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ROUTEING OF SHIPS, SHIP REPORTING AND RELATED MATTERS

Information about planned new routeing measures in the southern part of the Baltic Sea

Submitted by Poland

SUMMARY

Executive summary: In this document a number of planned routeing measures in the southern part of the Baltic Sea are presented. At present they are evaluated and consulted with the Parties concerned

Action to be taken: Paragraph 21

Related document: NAV 51/3/6

Introduction

1 At the fifty-first session of the NAV Sub-Committee, the Governments of Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden submitted a joint proposal to approve the new traffic separation schemes Bornholmsgat and North of Rügen, the amendment to the traffic separation scheme South of Gedser, the recommended deep-water route Eastern Baltic Sea and the new areas to be avoided at Norra Midsjöbanken and Hoburgs Bank (NAV 51/3/6). In addition to the above, in paragraph 28 of the above submission the advanced plans of the Government of Poland were introduced, comprising additional new routeing measures in the southern Baltic Sea including a recommended deep-water route D in the Southern Baltic. Intended submission of proposal concerning these measures to NAV 52 was announced.

2 Recalling this announcement Poland duly informs the Sub-Committee that there are new traffic measures in the southern Baltic Sea under consideration and evaluation, based on traffic, navigational and environmental conditions analysis and prepared in compliance with MSC/Circ.1060 Guidance Note and resolution A.572(14), as amended. It is the intention to submit them to the Sub-Committee on Safety of Navigation in the year 2007 as a joint proposal, subject to approval by all Governments of the Baltic States having interest in the area concerned with a view to forward the agreed proposal to the Maritime Safety Committee for their adoption.

3 The purpose of ships' routeing is to improve the safety of navigation in converging areas and in areas where the density of traffic is great or where freedom of movement of shipping is inhibited by restricted sea-room, the existence of obstructions to navigation, limited depths or unfavourable meteorological conditions. The new routeing measures under consideration shall be

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seen as protective measures which help to minimise the risk of groundings, collisions and finally of environmental pollution of the southern part of the Baltic Sea. The preliminary framework of the proposed routing measures includes: a new traffic separation scheme between the Słupska Bank and Polish coastline, a new area to be avoided on Słupska Bank, a new recommended route D in Polish EEZ and the existing traffic separation schemes in the Gulf of Gdańsk.

4 Poland co-operates with Denmark, Germany and Sweden in consideration and evaluation of new traffic measures mentioned in paragraph 3 and invites to this co-operation all the other Baltic States having interest in the area concerned.

Background – Traffic considerations

5 Through the area between the Bornholm Island and Polish coast approximately 16,000 ships equipped with AIS are passing on a yearly basis. The statistical profile of ships includes 67.9% cargo ships, 16.3% tankers and 4.5% passenger ships. The main destinations of eastbound vessels in transit include the ports situated in the Gulf of Gdańsk (32%), Klaipeda and Liepaja (20%) and Russian ports in the Kaliningrad region (19%). The crossing traffic operates to ports on the Bornholm Island and to Szczecin-Świnoujście and other Polish ports. Additionally large fishing activities are in place in the area off the central Polish coast, which contributes to the traffic picture. Approximately 8500 vessels trade yearly between Western Baltic ports or entrances to the Baltic Sea and ports in the Gulf of Gdańsk, passing along central Polish coasts. Some 20% of that traffic passes North of Słupska Bank and the rest of it uses the gateway South of Słupska Bank. Tankers represent 17% of all traffic in that area including VLCCs up to maximum accommodated draught on the Baltic (15 metres or 15.3 metres in fresh water). Some 8% of vessels there have a draught of 8 metres and more.

6 The south-western part of the Baltic Sea consists of the large shallow offshore banks between the Island of Bornholm and western Polish coast (Ronne Bank, Adlergrund and Odrzana Bank with a minimum depth of 4.6 m). 12 nautical miles off the central Polish coast a complex of Słupska Bank exists with a minimum depth of 8.2 m. Offshore waters between the central Polish coastline and Słupska Bank consist of irregular smaller shoals scattered with numerous wrecks and stones. The shipping traffic, in order to safely transit the areas concerned, use in the majority two convenient gateways to navigate clear off shallow banks:

- (a) between Adlergrund and Odrzana Bank, with the minimum charted depth of 10.1 m over the wreck; and
- (b) between the Słupska Bank and Polish coastline, with the minimum charted depths of 14 m or less over the shoals and wrecks.

Both areas are the places where traffic converges or spreads. Additionally extensive naval exercise areas, frequently temporary closed to navigation and fishing, exist in proximity of the last mentioned area.

7 The shallow and shifting shoals off central Polish coast present a great risk of grounding for deeper draught ships and consequently pollution. Studies carried out by the Helsinki Commission¹ show comprehensive increase of number of all types of accidents in the Baltic Sea during last 4 years. Groundings (53%) and collisions (23%) constitute the most significant part of the reported events and each of them could have led to an environmental threat. The clear

¹ “Draft report on ship accidents in the Baltic Sea area for the year 2004”, HELCOM MARITIME 4/2005.

objective is therefore to safeguard all traffic concerned by appropriate measures that is the traffic separation scheme Słupska Bank proposed.

8 Today, the traffic is more or less spread out across the entire Słupska Bank gateway and the assessment shows that many ships are on opposite courses. When transiting ships are changing courses in an unpredictable manner. There is no any structured traffic scheme. The common incidence of head-on close encounters in a confined space of navigable waters could easily cause grounding. Planned TSS Słupska Bank will serve as an anti-grounding measure as well as will eliminate the potential risk coming from ships meeting each other on reciprocal or nearly reciprocal courses by streamlining the eastbound and westbound traffic. Consequently, it will enhance the safety of navigation in the area and will reduce the threat to the marine environment. TSS will be designed to match the existing traffic pattern as close as possible and it will not increase the distance to be traversed by ships.

Background – Oceanographic considerations

9 Wave motion in the Southern Baltic is strongly related to wind and swell. Storms, defined with the criteria that the mean wind speed is at least 17 m/s, occur for 2% of the time. In this region in November storms prevail for 9% of the time and strong winds (11 - 16 m/s) for 32% of the time. During the last 15 years the wind speed has shown an increasing trend. Studies of sea waves in the Baltic Sea (i.e. BASYS or MAXWAVE project) have yielded in a unique set of time series of free-surface elevation records obtained by Waverider (WR) and Directional Waverider (DWR) buoys, located at several points placed along the Baltic coastline including Polish areas.^{2 3}

10 For the measuring station Lubiato, located near the shoreline of the central Polish coast, the biggest recorded height of an individual wave was 7.6 m and the highest significant wave height was 4.0 m. The significant wave height exceeding 1.0 m occurred 29% and greater than 2.0 m – 6%, respectively. The total set of 330 extreme waves has been observed among 19,664 records. It has been found that the majority of the largest observed waves came from the northern and from the western direction. According to the information in the Sailing Directions, Volume Baltic Sea – Polish Coast, sea waves in an offshore area may achieve the height of 9 meters during the storms. Empirical research carried out for the tankers proves that such type of vessels of approximate size of 17,000 DWT and draught of 9 m may suffer a total reduction of under-keel clearance equal to 5 m on a waves of height of about 4.5 m.⁴

11 In the lanes of the considered TSS Słupska Bank there are the areas with a limiting depth of 14 m or less. Shifting sand shoals, numerous wrecks and stones and other obstacles in the area concerned exist. Taking into consideration above mentioned natural conditions and influence of squat on ships' draught, traffic in the separation scheme shall therefore be limited to ships with a safe draught. It is preliminary calculated as 8 metres, subject to be confirmed by the detailed

² “Extreme waves and wave events in the Baltic Sea”, Proceedings of MAXWAVE Final Meeting, October 8-10, 2003, Geneva, Switzerland; M. Paprota, W. Sulisz, B. E. Swerpel - Polish Academy of Sciences, Institute of Hydroengineering; J. Przewłócki - Gdansk University of Technology.

³ “Numerical Modeling of the Wave Climate in the Southern Baltic Sea” Journal of Coastal Research, Vol. 17, No.2, 2001, Sten Blomgren, Magnus Larson, and Hans Hanson Department of Water Resources Engineering Lund Institute of Technology, Lund University, Sweden.

⁴ Source: European Maritime Pilot Organization - for a 17,049 DWT tanker of length 149 m, breadth 21.6 m, draught 9.14 m, the total reduction of UKC due to rolling, heaving and pitching is equal to 5.06 m on characteristic wave of 4.57 m height and 10-s. Period.

survey. Ships with a draught exceeding this safe limit shall not use TSS Słupska Bank. They will be recommended to use the proposed in paragraphs 15-16 route D.

Background – Marine environmental considerations

12 On the open Polish coastline two major land-sea protected areas are situated: Słowiński National Park (UNESCO 186.18 km² MAB Biosphere Reserve) and Woliński National Park. Odrzana Bank and Słupska Bank are very important habitats for unique fauna and flora species. For the marine fauna, including fish species, this coastal ecosystems serve as important spawning and breeding environments, where the shallow waters covered with different habitats such as algal communities and sea grass beds are of special importance as nursery areas for marine mammals, shelters and food sources for coastal birds and waterfowl and one of the most important on Baltic Sea winter habitat of 11 species of water birds. The diversity of coastal biotopes is high and is characterized by many threatened aquatic species and macroalgae. Polish National law protects 10 species habituating those areas, several of which are endangered to extinct species. Parts of both banks are established as protected territories under Polish National law included into the NATURA 2000 network and are planned to be established as Polish National Reserves with restrictions imposed on exploration, exploitation and water sports. Additionally the most vulnerable part of Słupska Bank has been submitted to be Baltic Sea Protected Area.

13 Routeing measures such as traffic separation schemes and routes are approved in the first instance to improve the safety of navigation but it is implicit that the environment will also receive protection through such measures. Despite existing measures such as the designation of the Baltic as a MARPOL special area, continued oil spillages and illegal discharges of oil and other hazardous substances into the sea are still a major problem which is clearly described in investigation reports and statistics carried out by Baltic States.⁵ Aerial surveillance carried out by Polish authorities and shared satellite surveillance system in co-operation with Sweden, reveals significant amount of illegal oil discharges. Data from reports of Aerial Surveillance Flights from 1998 to 2004 year presents that frequency defined as number of spillages per sq.km. on Słupska Bank is almost 3 times higher than the average for the Baltic Sea.

14 Assessments of the risk for oil spill in the southern part of the Baltic Sea present a high probability of impact and threat to the Polish coastline and offshore Słupska Bank in case of any pollution occurs⁶. Additionally the Polish central coastline natural configuration does not provide for larger ships in need of assistance any form of shelter or place or port of refuge. Oil or other harmful substances spilled from ships into the sea could have disastrous effects on the vulnerable nature of the area. From a socio-economic point of view, major spills related to the ships carrying dangerous or polluting goods could lead for years to a less valuable state of the ecosystem with detrimental or disastrous effects on fishing, tourism and leisure activities – base of local economy of central Polish coast communities.

15 In view of the above considerations, the clear objective under resolution A.572(14), as amended, on General Provisions on Ship's Routeing is the organization of traffic flow in or around areas where navigation by all ships or certain classes of ships is dangerous or undesirable. Therefore, in order to reduce the risk of pollution or damage to the environment of the UNESCO Biosphere Reserve and Słupska Bank it is the preliminary intention to:

⁵ Document MEPC 51/8/1.

⁶ "An updated assessment of the risk for oil spills in the Baltic Sea", S. Ovsienko, 2002.

- (a) declare part of Ślupska Bank as an area to be avoided, and
- (b) recommend the following classes of ships irrespective of their draught to avoid the areas between Ślupska Bank and the Polish coastline and use the recommended route D:
 - tankers of [20 000] gross tonnage and upwards, carrying oils as defined under Annex I to the International Convention for the Prevention of Pollution from Ships, as amended and as modified by the 1978 Protocol (MARPOL 73/78) and 1997 Protocol thereto; and
 - ships of [10 000] gross tonnage and upwards, carrying noxious liquid substances in bulk categories A or B of Annex II to the International Convention for the Prevention of Pollution from Ships, as amended and as modified by the 1978 Protocol (MARPOL 73/78) and 1997 Protocol thereto.

The final criteria of the above-mentioned classes of ships will be determined by appropriate environmental assessment in due course of the evaluation of the proposal.

16 The recommended route D proposed in this document shall begin North of Ślupska Bank and run into the Gulf of Gdańsk. The route resurvey has been completed in 2005 by the Hydrographic Office of the Polish Navy in accordance with IHO standard for hydrographical survey S-44. The shallowest depth found is 23 metres. The route will extend the distance having to be traversed by ships by approximately 5 nautical miles compared to the distance when attempting to use coastal track off Polish coasts. However such an expense is justified by the clear objectives described in this sub-section.

Existing traffic separation schemes “Gulf of Gdańsk”

17 Ships operating on routes to the Polish ports in the Gulf of Gdańsk make nowadays more than 13,000 passages on a yearly basis, not including the local traffic of small vessels, fishing boats and leisure crafts. More than 2,000 of the above comprise chemical tankers, gas tankers, oil tankers with VLCCs up to maximum accommodated draught on the Baltic. Routing measures in the Gulf of Gdańsk consist of existing two traffic separation schemes established and announced in Polish Notices to Mariners in 1980, revised and amended with Inshore Traffic Zones in 2003. Routing measures in the Gulf of Gdańsk has not been yet submitted to IMO for adoption. Both TSSs guide all flow of ships to the Polish ports situated in the Gulf of Gdansk. The intention of the establishment of the schemes was to regulate the traffic flows in an area which is geographically limited. These measures can be seen as one part of protective measures which help to minimise the risk of grounding, collisions and finally of environmental pollution of very sensitive areas along Gulf of Gdańsk coastline (Nadmorski National Park, Three Cities Landscape Park, Nadmorski Landscape Park and Elbląg Hills Landscape Park).

18 The establishment of the proposed schemes has decreased the risk of pollution caused by collisions and risk of grounding in the area and this had a positive impact on the entire Baltic Sea area. The TSSs are situated partly within the Polish territorial and internal waters and are within the responsibility of the Vessel Traffic Services “Gulf of Gdańsk” established on 1 May 2003, acting as a coastal VTS and MAS, operated according to resolutions A.857(20) and A.950(23) respectively. Mandatory reporting system under local VTS Regulations is in force in VTS Area. It is proposed to adopt TSSs in the Gulf of Gdańsk for the purpose of regulation 10 of the International Regulations for Preventing Collisions at Sea (COLREGs).

Re-survey plans

19 The areas mentioned in this submission were re-surveyed or are proposed to be re-surveyed to the IHO standard for hydrographic surveys S-44 in the following schedule:

- | | |
|----------------------|-----------------|
| - TSS Słupska Bank | years 2007/2008 |
| - TSS Gulf of Gdańsk | completed 2004 |
| - Route D | completed 2005 |

Summary

20 This information document announces planned new routing measures in the southern part of the Baltic Sea depicted in the **annex** and presently considered as:

- a new traffic separation scheme Słupska Bank with a traffic limited to ships with a safe draught,
- a new area to be avoided on part of the Słupska Bank,
- a new recommended route D for the classes of ships described in paragraph 15,
- the existing traffic separation schemes in the Gulf of Gdańsk.

Action requested of the Sub-Committee

21 The Sub-Committee is invited to take note of the information provided in this document.

ANNEX

Preliminary considered routing measures in the southern part of the Baltic Sea

