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## Voyage & Passage Planning revisited

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### 1. Reference to Conventions, IMO Resolution and Circulars

The content of this newsletter is, amongst other, based on the following:

- Section A-VIII/2, Part 2 (Voyage planning) of the Seafarers' Training, Certification and Watchkeeping Code,
- The essential requirements contained in the SOLAS convention concerning voyage planning, incl. those relating to officers and crew, ship borne equipment, and safety management systems,
- IMO Resolution A.671(16) – Safety Zones and Safety of Navigation
- IMO Resolution A.893(21) – Guidelines to Voyage Planning
- IMO MSC.1/Circ.1228 – Adverse weather and sea conditions – Guidance to Masters
- IMO SN.1/Circ.295 – Safety Zones and Safety Navigation - Guidance

By IMO maritime authorities have been reminded to re-address the safe passage planning issue, and in this respect to contact masters of vessels flying their countries' flag, shipowners, ship operators, shipping companies, maritime pilots, training institutions and all other parties concerned for information and to encourage review of passage planning procedures.

With respect to the attached MSC.1/Circ.1228, please note IMO's advice that this guidance to the master has been designed to accommodate for all types of merchant ships. Therefore, being of a general nature, the guidance may be too restrictive for certain ships with more favourable dynamic properties, or too generous for certain other ships.

Regarding SN.1/Circ.295 we supply you with this recent information in order to draw your particular attention to the importance of checking the cautionary and/or explanatory notes on navigation charts depicting the location of safety zones<sup>1)</sup> established around structures at sea, be it oil/gas installation or Offshore Renewable Energy installations (ORE).<sup>2)</sup>

### 2. The Objectives of this Newsletter

The intention is to encourage to the development and/or review of voyage and passage planning as established in your SMS. In addition, we would hope to encourage close and continuous monitoring of the vessel's progress and position during the execution of such a plan.

There are several factors that may jeopardize the safe navigation of all vessels and additional factors that may impede the navigation of large vessels or vessels carrying hazardous cargoes. These factors will need to be taken into account in the preparation of the plan and in the subsequent monitoring of the execution of the plan.

Voyage and passage planning includes:

- appraisal, i.e. gathering all information relevant to the contemplated voyage or passage;
- detailed planning of the whole voyage or passage from berth to berth, including those areas necessitating the presence of a pilot;

- execution of the plan;
- monitoring of the progress of the vessel in the implementation of the plan, and
- the evaluation/recap of the entire passage upon completion of the voyage.

These components of voyage/passage planning are analyzed in the below.

### **3. Appraisal**

All information relevant to the contemplated voyage or passage should be considered. At least the following items should be taken into account in voyage and passage planning:

- 3.1 the condition and state of the vessel, her stability and equipment; any operational limitations; the permissible draught at sea in fairways and in ports; manoeuvring data, including any restrictions;
- 3.2 any special characteristics of the cargo (especially if hazardous), and its distribution, stowage and securing on board the vessel;
- 3.3 the provision of a competent and well-rested crew to undertake the voyage or passage;
- 3.4 requirements for up-to-date certificates and documents concerning the vessel, her equipment, crew, passengers or cargo;
- 3.5 appropriate scale, accurate and up-to-date charts to be used for the intended voyage or passage, as well as any relevant permanent or temporary notices to mariners and existing radio navigational warnings;
- 3.6 accurate and up-to-date sailing directions, lists of lights and lists of radio aids to navigation; and
- 3.7 any relevant up-to-date additional information, including:
  - a) mariners' routing guides and passage planning charts, published by competent authorities;
  - b) current and tidal atlases and tide tables;
  - c) climatological, hydrographical, and oceanographic data as well as other appropriate meteorological information;
  - d) availability of services for weather routing (such as that contained in Volume D of the World Meteorological Organization's Publication No. 9);
  - e) existing ships' routing and reporting systems, vessel traffic services, and marine environmental protection measures;
  - f) volume of traffic likely to be encountered throughout the voyage or passage;
  - g) if a pilot is to be used, information relating to pilotage and embarkation and disembarkation, including the exchange of information between master and pilot;
  - h) available port information, including information pertaining to the availability of shore-based emergency response arrangements and equipment; and
  - i) any additional items pertinent to the type of the vessel or her cargo, the particular areas the vessel will traverse, and the type of voyage or passage to be undertaken.

On the basis of the above information, an overall appraisal of the intended voyage or passage should be made. This appraisal should provide a clear indication of

- all areas of danger;
- those areas where it will be possible to navigate safely, including any existing routing or reporting systems and vessel traffic services; and
- any areas where marine environmental protection considerations apply.

### **4. Planning**

On the basis of the fullest possible appraisal, a detailed voyage or passage plan must be prepared, covering the entire voyage or passage from berth to berth, including those areas where the services of a pilot will be used.

The detailed voyage or passage plan should include the following factors:

- 4.1 the plotting of the intended route or track of the voyage or passage on appropriate scale charts: the true direction of the planned route or track should be indicated, as well as all areas of danger, existing ships' routeing and reporting systems, vessel traffic services, and any areas where marine environmental protection considerations apply;
- 4.2 the main elements to ensure safety of life at sea, safety and efficiency of navigation, and protection of the marine environment during the intended voyage or passage; such elements should include, but not be limited to:
  - a) safe speed, having regard to the proximity of navigational hazards along the intended route or track, the manoeuvring characteristics of the vessel and its draught in relation to the available water depth;
  - b. necessary speed alterations en route, e.g., where there may be limitations because of night passage, tidal restrictions, or allowance for the increase of draught due to squat and heel effect when turning;
  - c. minimum clearance required under the keel in critical areas with restricted water depth;
  - d. positions where a change in machinery status is required;
  - e. course alteration points, taking into account the vessel's turning circle at the planned speed and any expected effect of tidal streams and currents;
  - f. the method and frequency of position fixing, including primary and secondary options, and the indication of areas where accuracy of position fixing is critical and where maximum reliability must be obtained;
  - g. the method of parallel indexing, incl. clear marking of "No go" areas;
  - h. use of ships' routeing and reporting systems and vessel traffic services;
  - i. considerations relating to the protection of the marine environment; and
  - j. contingency plans for alternative action to place the vessel in deep water, or proceed to a port of refuge or a safe anchorage in the event of any emergency necessitating abandonment of the plan, taking into account existing shore-based emergency response arrangements and equipment and the nature of the cargo and of the emergency itself.

The details of the voyage or passage plan should be clearly marked and recorded, as appropriate, on charts and in the voyage plan.

When circumstances so require, a bridge team meeting should be conducted with all navigation personnel present prior to commencement of the voyage.

Each voyage or passage plan as well as the details of the plan must be approved by the ships' master prior to the commencement of the voyage or passage.

## **5. Execution**

Having finalized the voyage or passage plan, as soon as time of departure and estimated time of arrival can be determined with reasonable accuracy, the voyage or passage should be executed in accordance with the plan or any changes made thereto.

Factors which should be taken into account when executing the plan or deciding on any deviation to include:

- 5.1 the reliability and condition of the vessel's navigational equipment;
- 5.2 estimated times of arrival at critical points for tide heights and flow;
- 5.3 meteorological conditions, (particularly in areas known to be affected by frequent periods of low visibility), as well as weather routeing information;
- 5.4 daytime versus night-time passing of danger points, and any effect this may have on position fixing accuracy; and
- 5.5 traffic conditions, especially at navigational focal points.

It is important for the master to consider whether any particular circumstance introduces an unacceptable hazard to the safe conduct of the passage. Such hazard may be represented by a forecast of restricted visibility in an area where position fixing by visual means at a critical point is an essential feature of the voyage or passage plan. The master should then reconsider whether that section of the passage should be attempted under the conditions prevailing or likely to prevail. Consideration should also be taken whether at any specific points of the voyage or passage there may be a need to utilize additional deck or engine room personnel.

## **6. Monitoring**

The plan should be available at all times on the bridge to allow officers of the navigational watch immediate access and reference to the details of the plan.

The progress of the vessel in accordance with the voyage and passage plan should be closely and continuously monitored. Any changes made to the plan should be made consistent with prevailing guidelines. All changes must be clearly marked and recorded.

## **7. Evaluation/Recap**

Following each passage, a short recap would be advisable in order to note down important items. In the event of deviation from the original plan, such recap is strongly recommended. The log may be then reviewed at the next passage planning in the same waters in order to profit from the “do’s” and to void the “don’ts”.

### **1) Definition of a safety zone by UK Health and Safety Executive – on**

<http://www.hse.gov.uk/pubns/indg189.pdf>):

A safety zone is an area extending 500 m from any part of offshore oil and gas installations and is established automatically around all installations which project above the sea at any state of the tide. Subsea installations may also have safety zones, created by statutory instrument, to protect them. These safety zones are 500 m radius from a central point. Vessels of all nations are required to respect them. It is an offence (under section 23 of the Petroleum Act 1987) to enter a safety zone except under the special circumstances outlined below.

### **2) For further assessments on ORE and related issues, you are encouraged to visit web pages such as**

- MCA’s pages at [http://www.dft.gov.uk/mca/mcga07-home/shipsandcargoes/mcga-shipsregsandguidance/mcga-windfarms/offshore-renewable\\_energy\\_installations/ds-nav-mgn372.htm](http://www.dft.gov.uk/mca/mcga07-home/shipsandcargoes/mcga-shipsregsandguidance/mcga-windfarms/offshore-renewable_energy_installations/ds-nav-mgn372.htm)

**For relevant information regarding the North Sea Area you may be interested in further information, as well the most recent warnings from e.g.:**

- **Farvandsvæsenet** on [http://frv.dk/Sejladsinformation/Aktuelle\\_advarsler/Pages/Aktuelle\\_advarsler.aspx](http://frv.dk/Sejladsinformation/Aktuelle_advarsler/Pages/Aktuelle_advarsler.aspx) and [http://www.frv.dk/Sejladsinformation/Efterretninger/current/2011\\_EfS\\_%2031.pdf](http://www.frv.dk/Sejladsinformation/Efterretninger/current/2011_EfS_%2031.pdf):
- **Fiskernes Orientering om Olie- og Gasaktiviteter (FOGA)** on <http://foga.dk/nordso-kort>. For their latest chart press either Danish or English below Downloads (e.g. <http://foga.dk/files/FOGA%20oversigtskort/Week%2032%202011.pdf>)

*For the sake of order, the following documents from IMO attached:*

IMO Resolution A.671(16)  
IMO Resolution A.893(21)  
IMO MSC.1/Circ.1228  
IMO SN.1/Circ.295