc. Experiences have shown that these effects could have a value of approximately up to two metres in some areas.

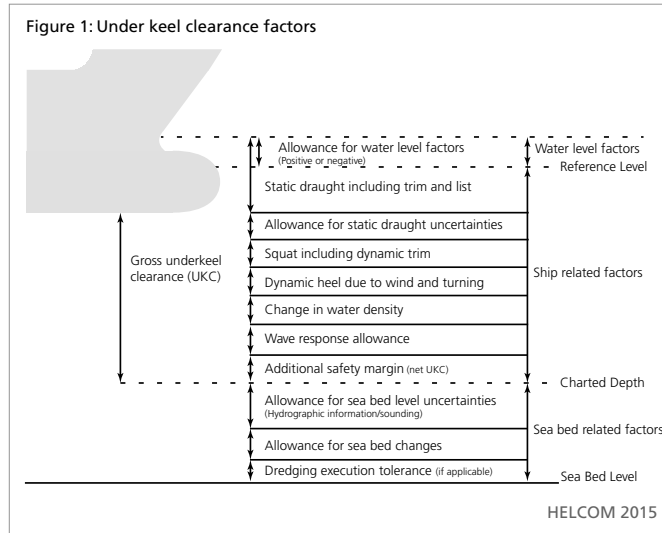
Approaches to UKC determination commonly include three main elements: the static draught, ship's movement related factors and a safety margin component including uncertainties.

<sup>1</sup> ISM Code, Part A, paragraph 1.1.2: Company means the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the owner and who, on assuming such responsibility, has agreed to take over all duties and responsibility imposed by the Code.

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## CALCULATING UNDER KEEL CLEARANCE IN GENERAL

This chapter provides only general information on how to estimate and calculate Under Keel Clearance (UKC). To be able to determine the ship's specific UKC would require calculating on data from the specific ship.

The determination of UKC should be done as part of the detailed voyage plan, as is described in IMO Resolution A.893(21) "Guidelines for voyage planning". The determination starts with a general overview of the intended route or track of the voyage on appropriate scale charts in order to find the areas with restricted water depth.

Detailed UKC calculations should be made to all areas with restricted depth. These calculations should be made for certain time, according to the voyage plan. Calculations should take into consideration the characteristics of the area.

Calculations should ensure safe conduct of the ship during transits, bearing in mind the ship's steering ability, manoeuvring characteristics, speed, and any other operational constraints that may be applicable due to the ship's UKC.

At least the following factors should be taken into consideration when estimating a sufficient water depth:

- The ship's draught. If the ship does not have an even-keel draught, the draught at the bow or stern, whichever is the biggest, should be used. Also any possible list (the degree to which a vessel heels to either port or starboard), and the effect of the ship's stability, should be taken into consideration. Note that the draught can change during the voyage due to, e.g., bunker consumption, alterations in ballast condition etc.
- Chart datum
- Water level at the calculated time for passing the area
- Weather at the calculated time for passing the area
- Squat at estimated speed
- Characteristics of the sea bed/ other sea bed related factors
- Prevailing current
- Expected waves
- Effect of possible icing on draught of the ship
- Local navigational warnings (e.g. change of water depth)
- Water density
- Ice conditions
- Hull form

Water depth should be estimated as the depth as charted on the navigational chart and corrected according to a correction value. The correction value should be determined according to the changes to the Mean Sea Level (areas with no tides). The relevant data should be obtained through common channels of information to mariners and local warnings, i.e.: any pertinent information found in the sailing directions or local Notice to Mariners and

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navigational and hydro-meteorological warnings and any other information from shore-based official sources (sensors and aids to navigation). These sources of information are commonly available via internet or AIS.

## EFFECT OF SQUAT

Squat is a steady downward displacement consisting of translation and rotation due to the flow of water past the moving hull. To be able to determine a ship's squat requires calculating on actual data from the specific ship. It should be noted that there are different methods for calculating squat in use. See Figure 2 for one example of calculating the squat effect<sup>2</sup>.

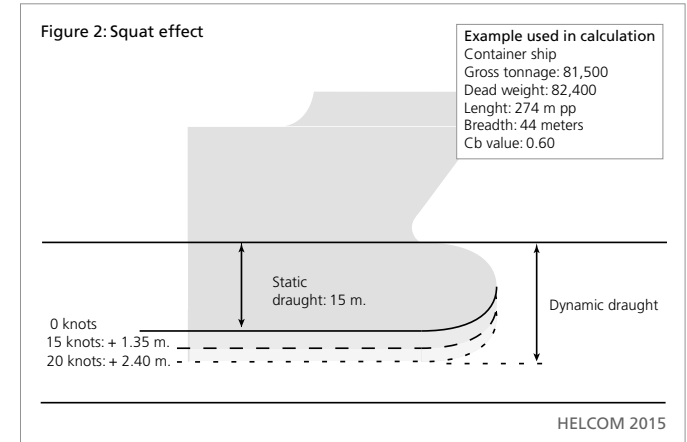
Ship squat depends on ship characteristics and has a different effect in shallow as opposed to deeper areas and in open sea as opposed to channel configurations. It is recommended that information to be included in the ship's Manoeuvring booklet should include drawn curves for maximum squat in different conditions.

The speed of a ship through water is of great importance when evaluating the effects of squat. Squat is approximately proportional to the square of the ship's speed through the water, hence halving the speed reduces the squat effect by a factor of four.

In other words, as another example, in open shallow waters, by reducing the speed of a bulk carrier from 16 knots to 8 knots can reduce the squat effect from approximately 2 metres to 0.5 metres.

When calculating the effect of squat care should be taken as regards the minimum manoeuvrable speed and the ship's ability to perform the manoeuvres intended by the pilot or master without the assistance of tugs.

The ability of a ship to manoeuvre at its design speed will decrease when the clearance between a channel bottom and the ship's keel is reduced and may become insufficient if it is less than a certain critical value that maintains sufficient flow under and along the ship.



<sup>2</sup>The mathematical formula used in the rough calculation of the effect of dynamic squat presented in Figure 2 is  $(1/100) \times CB \times V^2$ . As defined in the ISM Code of IMO, the Company could assist the master by providing a written UKC guidance which may include effect of squat.

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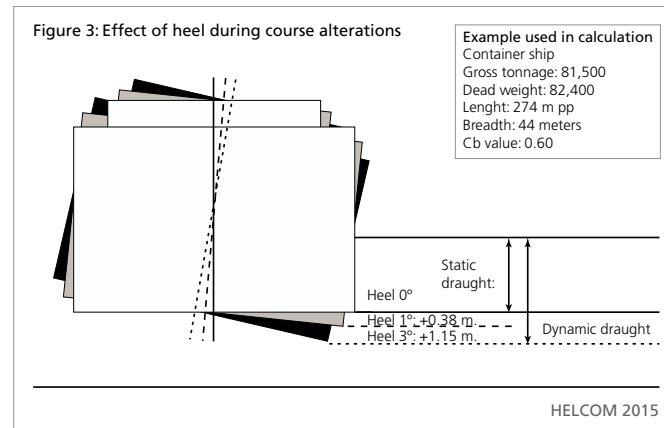
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## EFFECT OF HEEL DURING COURSE ALTERATIONS

The effect of an increased draught caused by course alterations depends on the breadth and draught. The angle of heel depends on the stability of the ship, speed and rate of turn.

The possible effect on draught is given in the following two examples: If a container carrier with a breadth of 44 metres has a heel of 1°, it could increase draught with approximately 0.4 metres. Correspondingly, if it has a heel of 3°, it could increase draught with approximately 1.2 metre (Figure 3).



## UKC INFORMATION AND PILOTAGE

The ship's draught, controlling depth of the transit route, and the anticipated UKC should be part of the information exchange with the ship's pilot. UKC calculations should be presented to the pilot along with the voyage plan. Such considerations should preferably be documented by available means.

Transits through shallow areas are to be considered in detail with reference to UKC.

The pilot should be consulted for any additional information that may affect the controlling depth of the transit route.

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## IX. REPORTING OBLIGATIONS IN CASE OF AN INCIDENT

The Baltic Sea region has high level of preparedness to polluting incidents as well as search and rescue (SAR). Escalation of disasters can be limited by fast communication to the nearest coastal state.

In order to facilitate countermeasures against spillages of oil or other harmful substances, it has been agreed internationally that the master or other person in charge of any ship involved in an incident must report the particulars of the incident.

Reports shall be made by the fastest telecommunication channels available with the highest possible priority to the nearest coastal State. In case of incidents involving oil, the procedures in the ship-board oil pollution emergency plan shall be followed.

Reporting obligation may emerge in the following cases:

- a) a discharge above the permitted level or probable discharge of oil or of noxious liquid substances for whatever reason, including those for the purpose of securing the safety of the ship or for saving life at sea; or
- b) a discharge or probable discharge of harmful substances in packaged form, including those in freight containers, portable tanks, road and rail vehicles and ship-borne barges; or
- c) damage, failure or breakdown of a ship of 15 metres in length or above which:
  - i) affects the safety of the ship; including but not limited to collision, grounding, fire, explosion, structural failure, flooding and cargo shifting; or

- ii) results in impairment of the safety of navigation; including but not limited to, failure or breakdown of steering gear, propulsion plant, electrical generating system, and essential ship-borne navigational aids.

Furthermore, the Baltic Sea States have agreed that the master or other person in charge of any ship shall report in case of

- d) observations of significant spillages of oil or other harmful substances.

Additionally, the Baltic Sea States have agreed that ships bound for or leaving a port of a Baltic Sea State and carrying dangerous or polluting goods, must report on the substances to the competent authority of that Baltic Sea State.

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## X. DETECTION AND PROSECUTION OF OFFENDERS OF ANTI-POLLUTION REGULATIONS

In order to ensure a level playing field for environmentally responsible operators the Baltic Sea States place high priority on the elimination of violations of anti-pollution regulations, and on the conviction of any offenders. Various actions have been taken to this end.

### *Aerial and satellite surveillance*

In order to prevent and detect any violation of discharge regulations, the Baltic Sea States conduct high intensity aerial surveillance around the year in their designated response regions. Flights are also carried out during night.

Surveillance aircraft of the coastal countries fly annually around 4000 hours above the Baltic Sea, supported by satellites via EMSA and Russian national services which provide a 24/7 coverage and carry advanced instruments for spotting even smaller pollution on the sea surface. Coastal state patrol vessels are ready to take proper measures to gather evidence and enforce when offenders are detected by aircraft or satellite.

### *Co-operation in investigation*

The Baltic Sea States are co-operating closely to investigate observed violations of anti-pollution regulations. This is particularly important when a ship violates the discharge regulations in the waters of one State, without calling at a port in that State, and proceeds to a port in another State.

Thus, a Baltic Sea coastal state can request another State to conduct a Port State Control upon the ship's arrival at the next port of call, to obtain necessary information and evidence of the suspected violation.

To enhance this co-operation, the coastal states of the Baltic Sea have elaborated a Baltic Legal Manual, specifying evidence requirements in each Baltic Sea State, and Guidelines on ensuring successful convictions of offenders of anti-pollution regulations at sea. The public prosecutors on environmental crime of the coastal states have regular co-operation to exchange information and best practices.

### *Fines*

The Baltic Sea States have agreed to harmonize fines by deciding on a common minimum level for a number of environmental regulations described in this procedure. The minimum level will prevent fines varying greatly between the Baltic Sea States, and will also further eliminate incentives to discharge illegally to the sea, rather than to port reception facilities.

### *Cargo, Oil and Garbage Record Books*

MARPOL and the Helsinki Convention lay down a duty to keep Cargo, Oil and Garbage Record Books, and specify the operations requiring entries in the appropriate Record Books. Accurate and timely entries in Cargo, Oil and Garbage Record Books are of utmost importance to ensure compliance with the special discharge regulations. A copy of the relevant Record Book may be used in judicial proceedings as evidence of facts stated in the entry.



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