

## RESOLUTION A.284(VIII)

*Adopted on 20 November 1973  
Agenda item 10*

### ROUTEING SYSTEMS

THE ASSEMBLY,

NOTING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

RECALLING Regulation 8, Chapter V of the International Convention for the Safety of Life at Sea, 1960, and the amendment thereto adopted by Resolution A.205(VII),

RECALLING FURTHER Resolution A.228(VII) on observance of traffic separation schemes,

NOTING that the International Regulations for Preventing Collisions at Sea, 1972, and, in particular Rules 1(d) and 10 thereof provide for adoption by the Organization of, and the behaviour of vessels in or near, traffic separation schemes,

RECOGNIZING that there is a need to bring the terms, definitions and general principles concerning traffic separation and routeing, as set out in Annex II to Resolution A.161(ES.IV), into harmony with the International Regulations for Preventing Collisions at Sea, 1972,

RECOGNIZING ALSO that the practice of complying with routeing measures adopted by IMCO for international use would contribute considerably to the avoidance of collisions between ships,

RECOGNIZING FURTHER that such practice would consequently reduce the risk of pollution of the marine environment and the risk of damage to marine life resulting from collisions or strandings,

CONFIRMING that IMCO is recognized as the only international body for establishing and adopting routeing measures on an international level,

NOTING that the Ninth International Hydrographic Conference charged the International Hydrographic Bureau to deal with matters relating to presentation on the charts and in sailing directions, details of routeing provisions which have been considered, approved and adopted by IMCO for international use,

HAVING CONSIDERED the Recommendations by the Maritime Safety Committee at its twenty-fifth, twenty-seventh and twenty-eighth sessions,

RESOLVES:

- (a) to adopt the general provisions pertaining to Ships' Routeing approved by the Maritime Safety Committee at its twenty-seventh and twenty-eighth sessions, the text of which appears at Annex I to this Resolution, as a substitute for the terms, definitions and general principles covering traffic separation and routeing set out in Annex II to Resolution A.161(ES.IV);
- (b) to adopt the routeing measures approved by the Maritime Safety Committee at its twenty-fifth, twenty-seventh and twenty-eighth sessions, the text of which appears at Annex II to this Resolution,

REQUESTS the Maritime Safety Committee to revise and update as necessary the publication on "Ships' Routeing" to reflect the decisions taken in the foregoing part of this Resolution and to approve new routeing measures and revisions, cancellations and suspensions of routeing measures previously adopted by the Organization and to submit recommendations thereon to the Assembly for adoption,

INVITES the governments concerned to advise ships under their flag to comply with the adopted routeing measures,

URGES governments, when planning either to introduce new traffic separation schemes similar to those included in the IMCO publication on "Ships' Routeing" or to amend existing schemes in that publication, to consult the Organization in advance whenever practicable,

REQUESTS the Secretary-General to advise the International Hydrographic Bureau on details of the routing provisions to facilitate the hydrographers' work on inclusion of this material in the appropriate nautical charts and related publications for the use of mariners,

REVOKES the following Resolutions by which the Assembly adopted terms, definitions and general principles concerning traffic separation and various traffic separation schemes and areas to be avoided: Resolutions A.90(IV), A.161(ES.IV), A.186(VI), A.226(VII) and A.227(VII).

ANNEX I

**REVISED GENERAL PROVISIONS FOR ADOPTION, TERMINOLOGY,  
SYMBOLS, METHODS AND GENERAL PRINCIPLES OF  
SHIPS' ROUTEING**

**PART I**

**GENERAL PROVISIONS**

## ADOPTION AND RECOMMENDATION

1. IMCO is recognized as the only international body responsible for establishing and recommending measures on an international level concerning ships' routing.
  - (i) the availability of visual aids to navigation, or
  - (ii) the possibility of position-fixing by the use of direction finder or radar.
2. In deciding whether or not to adopt a traffic separation scheme, IMCO will consider:
  - (a) whether the aids to navigation proposed will enable mariners to determine their position with sufficient accuracy to navigate in the scheme in accordance with the principles regarding the use of Routeing Schemes;
  - (b) whether or not the scheme complies with the established Methods of Routeing.
3. Having due regard to paragraph 5, a Government shall when establishing, reviewing or adjusting a routeing system, take due account of:
  - (a) the rights and practices of Governments in respect of the exploitation of living and mineral resources of the high seas and of the sea-bed and subsoil underlying the high seas;
  - (b) the environment, traffic patterns or established routeing systems in the waters under such Government's jurisdiction;
  - (c) the aids to navigation already established in the area, and the effect the routeing system may have upon demands for hydrographic surveys and for improvements or adjustments in the navigation aids provided in the waters concerned.
4. IMCO shall not adopt or amend any scheme that is in the proximity of waters under a Government's jurisdiction without the agreement of that Government, where that scheme may affect:
  - (a) the rights and practices of such Government in respect of the exploitation of living and mineral resources of the high seas and of the sea-bed and subsoil underlying the high seas;
  - (b) the environment, traffic patterns or established routeing systems in the waters under such Government's jurisdiction;
  - (c) demands for improvements or adjustments in the navigation aids provided in the waters concerned.
5.
  - (a) A Government proposing a routeing system, any part of which lies within international waters, should consult with IMCO, so that such system may be adopted by IMCO for international use.
  - (b) A Government may establish or adjust a routeing system lying partly within international waters, before consulting with IMCO, where local conditions require that early action be taken, with a view to later adoption by the Organization.
  - (c) A Government, when proposing or establishing a traffic separation scheme, should be guided by the following criteria, having due regard to the class of vessel for which the scheme is intended:
    - (i) the availability of visual aids to navigation, or
    - (ii) the possibility of position-fixing by the use of direction finder or radar.
6. When establishing areas to be avoided by certain ships, the necessity for creating such areas should be well established and the reasons stated. In general, these areas should be established only in places where inadequate survey or insufficient provision of aids to navigation may lead to danger of stranding, or where local knowledge is considered essential for safe passage or where there is the possibility of unacceptable damage to wildlife, which may result from a casualty. These areas shall not be regarded as prohibited areas unless specifically stated otherwise; the classes of ships which should avoid the areas should be considered in each particular case.
7. Routeing systems should be reviewed, resurveyed and adjusted as necessary, so as to maintain their effectiveness and compatibility with trade patterns, resource exploitation, changes in depth of water, and other developments.
8. Except where local conditions require that early action be taken, a routeing system adopted by IMCO should not come into force before a period of three months has elapsed since the date of adoption by the Assembly.
9. Nothing in the foregoing shall affect the rights, claims or views of any Government in regard to the limits of territorial waters.







## TERMINOLOGY AND SYMBOLS

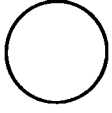
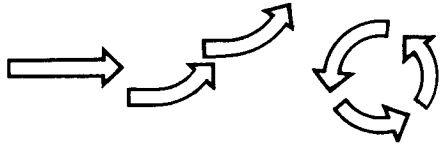
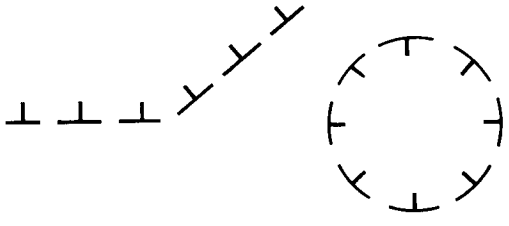
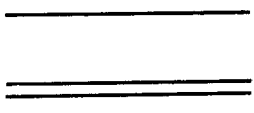
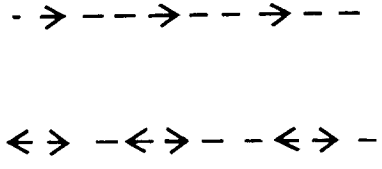
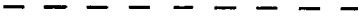

1. The following terms and symbols are used in this booklet in connexion with matters related to ships' routing:

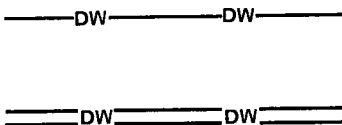
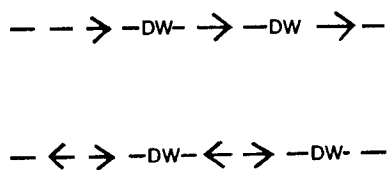
- (a) *Routeing*  
A complex of measures concerning routes aimed at reducing the risk of casualties; it includes traffic separation schemes, two-way routes, tracks, areas to be avoided, inshore traffic zones and deep water routes.
- (b) *Traffic separation scheme*  
A scheme which separates traffic proceeding in opposite or nearly opposite directions by the use of a separation zone or line, traffic lanes or by other means.
- (c) *Separation zone or line*  
A zone or line separating traffic proceeding in one direction from traffic proceeding in another direction. A separation zone may also be used to separate a traffic lane from the adjacent inshore traffic zone.
- (d) *Traffic lane*  
An area within definite limits inside which one-way traffic is established.
- (e) *Roundabout*  
A circular area within definite limits in which traffic moves in a counter-clockwise direction around a specified point or zone.

- (f) *Inshore traffic zone*  
A designated area between the landward boundary of a traffic separation scheme and the adjacent coast intended for coastal traffic.
- (g) *Two-way route*  
A route in an area within definite limits inside which two-way traffic is established.
- (h) *Track*  
The recommended route to be followed when proceeding between pre-determined positions.
- (i) *Deep water route*  
A route in a designated area within definite limits which has been accurately surveyed for clearance of sea bottom and submerged obstacles to a minimum indicated depth of water.

2. The symbols in the following table are those recommended by the International Hydrographic Organization for representation of details of routeing measures on nautical charts. They are included in this publication for readers' information on what may be generally found in charts. Individual countries may, however, use on their charts symbols different from those given below.

Detail	Presentation	Description
1. Outside limit of traffic lanes, two-way routes and inshore traffic zones		Dashed line – the symbol used for maritime limits in general
2. Outside limit of "roundabout"(1)		
3. Separation zone (2) (of any shape)		The zone shall be indicated by means of a tint light enough to reveal any hydrographic details
4. Separation line		A single tinted line

Detail	Presentation	Description
5. Centre of "roundabout" with no separation zone inside		A circle
6. Arrows indicating direction of traffic flow (3)		Open-outlined arrows so situated and shaped as to indicate general directions of traffic flow
7. Boundary of "areas to be avoided by ships of certain classes" (4)		A line composed of a series of T-shaped signs, the cross-bar of the T being long and the down stroke short and pointing towards the area in question, within which a suitable legend may be inscribed
8. Limit of sea exploration and/or exploitation regions which may be dangerous for free navigation		
9. Recommended track when based on a system of fixed marks		A single or double continuous line
10. Recommended track when not based on a system of fixed marks		A single dashed line in which arrowheads are inserted at regular intervals, either singly to indicate a one-way track, or in opposing pairs to indicate a two-way track
11. Outside limit of deep water route, when depicted		A dashed line
12. Deep water route when both outside limits are depicted		Dashed lines and the the letters DW inserted at regular intervals between them. The minimum depth shall be inserted beside the abbreviation when considered critical

Detail	Presentation	Description
13. Deep water route, based on fixed marks		A double or single continuous line with the abbreviation DW inserted at regular intervals. The minimum depth shall be indicated beside the abbreviation when considered critical. When using this symbol, the direction of traffic flow shall be indicated conventionally
14. Deep water route not based on fixed marks, direction of traffic flow		A single dashed line in which arrowheads are inserted at regular intervals, either singly to represent a one-way route, or in opposing pairs, to represent a two-way route. The abbreviation DW shall also be inserted at regular intervals along the symbol, and the minimum depth indicated beside the abbreviation when considered critical

#### Remarks

- (1) The dashed line, representing outside limits of 'roundabout' should be interrupted in places where ships are recommended to enter or to leave the scheme.
- (2) In places where traffic is separated by natural features (islands, marked shoals, etc.) representation of the separation zone may be omitted.
- (3) Dispersion of arrows, instead of placing them in a line, is felt desirable.
- (4) Notes on conditions of avoidance (classes and sizes of ships, nature of cargoes carried, etc.) may be given on charts and shall always be given in Sailing Directions.

#### General Observations

The routeing and traffic separation symbols to be used on charts should be printed in colour, preferably magenta.

Secondary details of routeing and traffic separation, such as figures indicating directions of traffic, schemes and their details, dimensions, distances from coast, etc., should not be shown on charts unless considered critical. These are given in this IMCO publication and may be given in Sailing Directions if so decided by hydrographic offices.

## METHODS OF ROUTEING

1. When establishing routeing systems the following are among the methods which may be used:

- (a) separation of traffic by separation zones or lines;
- (b) separation of traffic by natural obstacles and geographically defined objects;
- (c) separation of traffic by inshore traffic zones intended for keeping coastal traffic away from traffic separation schemes;
- (d) separation of traffic by sectors at approaches to focal points;
- (e) separation of traffic by roundabouts intended to facilitate navigation at focal points, where traffic separation schemes meet;
- (f) routeing of traffic by deep water routes, two-way routes or tracks for ships proceeding in specific directions.

2. A description of methods (a) to (e) with drawings intended only to explain their function is given in the following:

(a) *By separation zones or lines* (Fig.1)

In such cases, the separation of traffic is achieved by a separation zone or line between streams of traffic proceeding in opposite or nearly opposite directions. The outside limits in such a scheme are the outer boundaries of lanes intended for one-way traffic. Beyond such limits ships can navigate in any direction. A separation zone may also be used to separate a traffic lane from an inshore traffic zone.

The width and length of separation zones and traffic lanes are determined after careful examination of local conditions, traffic density, prevailing hydrographic and meteorological conditions, space available for manoeuvring, etc., and generally their length is kept to the minimum necessary. In narrow passages and restricted waters a separation line may be adopted instead of a zone, for the separation of traffic, to allow for more navigable space.

(b) *By natural obstacles and geographically defined objects* (Fig.2)

This method is used where there is a defined area with obstacles such as islands, shoals or rocks restricting free movement and providing a natural division for opposing traffic streams.

(c) *By inshore traffic zones* (Fig.3)

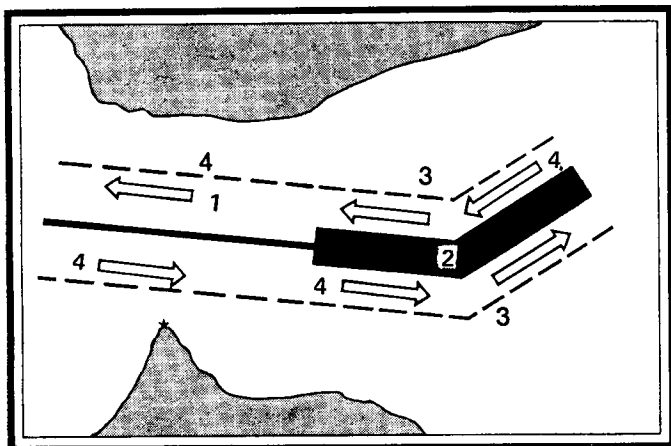
By using inshore traffic zones coastal shipping can keep clear of through traffic in the adjacent traffic separation scheme. Ships navigating in any direction may be encountered in an inshore traffic zone.

(d) *By sectors at approaches to focal points* (Fig.4)

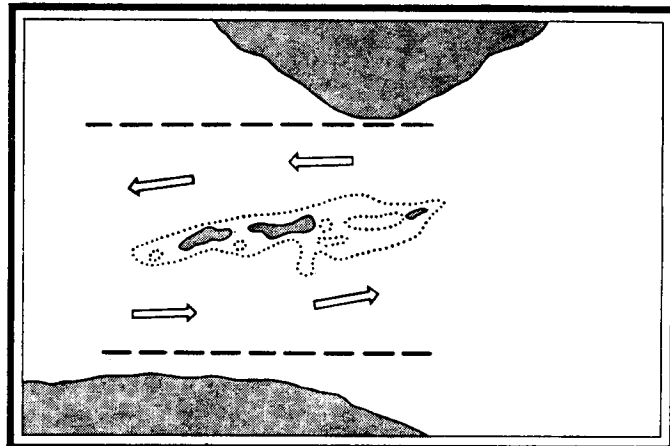
Such a method is used where ships converge at a point or a small area from various directions. Port approaches, sea pilot stations, positions where landfall buoys or light vessels are fixed, entrances to channels, canals, estuaries, etc., may be considered as such focal points. The number of shipping lanes, their dimensions and directions depend mainly on the type of the local traffic.

(e) *By roundabouts* (Fig.5)

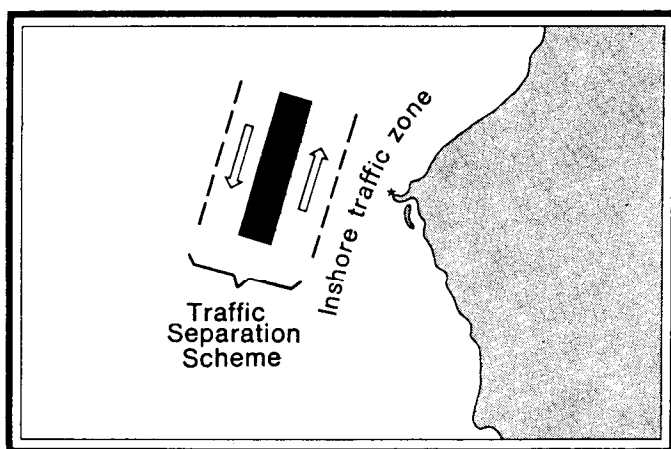
To facilitate navigation at focal points where several traffic separation schemes meet, ships should move in a counter-clockwise direction around a specified point or zone until they are able to join the appropriate lane.



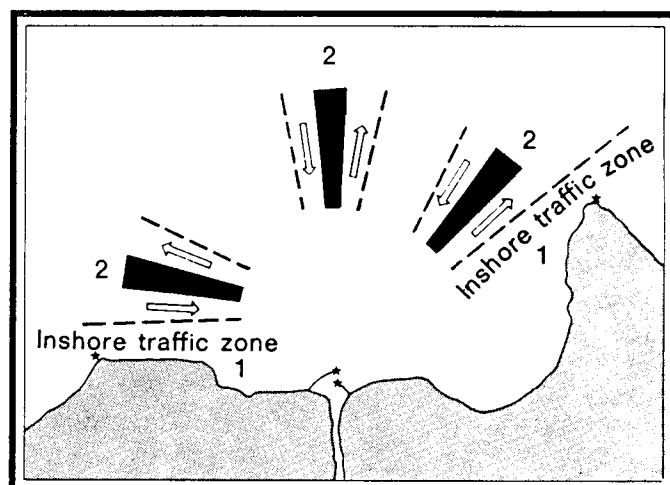
**Figure 1** *Traffic separation by separation line and zone*  
 1 – Separation line  
 2 – Separation zone  
 3 – Outside limits of lanes  
 4 – Arrows indicating main traffic direction



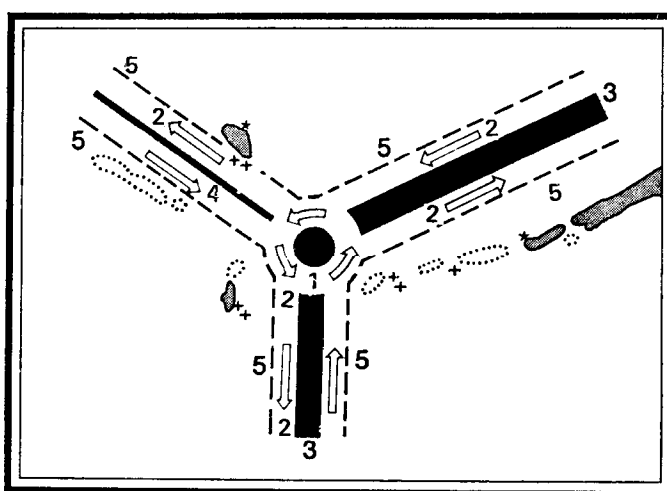
**Figure 2** *Separation of traffic by natural obstacles*



**Figure 3** *Inshore traffic zone for coastal traffic*



**Figure 4** *Sectorial traffic separation scheme at approaches to focal point*  
 1 – Inshore traffic zone  
 2 – Separation schemes for main traffic



**Figure 5** *A roundabout where several traffic separation schemes meet*  
 1 – Circular separation zone  
 2 – Arrows indicating traffic direction  
 3 – Separation zone  
 4 – Separation line  
 5 – Outside limits of lanes

## GENERAL PRINCIPLES OF SHIPS' ROUTEING

### The use of routeing systems

1. The International Regulations for Preventing Collisions at Sea apply to navigation in routeing systems.

2. Routeing systems are intended for use by day and by night in all weathers, in ice-free waters or under light ice conditions where no extraordinary manoeuvres or assistance by icebreaker(s) are required.

3. Routeing systems are recommended for use by all ships unless stated otherwise.

4. A deep water route is primarily intended for use by ships which because of their draught in relation to the available depth of water in the area concerned require the use of such a route. Through traffic to which the above consideration does not apply should, if practicable, avoid following deep water routes. When using a deep water route mariners should be aware of possible changes in the indicated depth of water due to meteorological or other effects.

5. A vessel using a traffic separation scheme shall:

- (i) proceed in the appropriate traffic lane in the general direction of traffic flow for that lane;
- (ii) so far as practicable keep clear of a traffic separation line or separation zone;
- (iii) normally join or leave a traffic lane at the termination of the lane, but when joining or leaving from the side shall do so at as small an angle to the general direction of traffic flow as practicable.

6. A vessel shall so far as practicable avoid crossing traffic lanes, but if obliged to do so shall cross as nearly as practicable at right angles to the general direction of traffic flow.

7. Inshore traffic zones shall not normally be used by through traffic which can safely use the appropriate traffic lane within the adjacent traffic separation scheme.

8. A vessel, other than a crossing vessel, shall not normally enter a separation zone or cross a separation line except:

- (i) in cases of emergency to avoid immediate danger;
- (ii) to engage in fishing within a separation zone.

9. A vessel navigating in areas near the terminations of traffic separation schemes shall do so with particular caution.

10. A vessel shall so far as practicable avoid anchoring in a traffic separation scheme or in areas near its terminations.

11. A vessel not using a traffic separation scheme shall avoid it by as wide a margin as is practicable.

12. The arrows printed on charts merely indicate the general direction of traffic; ships need not set their courses strictly along the arrows.

13. The signal "YG" meaning "You appear not to be complying with the traffic separation scheme" is provided in the International Code of Signals for appropriate use.

ANNEX II

**PART II**

**TRAFFIC SEPARATION SCHEMES**

## BALTIC SEA

**CAUTION:**

The chartlets are for illustrative purposes only and must not be used for navigation. Mariners should consult the appropriate nautical publications and charts for up-to-date details on aids to navigation and other relevant information.



## BALTIC SEA

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## OFF SOMMERS ISLAND

(Reference chart: British Admiralty 2264)

### Description of the traffic separation scheme

The traffic separation scheme off Sommers Island consists of four parts.

#### Part I:

- (a) A roundabout with a circular traffic separation zone of half a mile in diameter is centred at the following geographical position:
- (1)  $60^{\circ}11'.5$  N.,  $27^{\circ}46'.2$  E.
- (b) A circular traffic lane, one-and-a-quarter miles wide, is established around the circular separation zone.

#### Part II:

- (a) A separation zone, half a mile wide, is centred upon the following geographical positions:
- (2)  $60^{\circ}07'.7$  N.,  $27^{\circ}32'.6$  E.  
(3)  $60^{\circ}10'.4$  N.,  $27^{\circ}42'.2$  E.
- (b) A traffic lane, one mile wide, is established on each side of the traffic separation zone.
- (c) A separation line connects the following geographical positions:
- (4)  $60^{\circ}10'.4$  N.,  $27^{\circ}42'.2$  E.  
(5)  $60^{\circ}10'.6$  N.,  $27^{\circ}43'.5$  E.
- (d) A traffic lane, one-and-a-quarter miles wide, is established on each side of the separation line and the outside limits of the traffic lanes are extended to intersect with the outside limit of the roundabout.
- The main traffic directions are:  
 $060^{\circ} - 240^{\circ}$ .

#### Part III:

- (a) A separation line connects the following geographical positions:
- (6)  $60^{\circ}11'.1$  N.,  $27^{\circ}49'.0$  E.  
(7)  $60^{\circ}07'.7$  N.,  $28^{\circ}16'.1$  E.  
(8)  $60^{\circ}01'.9$  N.,  $28^{\circ}29'.0$  E.
- (b) A traffic lane, one mile wide, is established on each side of the separation line and the outside limits of the traffic lanes are extended to intersect with the outside limit of the roundabout.
- The main traffic directions are:  
 $104^{\circ} - 284^{\circ}$  and  
 $132^{\circ} - 312^{\circ}$ .

#### Part IV:

- (a) A separation line connects the following geographical positions:
- (9)  $60^{\circ}12'.8$  N.,  $27^{\circ}47'.8$  E.  
(10)  $60^{\circ}24'.5$  N.,  $28^{\circ}05'.0$  E.
- (b) A traffic lane, half a mile wide, is established on each side of the separation line and the outside limits of the traffic lanes are extended to intersect with the outside limit of the roundabout.
- The main traffic directions are:  
 $036^{\circ} - 216^{\circ}$ .

#### Note:

The roundabout serves the purpose of facilitating manoeuvring in the area where traffic to and from Leningrad, Vyborg and the Western Baltic meet.

## OFF HOGLAND (GOGLAND) ISLAND

(Reference chart: British Admiralty 2264)

### Description of the traffic separation scheme

The traffic separation scheme off Hogland Island consists of two parts:

#### Part I:

- (a) A separation zone, half a mile wide, is centred upon the following geographical positions:
- (1)  $59^{\circ}59'.0$  N.,  $26^{\circ}57'.4$  E.  
(2)  $59^{\circ}58'.7$  N.,  $27^{\circ}01'.4$  E.  
(3)  $59^{\circ}59'.7$  N.,  $27^{\circ}04'.8$  E.
- (b) A traffic lane, one mile wide, is established on each side of the separation zone.
- The main traffic directions are:  
 $099^{\circ} - 279^{\circ}$  and  
 $060^{\circ} - 240^{\circ}$ .

#### Part II:

- (a) A separation line connects the following geographical positions:
- (4)  $59^{\circ}59'.7$  N.,  $27^{\circ}04'.8$  E.  
(5)  $60^{\circ}07'.7$  N.,  $27^{\circ}32'.6$  E.
- (b) A traffic lane, one-and-a-quarter miles wide, is established on each side of the separation line.
- The main traffic directions are:  
 $060^{\circ} - 240^{\circ}$ .

### OFF RODSHER ISLAND

(Reference charts: British Admiralty 2248 and 2357)

#### Description of the traffic separation scheme

A separation zone, half a mile wide, is centred upon the following geographical positions:

- (1) 59°59'.9 N., 26°36'.5 E.
- (2) 60°00'.4 N., 26°40'.3 E.
- (3) 60°00'.1 N., 26°44'.3 E.

A traffic lane, one mile wide, is established on each side of the separation zone.

The main traffic directions are:

076°—256° and  
099°—279°.

### OFF KALBÅDAGRUND LIGHTHOUSE

(Reference chart: British Admiralty 2248)

#### Description of the traffic separation scheme

A separation zone, one mile wide, is centred upon the following geographical positions:

- (1) 59°52'.2 N., 25°30'.7 E.
- (2) 59°53'.0 N., 25°38'.6 E.
- (3) 59°53'.9 N., 25°46'.5 E.

A traffic lane, one-and-a-half miles wide, is established on each side of the separation zone.

The main traffic directions are:

078°—258° and  
076°—256°.

#### Inshore traffic zone

The area between the Kalbådagrund Lighthouse and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

### OFF PORKKALA LIGHTHOUSE

(Reference chart: British Admiralty 2248)

#### Description of the traffic separation scheme

A separation zone, one mile wide, is centred upon the following geographical positions:

- (1) 59°44'.1 N., 24°13'.7 E.
- (2) 59°44'.9 N., 24°21'.4 E.
- (3) 59°45'.9 N., 24°29'.1 E.

A traffic lane, one-and-a-half miles wide, for westbound traffic, is established on the northern side of the separation zone.

A traffic lane, two miles wide, for eastbound traffic, is established on the southern side of the separation zone.

The main traffic directions are:

078°—258° and  
076°—256°.

#### Inshore traffic zone

The area between Porkkala Lighthouse and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## OFF HANKONIEMI PENINSULA

(Reference chart: British Admiralty 2241)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 59°28'.2 N., 22°33'.3 E.
- (2) 59°31'.9 N., 22°42'.6 E.
- (3) 59°33'.3 N., 22°53'.9 E.

A traffic lane, four miles wide, is established on each side of the separation zone.

The main traffic directions are:

052°—232° and  
076°—256°.

### Inshore traffic zones

The areas between the outer boundaries of the traffic separation scheme and the adjacent coasts are designated as inshore traffic zones.

## OFF KÖPU PENINSULA (HIIUMAA ISLAND)

(Reference chart: British Admiralty 2222)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 59°02'.9 N., 21°35'.8 E.
- (2) 59°07'.7 N., 21°42'.6 E.
- (3) 59°11'.6 N., 21°52'.0 E.

A traffic lane, four miles wide, is established on each side of the separation zone.

The main traffic directions are:

037°—217° and  
052°—232°.

## OFF GOTLAND ISLAND

(Reference chart: British Admiralty 2288)

### Description of the traffic separation scheme

A separation zone, one mile wide, is centred upon the following geographical positions:

- (1) 56°46'.0 N., 18°19'.0 E.
- (2) 56°49'.5 N., 18°27'.5 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

053°—233°

### Inshore traffic zone

The area between Gotland Island and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## OFF ÖLAND ISLAND

(Reference chart: British Admiralty 2251)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 56°02'.0 N., 16°35'.0 E.
- (2) Öland Södra Grund Lighthouse
- (3) 56°06'.7 N., 16°46'.9 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

- 058°—238° and  
053°—233°

### Inshore traffic zone

The area between Öland Island and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## IN THE APPROACHES TO ROSTOCK

(Reference chart: British Admiralty 2365)

IMPORTANT: This traffic separation scheme is under review and not ready for implementation at present.

### Description of the traffic separation scheme

#### Part I:

#### Routeing in the NEMEDRI areas

1. In that part of the NEMEDRI "Way 1" which lies between buoys '7c' and '9' the width of the traffic lane situated on the southern side of the axis is expanded to 2 n.m.
2. The approach to Rostock referred to in the NEMEDRI as Warnemünde Approach is abolished.
3. Two new approaches to Rostock, hereafter referred to as western and eastern approaches, are introduced as follows:

#### Western approach

- (a) The axis is a line passing through the following points:
  - (1) 54°22'.0 N., 11°55'.9 E.
  - (2) 54°17'.7 N., 12°00'.0 E.
  - (3) 54°15'.2 N., 12°02'.5 E.
- (b) A traffic lane, half a mile wide, is established on each side of the traffic separation zones described in 4(a) and 4(b).
- (c) Main traffic directions are:  
150°.5—330°.5

#### Eastern approach

- (d) The axis is a line passing through the following points:
  - (4) 54°23'.4 N., 12°06'.5 E.
  - (5) 54°20'.5 N., 12°03'.2 E.
  - (6) 54°17'.7 N., 12°00'.0 E.
- (e) A traffic lane, half a mile wide, is established on each side of the traffic separation zone described in 4(c).
- (f) Main traffic directions are:  
214°—034°

#### Connexion of the Eastern approach with 'way 1'.

- (g) The outside boundary of traffic lanes in the area between buoy '9' and the geographical position referred to in 3(d) (5) is a line connecting the following geographical positions:
  - (7) 54°23'.1 N., 12°08'.9 E.
  - (8) 54°25'.5 N., 12°10'.9 E.

#### Part II:

#### Separation of traffic in the area

4. The traffic separation zones, one-quarter of a mile wide, established on the axes described in 3(a) and 3(d) are centred upon the following geographical positions:
  - (a) The northern zone in the western approach to Rostock:
    - (9) 54°22'.0 N., 11°55'.9 E.
    - (10) 54°18'.5 N., 11°59'.2 E.
  - (b) The southern zone in the western approach to Rostock:
    - (11) 54°17'.0 N., 12°00'.8 E.
    - (12) 54°15'.2 N., 12°02'.5 E.
  - (c) The zone in the eastern approach to Rostock:
    - (13) 54°18'.5 N., 12°00'.9 E.
    - (14) 54°23'.4 N., 12°06'.9 E.

## IN THE SOUND

(Reference charts: British Admiralty 2115 and 2594)

### Description of the traffic separation scheme

- (a) A separation line connects the following geographical positions:

- (1) 56°06'.0 N., 12°34'.1 E.
- (2) 56°04'.6 N., 12°36'.6 E.
- (3) 56°03'.3 N., 12°39'.2 E.
- (4) 56°01'.2 N., 12°40'.2 E.

- (b) A traffic lane for northbound traffic is established between the separation line and a line connecting the following geographical positions:

- (5) 56°06'.4 N., 12°34'.9 E.
- (6) 56°03'.4 N., 12°40'.1 E.
- (7) 56°01'.2 N., 12°41'.3 E.

- (c) A traffic lane for southbound traffic is established between the separation line and a line connecting the following geographical positions:

- (8) 56°05'.5 N., 12°33'.3 E.
- (9) 56°03'.2 N., 12°38'.3 E.
- (10) 56°01'.2 N., 12°37'.7 E.

### Inshore traffic zones

The areas between the outer boundaries of the traffic separation scheme and the adjacent coasts are designated as inshore traffic zones.

### Note:

Cross channel traffic

All precautions, including if necessary a reduction of speed, should be taken in the area between Hälsingborg and Helsingör which is widely used by local cross channel ferry traffic.

## OFF FALSTERBOREV

(Reference charts: Swedish Administration of Shipping and Navigation 921 and 929)

### Description of the traffic separation scheme

The traffic separation scheme off Falsterborev consists of four parts.

#### Part I:

- (a) A roundabout with a circular traffic separation zone of half a mile in diameter is centred at the following geographical position:

- (1) 55°18'.6 N., 12°39'.5 E.

- (b) A circular traffic lane, one-and-three-quarter miles wide, modified in its width in the NE quadrant by the exclusion of a segment, is established around the circular separation zone. The segment defined by the following geographical positions is a mine danger area:

- (2) 55°19'.8 N., 12°42'.2 E.
- (3) 55°18'.8 N., 12°41'.8 E.
- (4) 55°18'.6 N., 12°42'.9 E.

#### Part II:

- (a) A separation line connects the following geographical positions:

- (5) 55°15'.9 N., 12°51'.8 E.
- (6) 55°17'.5 N., 12°42'.5 E.

- (b) A traffic lane, one point one miles wide, is established on each side of the separation line and the outside limits of the traffic lanes are extended to intersect with the outside limit of the roundabout.

The main traffic directions are:

107°—287°.

#### Part III:

- (a) A separation line connects the following geographical positions:

- (7) 55°13'.1 N., 12°39'.1 E.
- (8) 55°16'.6 N., 12°38'.9 E.

- (b) A traffic lane, one mile wide, is established on each side of the separation line and the outside limits of the traffic lanes are extended to intersect with the outside limit of the roundabout.

The main traffic directions are:

177°—357°.

#### Part IV:

- (a) A separation line connects the following geographical positions:

- (9) 55°20'.5 N., 12°39'.4 E.
- (10) 55°25'.0 N., 12°40'.7 E.

- (b) A traffic lane, one-and-a-half miles wide, is established on each side of the separation line and the outside limit of the traffic lanes are extended to intersect with the outside limit of the roundabout.

The main traffic directions are:

010°—190°.

### Note:

The roundabout serves the purpose of facilitating manoeuvring in the area where traffic to and from the Baltic Sea, the Kiel Canal and the Sound meet.

## OFF KIEL LIGHTHOUSE

(Reference chart: German Hydrographic Office 32)

### Description of the traffic separation scheme

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (1) 54°29'58" N., 10°18'31" E.
  - (2) 54°29'47" N., 10°18'43" E.
  - (3) 54°29'01" N., 10°16'34" E.
  - (4) 54°29'11" N., 10°16'32" E.
- (b) A traffic lane for north-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (5) 54°28'09" N., 10°17'34" E.
  - (6) 54°29'12" N., 10°19'24" E.
- (c) A traffic lane for south-westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (7) 54°29'39" N., 10°15'47" E.
  - (8) 54°30'29" N., 10°17'54" E.
- The main traffic directions are:  
059°—239°.

## WESTERN EUROPEAN WATERS

**CAUTION:**

The chartlets are for illustrative purposes only and must not be used for navigation. Mariners should consult the appropriate nautical publications and charts for up-to-date details on aids to navigation and other relevant information.



## WESTERN EUROPEAN WATERS

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## OFF THE OSLO FJORD

(Reference chart: British Admiralty 3708)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 58°43'.0 N., 10°08'.0 E.
- (2) 58°51'.0 N., 10°27'.0 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

051°—231°.

### Note:

This scheme is only intended for ships approaching the Oslo Fjord from the south-west or proceeding in the opposite direction. It is not intended for ships navigating in other directions.

## OFF OKSÖY

(Reference chart: British Admiralty 2289)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 57°50'.0 N., 8°03'.0 E.
- (2) 57°58'.0 N., 8°22'.0 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

051°—231°.

## OFF LINDESNES

(Reference chart: British Admiralty 2327)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 57°50'.0 N., 7°22'.0 E.
- (2) 57°50'.0 N., 7°00'.0 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

090°—270°.

## OFF LISTA

(Reference chart: British Admiralty 2281)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 57°55'.0 N., 6°37'.0 E.
- (2) 58°00'.0 N., 6°17'.0 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

115°—295°.

## OFF FEISTEIN

(Reference chart: British Admiralty 2281)

### Description of the traffic separation scheme

The traffic separation scheme off Feistein consists of two parts.

#### Part I:

- (a) A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 58°43'.0 N., 5°11'.0 E.
- (2) 58°32'.0 N., 5°05'.0 E.

- (b) A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

015°—195°.

#### Part II:

- (a) A separation zone, two miles wide, is centred upon the following geographical positions:

- (3) 58°48'.0 N., 5°06'.0 E.
- (4) 58°50'.0 N., 4°43'.0 E.

- (b) A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

100°—280°.

#### Note:

Part I of the scheme is intended for ships using the Strait of Dover and Part II for ships using the Fair Isle Passage.

## IN THE APPROACHES TO RIVER ELBE

(Reference charts: German Hydrographic Office 44 and 49)

### Description of the traffic separation scheme

- (a) A separation zone, half a mile wide, is centred upon the following geographical positions:

- (1) 54°00'00" N., 8°05'28" E.
- (2) 54°00'00" N., 8°07'09" E.

- (b) A separation line connects the following geographical positions:

- (3) 54°00'00" N., 8°07'09" E.
- (4) 53°59'57" N., 8°13'22" E.

- (c) A traffic lane for eastbound traffic is established between the separation zone/line and a line connecting the following geographical positions:

- (5) 53°58'00" N., 8°05'28" E.
- (6) 53°59'23" N., 8°13'17" E.

- (d) A traffic lane for westbound traffic is established between the separation zone/line and a line connecting the following geographical positions:

- (7) 54°01'51" N., 8°05'28" E.
- (8) 54°01'38" N., 8°13'34" E.

The main traffic directions are:

091°—271°.

## OFF TERSCHELLING AND IN THE GERMAN BIGHT

(Reference charts: British Admiralty 1405, 1875, 2593 and 3761; German Hydrographic Office 50 and 53; Netherlands Hydrographic Office 1352 and 1353)

### Description of the traffic separation scheme

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (1) 53°48'.7 N., 6°23'.7 E.
- (2) 53°56'.6 N., 7°39'.7 E.
- (3) 53°54'.8 N., 7°42'.1 E.
- (4) 53°46'.7 N., 6°23'.8 E.

- (b) A separation line connects the following geographical positions:

- (5) 53°47'.7 N., 6°23'.8 E.
- (6) 53°47'.5 N., 6°22'.1 E.
- (7) 53°47'.2 N., 6°20'.4 E.

- (c) A separation zone bounded by a line connecting the following geographical positions:

- (8) 53°29'.7 N., 4°44'.9 E.
- (9) 53°48'.2 N., 6°20'.4 E.
- (10) 53°46'.1 N., 6°20'.5 E.
- (11) 53°27'.8 N., 4°46'.2 E.

- (d) A traffic lane for westbound traffic is established between the separation zones/line and a line connecting the following geographical positions:

- (12) 53°59'.2 N., 7°36'.2 E.
- (13) 53°51'.4 N., 6°20'.5 E.
- (14) 53°32'.4 N., 4°42'.8 E.

- (e) A traffic lane for eastbound traffic is established between the separation zones/line and a line connecting the following geographical positions:

- (15) 53°25'.1 N., 4°48'.2 E.
- (16) 53°43'.6 N., 6°23'.7 E.
- (17) 53°52'.1 N., 7°45'.6 E.

The main traffic directions are:

072°—252° and

080°—260°.

### Inshore traffic zone

The area between the coast and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

### Note:

The separation zones of this scheme are connected by a separation line to indicate the area where a concentration of crossing traffic is likely to be met.

## DEUTSCHE BUCHT LIGHTVESSEL WESTERN APPROACH

(Reference charts: British Admiralty 1405 and German Hydrographic Office 50, 53 and 87)

### Description of the traffic separation scheme

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (1) 54°10'31" N., 6°22'30" E.
- (2) 54°11'07" N., 7°20'42" E.
- (3) 54°10'09" N., 7°21'58" E.
- (4) 54°09'31" N., 6°22'30" E.

- (b) A separation line connects the following geographical positions:

- (5) 54°10'01" N., 6°22'30" E.
- (6) 54°10'00" N., 6°20'48" E.
- (7) 54°09'53" N., 6°19'06" E.

- (c) A separation zone bounded by a line connecting the following geographical positions:

- (8) 54°08'58" N., 6°01'20" E.
- (9) 54°10'23" N., 6°19'05" E.
- (10) 54°09'22" N., 6°19'05" E.
- (11) 54°08'00" N., 6°01'54" E.

- (d) A traffic lane for westbound traffic is established between the separation zones/line and a line connecting the following geographical positions:

- (12) 54°13'06" N., 7°18'06" E.
- (13) 54°12'30" N., 6°20'36" E.
- (14) 54°10'54" N., 6°00'12" E.

- (e) A traffic lane for eastbound traffic is established between the separation zones/line and a line connecting the following geographical positions:

- (15) 54°06'06" N., 6°03'00" E.
- (16) 54°07'30" N., 6°20'54" E.
- (17) 54°08'11" N., 7°24'36" E.

The main traffic directions are:

082°—262° and  
089°—269°.

### Notes:

The separation zones of this scheme are connected by a separation line to indicate the area where a concentration of crossing traffic is likely to be met.

### Least waterdepth

The area bounded by a line connecting the geographical positions given in paragraphs (d) and (e) above was closely surveyed to a least waterdepth of 30 metres at LWS in 1972. See also note pertaining to the "Deep water route from lightbuoys TW/1 and TW/A to North Hinder" (Page 61).

## OFF TEXEL

(Reference charts: British Admiralty 191, 1405, 2322 and 2593; Netherlands Hydrographic Office 1037, 1350, 1352 and 1452)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 53°02'.2 N., 4°18'.3 E.
- (2) 53°06'.4 N., 4°22'.7 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

032°—212°.

### Inshore traffic zone

The area between the coast and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## IN THE APPROACHES TO HOOK OF HOLLAND

(Reference charts: British Admiralty 1406 and 122; Netherlands Hydrographic Office 1449, 1349 and 1350)

### Description of the traffic separation scheme

The traffic separation scheme in the approaches to Hook of Holland consists of two parts.

#### Part I—At the Goeree

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (1) 51°59'.3 N., 3°46'.7 E.
- (2) 51°58'.8 N., 3°46'.9 E.
- (3) 51°57'.3 N., 3°39'.1 E.
- (4) 51°56'.5 N., 3°34'.5 E.
- (5) 51°57'.5 N., 3°34'.0 E.
- (6) 51°58'.3 N., 3°38'.7 E.

- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (7) 52°00'.7 N., 3°46'.0 E.
- (8) 51°59'.2 N., 3°33'.3 E.

- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (9) 51°54'.6 N., 3°35'.4 E.
- (10) 51°55'.8 N., 3°39'.8 E.
- (11) 51°57'.3 N., 3°47'.6 E.

#### Part II—North of the entrance to the New Waterway

- (a) A separation zone, two miles wide, is centred upon the following geographical positions:

(12) 52°06'.3 N., 3°58'.3 E.

(13) 52°03'.4 N., 3°57'.2 E.

- (b) A traffic lane, two miles wide, is established on each side of the separation zone.

#### Note:

A circular separation zone, half a mile in diameter, is centred at the following geographical position:

(14) 52°01'.2 N., 3°53'.6 E.

This position coincides with the present position of 'Maas-Center'. All incoming and outgoing traffic, except the incoming deep-draught vessels which have to make use of the deep water route, should keep the separation zone on their port side.

## AT NORTH HINDER

(Reference charts: British Admiralty 1406 and Netherlands Hydrographic Office 1349)

### Description of the traffic separation scheme

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:
- (1) 51°49'.1 N., 2°45'.8 E.
  - (2) 51°48'.0 N., 2°39'.4 E.
- (b) A separation line connects the following geographical positions:
- (3) 51°48'.0 N., 2°39'.4 E.
  - (4) 51°47'.2 N., 2°34'.5 E.
- (c) A separation zone, one mile wide, is centred upon the following geographical positions:
- (5) 51°47'.2 N., 2°34'.5 E.
  - (6) 51°47'.0 N., 2°33'.0 E.
  - (7) 51°28'.0 N., 2°07'.1 E.
- (d) A traffic lane for south-westbound traffic is established between the separation zones/line and a line connecting the following geographical positions:
- (8) 51°53'.6 N., 2°43'.8 E.
  - (9) 51°51'.2 N., 2°28'.5 E.
  - (10) 51°30'.4 N., 2°00'.0 E.
- (e) A traffic lane for north-eastbound traffic is established between the separation zones/line and a line connecting the following geographical positions:
- (11) 51°44'.5 N., 2°47'.5 E.
  - (12) 51°42'.3 N., 2°36'.2 E.
  - (13) 51°39'.7 N., 2°31'.2 E.
  - (14) 51°23'.7 N., 2°13'.4 E.

### Note:

The separation zones of this scheme are connected by a separation line to indicate the area where a concentration of crossing traffic is likely to be met.

## AT WEST HINDER

(Reference charts: British Admiralty 1406, 1895 and Belgian Hydrographic Office "Vlaamse Banken")

### Description of the traffic separation scheme

- (a) A separation line connects the following geographical positions:
- (1) 51°22'.0 N., 2°42'.7 E.
  - (2) 51°22'.0 N., 2°37'.0 E.
  - (3) 51°22'.5 N., 2°30'.0 E.
  - (4) 51°20'.0 N., 2°20'.0 E.
  - (5) 51°20'.0 N., 2°10'.6 E.
- (b) A traffic lane for westbound traffic is established between the separation line and a line connecting the following geographical positions:
- (6) 51°23'.0 N., 2°42'.7 E.
  - (7) 51°23'.0 N., 2°37'.0 E.
  - (8) 51°23'.5 N., 2°30'.0 E.
  - (9) 51°22'.8 N., 2°26'.5 E.
  - (10) 51°21'.3 N., 2°17'.7 E.
  - (11) 51°23'.7 N., 2°13'.4 E.
- (c) A traffic lane for eastbound traffic is established between the separation line and a line connecting the following geographical positions:
- (12) 51°21'.2 N., 2°42'.7 E.
  - (13) 51°21'.2 N., 2°37'.0 E.
  - (14) 51°21'.5 N., 2°31'.2 E.
  - (15) 51°20'.0 N., 2°24'.6 E.

### Inshore traffic zone

The area between the Continental coast and the southern boundary of the traffic separation scheme is designated as an inshore traffic zone.

### Note:

CAUTION: Northbound traffic should be aware of the possibility of encountering westbound ferries coming across the banks from the inshore traffic zone in the vicinity of Bergues Bank light and whistle buoy and crossing the northbound and West Hinder routes in a general direction towards the lightbuoy position 51°15'.3 N., 2°03'.6 E.

# IN THE STRAIT OF DOVER AND ADJACENT WATERS

(Reference charts: British Admiralty 1406, 1598, 1895  
and 2451)

## Description of the traffic separation scheme

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:
  - (1) 51°28'.0 N., 2°07'.1 E.
  - (2) 51°16'.5 N., 1°52'.4 E.
- (b) A separation line connects the following geographical positions:
  - (3) 51°16'.5 N., 1°52'.4 E.
  - (4) 51°06'.1 N., 1°38'.2 E.
- (c) A separation zone, one mile wide, is centred upon the following geographical positions:
  - (5) 51°06'.1 N., 1°38'.2 E.
  - (6) 50°57'.2 N., 1°23'.6 E.
- (d) A natural separation zone is formed by The Ridge or Le Colbart.
- (e) A separation zone, two miles wide, is centred upon the following geographical positions:
  - (7) 50°48'.9 N., 1°16'.2 E.
  - (8) 50°37'.9 N., 1°04'.4 E.
  - (9) 50°33'.7 N., 0°57'.8 E.
- (f) A separation zone bounded by a line connecting the following geographical positions:
  - (10) 50°33'.0 N., 0°59'.0 E.
  - (11) 50°34'.4 N., 0°56'.7 E.
  - (12) 50°28'.8 N., 0°00'.0
  - (13) 50°25'.0 N., 0°00'.0
- (g) A traffic lane for south-westbound traffic is established between the separation zones/line described in paragraphs (a), (b), (c) and (d) above and a line connecting the following geographical positions:
  - (14) 51°30'.4 N., 2°00'.0 E.
  - (15) 51°23'.0 N., 1°50'.0 E.
  - (16) 51°14'.1 N., 1°44'.1 E.
  - (17) 51°06'.9 N., 1°31'.0 E.
  - (18) 50°57'.3 N., 1°12'.2 E.
- (h) The traffic lane for south-westbound traffic described in paragraph (g) above is continued between the separation zones described in paragraphs (d), (e) and (f) above and a separation zone, half a mile wide, centred upon the following geographical positions:
  - (19) 50°57'.3 N., 1°12'.2 E.
  - (20) 50°52'.0 N., 1°02'.2 E.
  - (21) 50°36'.8 N., 0°27'.4 E.
  - (22) 50°34'.7 N., 0°00'.0
- (i) A traffic lane for north-eastbound traffic is established between the separation zones described in paragraphs (e) and (f) above and a separation zone, half a mile wide, centred upon the following geographical positions:
  - (23) 50°37'.7 N., 1°21'.0 E.
  - (24) 50°26'.6 N., 0°58'.8 E.
  - (25) 50°12'.0 N., 0°00'.0

- (j) The traffic lane for north-eastbound traffic described in paragraph (i) above is continued between the separation zones/line described in paragraphs (a), (b), (c), (d) and (e) above and a line connecting the following geographical positions:
  - (26) 51°20'.0 N., 2°24'.6 E.
  - (27) 51°06'.4 N., 1°49'.0 E.
  - (28) 50°53'.6 N., 1°30'.8 E.
  - (29) 50°44'.5 N., 1°27'.0 E.
  - (30) 50°37'.7 N., 1°21'.0 E.
- (k) A deep-water route forming part of the north-eastbound traffic lane between the north-western edge of the Sandettie Bank and the separation line/zone described in paragraphs (a) and (b) above has been established between the following latitudes:
  - (i) 51°10'.3 N.
  - (ii) 51°22'.0 N.The general direction of the route is 046°.

## Inshore traffic zones

The areas between the outer boundaries of the traffic separation scheme and the adjacent coasts are designated as inshore traffic zones.

## Notes:

### WARNING

I. A deep-water route forming part of the north-eastbound traffic lane is established to the northwest of the Sandettie Bank and masters considering the use of this route should take into account the proximity of traffic using the south-westbound lane.

The main traffic lane for north-eastbound traffic lies to the south-east of the Sandettie Bank and shall be followed by all such vessels as can safely navigate therein having regard to their draught.

II. In the area of the deep-water route east of the separation line vessels are recommended to avoid overtaking.

III. Attention is also drawn to the note pertaining to the "At West Hinder" traffic separation scheme (Page 27).



### NEWARP/CROSS SAND

(Reference chart: British Admiralty 1543)

#### Description of the traffic separation scheme

A separation zone, half a mile wide, is centred upon the following geographical positions:

- (1) 52°39'.0 N., 1°59'.2 E.
- (2) 52°43'.9 N., 1°59'.2 E.
- (3) 52°46'.7 N., 1°52'.5 E.

A traffic lane, one-and-a-half miles wide, is established on each side of the separation zone.

The main traffic directions are:

000°—180° and  
305°—125°.

### OFF THE LIZARD

(Reference chart: British Admiralty 2565)

#### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 49°50'.7 N., 5°00'.7 W.
- (2) 49°48'.6 N., 5°19'.1 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

080°—260°.

### OFF LAND'S END, BETWEEN SEVEN STONES AND LONGSHIPS

(Reference chart: British Admiralty 2565)

#### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 49°54'.0 N., 5°57'.3 W.
- (2) 50°08'.0 N., 5°57'.3 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

000°—180°.

### **SOUTH OF THE SCILLY ISLES**

(Reference charts: British Admiralty 1123 and 2649)

#### **Description of the traffic separation scheme**

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 49°43'.4 N., 6°15'.8 W.
- (2) 49°43'.4 N., 6°34'.4 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:  
090°—270°.

### **WEST OF THE SCILLY ISLES**

(Reference charts: British Admiralty 1123 and 2649)

#### **Description of the traffic separation scheme**

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 49°51'.9 N., 6°41'.4 W.
- (2) 50°01'.6 N., 6°37'.0 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:  
016°—196°.

### **OFF SMALLS**

(Reference chart: British Admiralty 1478)

#### **Description of the traffic separation scheme**

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 51°39'.1 N., 5°52'.1 W.
- (2) 51°50'.7 N., 5°46'.8 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:  
016°—196°.

## OFF CHICKEN ROCK, CALF OF MAN

(Reference chart: British Admiralty 45)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 53°55'.5 N., | 4°52'.9 W. |
| (2) | 53°57'.9 N., | 5°00'.3 W. |
| (3) | 54°02'.8 N., | 5°02'.0 W. |

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

298°—118° and  
349°—169°.

## OFF SKERRIES

(Reference chart: British Admiralty 1977)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 53°22'.8 N., | 4°52'.0 W. |
| (2) | 53°31'.3 N., | 4°41'.7 W. |
| (3) | 53°32'.1 N., | 4°31'.6 W. |

A traffic lane, two miles wide, is established on each side of the separation zone.

The main traffic directions are:

036°—216° and  
083°—263°.

## IN THE NORTH CHANNEL

(Reference chart: British Admiralty 2724)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 55°15'.3 N., | 5°55'.4 W. |
| (2) | 55°22'.8 N., | 6°04'.6 W. |
| (3) | 55°24'.0 N., | 6°15'.0 W. |

A traffic lane, two miles wide, is established on each side of the separation zone.

The main traffic directions are:

326°—146° and  
282°—102°.

## OFF TUSKAR ROCK

(Reference chart: British Admiralty 1410)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 52°14'.0 N., 6°00'.8 W.
- (2) 52°08'.5 N., 6°03'.8 W.
- (3) 52°04'.7 N., 6°11'.5 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

051°—231° and  
018°—198°.

### Inshore traffic zone

The area between Tuskar Rock and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## OFF FASTNET ROCK

(Reference chart: British Admiralty 2424)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 51°20'.0 N., 9°25'.8 W.
- (2) 51°18'.2 N., 9°35'.2 W.

A traffic lane, two miles wide, is established on each side of the separation zone.

The main traffic directions are:

073°—253°.

### Inshore traffic zone

The area between Fastnet Rock and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## OFF CASQUETS

(Reference chart: British Admiralty 2669)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 49°46'.1 N., 2°35'.1 W.
- (2) 49°49'.4 N., 2°27'.2 W.
- (3) 49°51'.5 N., 2°18'.3 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

057°—237° and  
070°—250°.

## OFF USHANT

(Reference chart: British Admiralty 2643)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 48°28'.6 N., | 5°23'.6 W. |
| (2) | 48°34'.0 N., | 5°19'.4 W. |
| (3) | 48°37'.4 N., | 5°11'.9 W. |

A traffic lane, four miles wide, is established on each side of the separation zone.

The main traffic directions are:

028°—208° and  
055°—235°.

### Inshore traffic zone

The area between Ushant Island and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## OFF CAPE FINISTERRE

(Reference charts: British Admiralty 1752 and Spanish Hydrographic Office 124)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 42°59'.5 N., | 9°31'.0 W. |
| (2) | 43°05'.5 N., | 9°31'.0 W. |
| (3) | 43°10'.9 N., | 9°27'.2 W. |

A traffic lane, four miles wide, is established on each side of the separation zone.

The main traffic directions are:

000°—180° and  
028°—208°.

### Inshore traffic zone

The area between the coast and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## OFF CAPE ROCA

(Reference charts: British Admiralty 1515 and Spanish Hydrographic Office 101)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 38°39'.8 N., | 9°40'.9 W. |
| (2) | 38°45'.7 N., | 9°42'.5 W. |
| (3) | 38°51'.7 N., | 9°42'.5 W. |

A traffic lane, four miles wide, is established on each side of the separation zone.

The main traffic directions are:

348°—168° and  
000°—180°.

### Inshore traffic zone

The area between the coast and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## OFF CAPE ST. VINCENT

(Reference charts: British Admiralty 92 and Spanish Hydrographic Office 115)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 36°53'.1 N., 8°55'.5 W.
- (2) 36°54'.6 N., 9°00'.7 W.
- (3) 36°56'.5 N., 9°03'.6 W.
- (4) 37°00'.5 N., 9°06'.6 W.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

290°—110°  
308°—128° and  
330°—150°.

### Inshore traffic zone

The area between the coast and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

### Note:

Attention is drawn to the existence of the traffic separation scheme at Banco del Hoyo; ships navigating from St. Vincent to the Mediterranean are advised to make use of it.

## AT BANCO DEL HOYO

(Reference charts: British Admiralty 142 and Spanish Hydrographic Office 105)

### Description of the traffic separation scheme

- (a) A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 35°55'.5 N., 6°06'.0 W.
- (2) 35°55'.5 N., 6°12'.0 W.

- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (3) 35°58'.2 N., 6°06'.0 W.
- (4) 35°58'.2 N., 6°12'.0 W.

- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (5) 35°52'.3 N., 6°06'.0 W.
- (6) 35°52'.3 N., 6°12'.0 W.

The main traffic directions are:

090°—270°.

## MEDITERRANEAN AREA

**CAUTION:**

The chartlets are for illustrative purposes only and must not be used for navigation. Mariners should consult the appropriate nautical publications and charts for up-to-date details on aids to navigation and other relevant information.

## MEDITERRANEAN AREA

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## IN THE STRAIT OF GIBRALTAR

(Reference charts: British Admiralty 142 and Spanish Hydrographic Office 105)

### Description of the traffic separation scheme

- (a) A separation zone, half a mile wide, is centred upon the following geographical positions:

- (1) 35°58'.8 N., 5°25'.7 W.
- (2) 35°56'.0 N., 5°36'.5 W.
- (3) 35°56'.0 N., 5°45'.0 W.

- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (4) 36°01'.0 N., 5°25'.7 W.
- (5) 35°58'.2 N., 5°36'.5 W.
- (6) 35°58'.2 N., 5°45'.0 W.

- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (7) 35°52'.3 N., 5°45'.0 W.
- (8) 35°53'.6 N., 5°36'.5 W.
- (9) 35°56'.6 N., 5°25'.7 W.

The main traffic directions are:

090°—270° and  
072°—252°.

### Inshore traffic zones

The areas between the outer boundaries of the traffic separation scheme and the adjacent coasts are designated as inshore traffic zones.

## OFF CANI ISLAND

(Reference chart: British Admiralty 2122)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 37°31'.8 N., 10°02'.0 E.
- (2) 37°31'.8 N., 10°12'.8 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

090°—270°.

## OFF CAPE BON

(Reference chart: British Admiralty 2122)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 37°13'.2 N., 11°01'.3 E.
- (2) 37°10'.2 N., 11°11'.5 E.

A traffic lane, three miles wide, is established on each side of the separation zone.

The main traffic directions are:

290°—110°.

**SARONICOS GULF (in the approaches to Piraeus Harbour)**

(Reference charts: British Admiralty 1657 and Greek Hydrographic Office 140)

**NOTES:**

Since the adoption of this scheme official notification has been received from the Greek Administration to the effect that the scheme is under revision and will not be implemented in its present form.

**Description of the traffic separation scheme**

A separation zone, one-and-a-half miles wide, is centred upon the following geographical positions:

- (1) 37°37'.5 N., 23°45'.0 E.
- (2) 37°50'.0 N., 23°38'.0 E.

A traffic lane, one mile wide, is established on each side of the separation zone.

The main traffic directions are:

335°—155°.

**Inshore traffic zone**

The area between the coast and the eastern boundary of the traffic separation scheme is designated as an inshore traffic zone.

**Notes:**

Ships in the area between the northern boundaries of the scheme and the adjacent coast of the mainland and Salamis Island should proceed with caution, as heavy traffic of especially small ships, fishing boats and pleasure craft from all directions may be encountered.

Large ships bound to Piraeus and Salamis Strait should reduce speed to bare steerage way before entering the appropriate lane of the scheme.

## INDIAN OCEAN AND ADJACENT WATERS

**CAUTION:**

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## INDIAN OCEAN AND ADJACENT WATERS

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## IN THE STRAIT OF BAB EL MANDEB

(Reference chart: British Admiralty 1925)

### Description of the traffic separation scheme

- (a) A separation zone, one mile wide, bounded by a line connecting the following geographical positions:

- (1) 12°55'.6 N., 43°12'.4 E.
- (2) 12°36'.9 N., 43°20'.2 E.
- (3) 12°32'.6 N., 43°27'.6 E.
- (4) 12°33'.5 N., 43°28'.2 E.
- (5) 12°37'.5 N., 43°21'.0 E.
- (6) 12°55'.9 N., 43°13'.7 E.

- (b) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (7) 12°55'.1 N., 43°11'.2 E.
- (8) 12°35'.9 N., 43°19'.0 E.
- (9) 12°31'.3 N., 43°26'.9 E.

- (c) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (10) 12°56'.5 N., 43°15'.0 E.
- (11) 12°38'.8 N., 43°21'.9 E.
- (12) 12°34'.8 N., 43°28'.8 E.

The main traffic directions are:

159°—339° and  
120°—300°.

### Note:

In the passage between Perim Island and the mainland coastal traffic may be proceeding in both directions.

## IN THE STRAIT OF HORMUZ

(Reference chart: British Admiralty 3956)

### Description of the traffic separation scheme

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:

- (1) 26°27'.2 N., 56°22'.8 E.
- (2) 26°27'.2 N., 56°30'.3 E.
- (3) 26°26'.2 N., 56°33'.9 E.
- (4) 26°21'.4 N., 56°37'.9 E.

- (b) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (5) 26°25'.2 N., 56°22'.8 E.
- (6) 26°25'.2 N., 56°30'.0 E.
- (7) 26°24'.5 N., 56°32'.6 E.
- (8) 26°20'.2 N., 56°36'.1 E.

- (c) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (9) 26°22'.6 N., 56°39'.7 E.
- (10) 26°31'.9 N., 56°32'.0 E.
- (11) 26°31'.9 N., 56°30'.6 E.
- (12) 26°29'.2 N., 56°22'.8 E.

The main traffic directions are:

090°—270°  
108°—288° (Passage south of Little Quoin Island. See Note.)  
143°—323°.

### Note:

Westbound traffic may navigate either south of Little Quoin Island or north of Great Quoin Island.

## TUNB-FARUR

(Reference chart: British Admiralty 2837)

### Description of the traffic separation scheme

Separation of traffic in this area is achieved by establishing separate traffic lanes.

- (a) A traffic lane for westbound traffic is established between a line connecting the following geographical positions:

(1) 26°22'.7 N., 55°30'.0 E.

(2) 26°18'.7 N., 55°07'.7 E.

(3) 26°23'.0 N., 54°30'.0 E.

and a line connecting the following geographical positions:

(4) 26°20'.6 N., 55°30'.0 E.

(5) 26°16'.6 N., 55°08'.0 E.

(6) 26°21'.0 N., 54°30'.0 E.

The main traffic directions are:

258° and 278°.

- (b) A traffic lane for eastbound traffic is established between a line connecting the following geographical positions:

(7) 26°13'.0 N., 54°30'.0 E.

(8) 26°08'.0 N., 55°17'.5 E.

(9) 26°11'.8 N., 55°30'.0 E.

and a line connecting the following geographical positions:

(10) 26°10'.0 N., 54°30'.0 E.

(11) 26°05'.0 N., 55°17'.5 E.

(12) 26°08'.8 N., 55°30'.0 E.

The main traffic directions are:

098° and 078°.

#### Note:

Westbound traffic which has passed Quoin Islands should proceed so as to keep Jaz-Tunb and Jaz-Farur on the port side.

Eastbound traffic should proceed so as to keep Jaz-Farur and Jaz-Tunb on the port side in order to get into the appropriate traffic lane in the Strait of Hormuz traffic separation scheme.

## IN THE APPROACH TO RAS TANURA

(Reference charts: British Admiralty 3788 and United States Naval Oceanographic Office 62415)

### Description of the traffic separation scheme

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (1) 27°06'50" N., 50°42'00" E.
- (2) 27°06'06" N., 50°23'18" E.
- (3) 26°56'09" N., 50°11'55" E.
- (4) 26°49'18" N., 50°10'26" E.
- (5) 26°51'09" N., 50°11'17" E.
- (6) 26°55'33" N., 50°12'23" E.
- (7) 27°05'16" N., 50°23'30" E.
- (8) 27°06'08" N., 50°42'05" E.

- (b) A separation line connects the following geographical positions:

- (9) 26°49'18" N., 50°10'26" E.
- (10) 26°48'19" N., 50°10'15" E.
- (11) 26°45'12" N., 50°11'09" E.
- (12) 26°44'26" N., 50°11'28" E.
- (13) 26°43'00" N., 50°11'53" E.
- (14) 26°41'56" N., 50°12'14" E.
- (15) 26°41'01" N., 50°12'08" E.
- (16) 26°40'52" N., 50°12'06" E.

- (c) A traffic lane for inward bound traffic is established between the separation zone/line and a line connecting the following geographical positions:

- (17) 27°07'16" N., 50°42'00" E.
- (18) 27°06'28" N., 50°23'00" E.
- (19) 26°56'21" N., 50°11'29" E.
- (20) 26°49'32" N., 50°09'50" E.
- (21) 26°48'02" N., 50°09'52" E.
- (22) 26°42'02" N., 50°11'42" E.
- (23) 26°40'52" N., 50°11'44" E.

- (d) A traffic lane for outward bound traffic is established between the separation zone/line and a line connecting the following geographical positions:

- (24) 26°40'52" N., 50°12'16" E.
- (25) 26°41'00" N., 50°12'18" E.
- (26) 26°41'57" N., 50°12'24" E.
- (27) 26°42'25" N., 50°12'22" E.
- (28) 26°43'07" N., 50°12'07" E.
- (29) 26°44'17" N., 50°11'42" E.
- (30) 26°47'23" N., 50°10'57" E.
- (31) 26°49'16" N., 50°10'42" E.
- (32) 26°50'54" N., 50°11'36" E.
- (33) 26°55'07" N., 50°13'02" E.
- (34) 26°55'32" N., 50°13'08" E.
- (35) 27°04'51" N., 50°23'52" E.
- (36) 27°05'34" N., 50°42'06" E.

**NORTH AMERICA,  
ATLANTIC COAST**

**CAUTION:**

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## NORTH AMERICA, ATLANTIC COAST

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## **WARNING**

### **Navigation in the vicinity of the Grand Banks of Newfoundland**

Attention is drawn to Regulation 8 of Chapter V of the Convention for the Safety of Life at Sea, 1960. It directs that all ships proceeding on voyages in the vicinity of the Grand Banks of Newfoundland avoid as far as practicable the fishing banks of Newfoundland north of latitude 43°N. The reasons for avoiding the area are:

- (a) high concentration of fishing vessels;
- (b) prevailing adverse weather conditions;
- (c) seasonal existence of icebergs.

## IN THE APPROACHES TO CHEDABUCTO BAY

(Reference charts: Canadian Hydrographic Service 4013 and 4335)

### Description of the traffic separation scheme

The traffic separation scheme for Chedabucto Bay consists of three parts.

#### Part I:

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (1) 45°24'00" N., 60°36'42" W.
- (2) 45°24'12" N., 60°27'10" W.
- (3) 45°23'42" N., 60°28'12" W.
- (4) 45°23'49" N., 60°36'29" W.

- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (5) 45°26'00" N., 60°23'12" W.
- (6) 45°25'26" N., 60°41'42" W.

- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (7) 45°22'18" N., 60°34'30" W.
- (8) 45°22'09" N., 60°31'36" W.

The main traffic directions are:

092°—267°.

#### Part II:

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (9) 45°22'34" N., 60°40'00" W.
- (10) 45°19'53" N., 60°36'30" W.
- (11) 45°19'18" N., 60°37'48" W.
- (12) 45°22'41" N., 60°42'10" W.

- (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (13) 45°21'21" N., 60°33'18" W.
- (14) 45°22'18" N., 60°34'30" W.

The main traffic direction is 318°.

- (c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (15) 45°22'54" N., 60°46'30" W.
- (16) 45°21'17" N., 60°44'24" W.
- (17) 45°14'28" N., 60°48'23" W.

The main traffic directions are:

138° and 202°.

#### Part III:

- (a) A separation line connects the following geographical positions:

- (18) 45°23'54" N., 60°41'42" W.
- (19) 45°23'54" N., 60°58'48" W.

- (b) A traffic lane for westbound traffic is established between the separation line and a line connecting the following geographical positions:

- (20) 45°25'26" N., 60°41'42" W.
- (21) 45°24'54" N., 60°58'48" W.

- (c) A traffic lane for eastbound traffic is established between the separation line and a line connecting the following geographical positions:

- (22) 45°22'54" N., 60°46'30" W.
- (23) 45°22'54" N., 60°58'48" W.

The main traffic directions are:

090°—270°.

## IN THE APPROACHES TO PORTLAND, MAINE

(Reference chart: United States National Ocean Survey  
C & GS 1106)

### Description of the traffic separation scheme

The traffic separation scheme in the approaches to Portland, Maine, consists of two parts:

#### *Part I* – Eastern approach

A separation zone, one mile wide, is centred upon the following geographical positions:

- (1) 43°30'.2 N., 69°59'.4 W.
- (2) 43°24'.75 N., 69°33'.0 W.

A traffic lane, two miles wide, is established on each side of the separation zone.

The main traffic directions are:

107° and 287°.

#### *Part II* – Southern approach

A separation zone, one mile wide, is centred upon the following geographical positions:

- (3) 43°26'.8 N., 70°03'.5 W.
- (4) 43°07'.8 N., 69°55'.3 W.

A traffic lane, two miles wide, is established on each side of the separation zone.

The main traffic directions are:

162° and 342°.

#### **Note:**

Precautionary area

A precautionary area of radius five miles is centred upon geographical position 43°31'.5 N., 70°06'.0 W.

## IN THE APPROACH TO BOSTON, MASSACHUSETTS

(Reference chart: United States National Ocean Survey  
C & GS 1107)

### Description of the traffic separation scheme

A separation zone, one mile wide, is centred upon the following geographical positions:

- (1) 42°21'.0 N., 70°40'.7 W.
- (2) 42°08'.5 N., 69°53'.6 W.
- (3) 40°49'.5 N., 69°00'.0 W.

A traffic lane, two miles wide, is established on each side of the separation zone.

The main traffic directions are:

110°—290° and  
153°—333°.

#### **Note:**

Precautionary area

A precautionary area of radius five miles is centred upon geographical position 42°22'.7 N., 70°48'.0 W.

**IN THE APPROACHES TO NARRAGANSETT BAY,  
RHODE ISLAND AND BUZZARDS BAY,  
MASSACHUSETTS**

(Reference charts: United States National Ocean Survey  
C & GS 1107, 1108 and 1210)

**Description of the traffic separation scheme**

The traffic separation scheme in the approaches to Narragansett Bay, Rhode Island and Buzzards Bay, Massachusetts, consists of two parts:

*Part I—Narragansett Bay approach*

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 41°22'.7 N., 71°23'.4 W.
- (2) 41°11'.1 N., 71°23'.4 W.

A traffic lane, one mile wide, is established on each side of the separation zone.

The main traffic directions are:  
000° and 180°.

*Part II—Buzzards Bay approach*

A separation zone, one mile wide, is centred upon the following geographical positions:

- (3) 41°10'.15 N., 71°19'.15 W.
- (4) 41°24'.9 N., 71°03'.9 W.

A traffic lane, one mile wide, is established on each side of the separation zone.

The main traffic directions are:  
038° and 218°.

**Note:**

**Precautionary areas**

A precautionary area of radius 5.4 miles is centred upon geographical position 41°06'.0 N., 71°23'.4 W.

A precautionary area of radius 3.55 miles is centred upon geographical position 41°25'.6 N., 71°23'.4 W.

**Restricted area**

A restricted area, two miles wide, extending from the northern limit of the Narragansett Bay approach traffic separation zone to latitude 41°24'.7 N. has been established.

The restricted area within the precautionary area will only be closed to vessel traffic by the Naval Underwater System Center during periods of daylight and optimum weather conditions for torpedo range usage. The closing of the restricted area will be indicated by the activation of a white strobe light mounted on Brenton Reef Light and controlled by a Naval vessel supporting the torpedo range activities. There would be no vessel restrictions expected during inclement weather or when the torpedo range is not in use.

## OFF NEW YORK

(Reference charts: British Admiralty 2755 and United States National Ocean Survey C & GS 1108)

NOTE: Under review—possible insufficient navigational marking in the eastern and south-eastern approaches.

### Description of the traffic separation scheme

The traffic separation scheme off New York consists of three parts.

#### Part I—Eastern approach

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (1) 40°28'.5 N., 69°27'.9 W.
  - (2) 40°24'.2 N., 73°11'.5 W.
  - (3) 40°26'.0 N., 73°40'.8 W.
  - (4) 40°27'.0 N., 73°40'.7 W.
  - (5) 40°27'.2 N., 73°11'.5 W.
  - (6) 40°31'.5 N., 69°28'.1 W.
- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (7) 40°36'.5 N., 69°28'.2 W.
  - (8) 40°32'.2 N., 73°11'.5 W.
  - (9) 40°27'.9 N., 73°40'.6 W.
- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (10) 40°25'.0 N., 73°41'.2 W.
  - (11) 40°19'.2 N., 73°11'.5 W.
  - (12) 40°23'.5 N., 69°27'.8 W.

#### Part II—South-eastern approach

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (13) 39°20'.7 N., 72°18'.0 W.
  - (14) 40°06'.3 N., 73°22'.7 W.
  - (15) 40°22'.4 N., 73°43'.5 W.
  - (16) 40°23'.0 N., 73°42'.7 W.
  - (17) 40°08'.6 N., 73°20'.1 W.
  - (18) 39°23'.0 N., 72°15'.2 W.
- (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (19) 39°26'.7 N., 72°10'.8 W.
  - (20) 40°12'.2 N., 73°15'.7 W.
  - (21) 40°24'.0 N., 73°41'.9 W.
- (c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (22) 40°21'.7 N., 73°44'.5 W.
  - (23) 40°02'.7 N., 73°27'.2 W.
  - (24) 39°17'.0 N., 72°22'.4 W.

#### Part III—Southern approach

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (25) 39°45'.7 N., 73°48'.0 W.
  - (26) 40°20'.5 N., 73°48'.3 W.
  - (27) 40°20'.7 N., 73°47'.0 W.
  - (28) 39°45'.7 N., 73°44'.0 W.
- (b) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (29) 39°45'.7 N., 73°37'.7 W.
  - (30) 40°21'.2 N., 73°45'.8 W.
- (c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions.:
- (31) 40°20'.4 N., 73°49'.6 W.
  - (32) 39°45'.7 N., 73°54'.4 W.

#### Note:

##### Precautionary area

A precautionary area of radius seven miles is centred upon the Ambrose Light in geographical position 40°27'.5 N., 73°49'.9 W.

## OFF DELAWARE BAY

(Reference charts: British Admiralty 2563 and United States Ocean Survey C & GS 1219)

### Description of the traffic separation scheme

The traffic separation scheme of Delaware Bay consists of two parts.

#### Part I—Eastern approach

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (1) 38°46'.8 N., 74°34'.6 W.
- (2) 38°46'.8 N., 74°55'.7 W.
- (3) 38°47'.8 N., 74°55'.4 W.
- (4) 38°47'.8 N., 74°34'.6 W.

- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (5) 38°49'.8 N., 74°34'.6 W.
- (6) 38°48'.8 N., 74°55'.3 W.

- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (7) 38°45'.8 N., 74°56'.1 W.
- (8) 38°44'.8 N., 74°34'.6 W.

#### Part II—South-eastern approach

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (9) 38°27'.0 N., 74°35'.6 W.
- (10) 38°43'.4 N., 74°58'.0 W.
- (11) 38°44'.2 N., 74°57'.2 W.
- (12) 38°27'.6 N., 74°34'.6 W.

- (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (13) 38°29'.1 N., 74°32'.9 W.
- (14) 38°45'.1 N., 74°56'.6 W.

- (c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (15) 38°42'.8 N., 74°58'.9 W.
- (16) 38°27'.0 N., 74°39'.2 W.

#### Note:

##### Precautionary area

A precautionary area of radius eight miles is centred upon Harbour of Refuge Light in geographical position 38°48'.9 N., 75°05'.6 W.

## IN THE APPROACHES TO CHESAPEAKE BAY

(Reference charts: British Admiralty 2843 and United States National Ocean Survey C & GS 1222)

### Description of the traffic separation scheme

The traffic separation scheme in the approaches to Chesapeake Bay consists of two parts.

#### Part I—Eastern approach

A separation line connects the following geographical positions:

- (1) 36°58'.7 N., 75°48'.7 W.
- (2) 36°56'.5 N., 75°56'.3 W.

A traffic lane, half a mile wide, is established on each side of the separation line.

The main traffic directions are:

070° and  
250°.

#### Part II—Southern approach

A separation line connects the following geographical positions:

- (3) 36°51'.3 N., 75°50'.9 W.
- (4) 36°55'.5 N., 75°56'.6 W.

A traffic lane, half a mile wide, is established on each side of the separation line.

The main traffic directions are:

132° and  
312°.

**NORTH AMERICA,  
PACIFIC COAST**

**CAUTION:**

The chartlets are for illustrative purposes only and must not be used for navigation. Mariners should consult the appropriate nautical publications and charts for up-to-date details on aids to navigation and other relevant information.



## NORTH AMERICA, PACIFIC COAST

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## OFF SAN FRANCISCO

(Reference chart: British Admiralty 229)

### Description of the traffic separation scheme

The traffic separation scheme off San Francisco consists of three parts.

#### Part I—Northern approach

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (1) 37°48'.6 N., 122°47'.5 W.
  - (2) 37°57'.1 N., 123°03'.5 W.
  - (3) 37°55'.7 N., 123°04'.6 W.
  - (4) 37°47'.8 N., 122°48'.2 W.
- (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (5) 37°49'.4 N., 122°46'.6 W.
  - (6) 37°58'.5 N., 123°02'.3 W.
- (c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (7) 37°54'.3 N., 123°05'.7 W.
  - (8) 37°46'.8 N., 122°48'.7 W.

#### Part II—Southern approach

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (9) 37°39'.1 N., 122°40'.3 W.
  - (10) 37°27'.0 N., 122°36'.9 W.
  - (11) 37°27'.0 N., 122°34'.8 W.
  - (12) 37°39'.3 N., 122°39'.1 W.
- (b) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (13) 37°27'.0 N., 122°32'.6 W.
  - (14) 37°39'.7 N., 122°37'.9 W.
- (c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (15) 37°39'.0 N., 122°41'.6 W.
  - (16) 37°27'.0 N., 122°39'.0 W.

#### Part III—Main approach

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (17) 37°41'.9 N., 122°48'.0 W.
  - (18) 37°38'.1 N., 122°58'.1 W.
  - (19) 37°36'.5 N., 122°57'.3 W.
  - (20) 37°41'.1 N., 122°47'.2 W.
- (b) A traffic lane for south-westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (21) 37°42'.8 N., 122°48'.5 W.
  - (22) 37°39'.6 N., 122°58'.8 W.
- (c) A traffic lane for north-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (23) 37°35'.0 N., 122°56'.5 W.
  - (24) 37°40'.4 N., 122°46'.3 W.

#### Note:

##### Circular traffic separation zone

A circular traffic separation zone of radius half a mile is centred upon geographical position 37°45'.0 N., 122°41'.5 W.

##### Precautionary area

A precautionary area of radius six miles is centred upon geographical position 37°45'.0 N., 122°41'.5 W.

## IN THE SANTA BARBARA CHANNEL

(Reference charts: British Admiralty 899 and United States National Ocean Survey C & GS 5101 and 5202)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 34°20'.1 N., 120°30'.4 W.
- (2) 34°04'.6 N., 119°19'.6 W.
- (3) 33°44'.1 N., 118°36'.3 W.

A traffic lane, one mile wide, is established on each side of the separation zone.

The main traffic directions are:

105°—285° and  
120°—300°.

### Note:

Port Hueneme Fairway

The fairway at Port Hueneme is extended to meet the eastern edge of the northbound lane.

## IN THE APPROACHES TO LOS ANGELES – LONG BEACH

(A continuation of the Santa Barbara Channel scheme)

(Reference chart: United States National Ocean Survey C & GS 5101)

### Description of the traffic separation scheme

A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 33°39'.7 N., 118°17'.6 W.
- (2) 33°39'.7 N., 118°27'.3 W.
- (3) 33°44'.1 N., 118°36'.3 W.

A traffic lane, one mile wide, is established on each side of the separation zone.

The main traffic directions are:

090°—270° and  
120°—300°.

## AUSTRALASIA

**CAUTION:**

The chartlets are for illustrative purposes only and must not be used for navigation. Mariners should consult the appropriate nautical publications and charts for up-to-date details on aids to navigation and other relevant information.

**SOUTH OF WILSON PROMONTORY IN THE  
BASS STRAIT**

(Reference charts: British Admiralty 1695A and Australian  
AUS 801)

**Description of the traffic separation scheme**

- (a) A separation zone bounded by a line connecting the following geographical positions:

- (1) 39°11'.0 S., 146°45'.0 E.
- (2) 39°15'.0 S., 146°33'.0 E.
- (3) 39°15'.0 S., 146°15'.0 E.
- (4) 39°12'.0 S., 146°25'.0 E.

- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (5) 39°02'.0 S., 146°45'.0 E.
- (6) 39°09'.0 S., 146°26'.0 E.
- (7) 39°10'.8 S., 146°19'.2 E.
- (8) 39°10'.8 S., 146°15'.0 E.

- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (9) 39°19'.0 S., 146°15'.0 E.
- (10) 39°19'.0 S., 146°45'.0 E.

The main traffic directions are:

090°—270° and  
067°—250°.

**Inshore traffic zone**

The area between Wilson Promontory and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

## **PART III**

### **OTHER ROUTEING SYSTEMS**

## DEEP WATER ROUTES

**CAUTION:**

The chartlets are for illustrative purposes only and must not be used for navigation. Mariners should consult the appropriate nautical publications and charts for up-to-date details on aids to navigation and other relevant information.

## CHARTLET OF DEEP WATER ROUTES

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## DEEP WATER ROUTE FROM LIGHTBUOYS TW/1 AND TW/A TO NORTH HINDER

(Reference charts: German Hydrographic Office 50 and 53 and Netherlands Hydrographic Office 1035)

### Description of the deep water route

The deep water route is bounded by a line connecting the following geographical positions:

- |      |               |             |
|------|---------------|-------------|
| (1)  | 54°10'54" N., | 6°00'12" E. |
| (2)  | 54°04'47" N., | 4°42'40" E. |
| (3)  | 53°35'31" N., | 3°36'30" E. |
| (4)  | 52°55'45" N., | 3°14'15" E. |
| (5)  | 52°09'55" N., | 2°35'00" E. |
| (6)  | 51°51'56" N., | 2°33'20" E. |
| (7)  | 51°53'16" N., | 2°41'38" E. |
| (8)  | 52°09'35" N., | 2°43'20" E. |
| (9)  | 52°54'10" N., | 3°22'00" E. |
| (10) | 53°32'24" N., | 3°43'29" E. |
| (11) | 54°00'00" N., | 4°46'00" E. |
| (12) | 54°06'06" N., | 6°03'00" E. |

### Note:

#### Least Waterdepths

The area bounded by a line connecting the geographical positions (1), (2), (3), (10), (11) and (12) above, was closely surveyed in 1972. The least waterdepth found in this area was more than 25 metres at LWS.

The area bounded by a line connecting the geographical positions (3), (4), (5), (6), (7), (8), (9) and (10) above, was closely surveyed in 1972. The least waterdepth found in this area was 23 metres at LWS.

See also note pertaining to the traffic separation scheme "Deutsche Bucht Light vessel Western Approach" (Page 25).

## DEEP WATER ROUTE LEADING TO EUROPOORT

(Reference charts: British Admiralty 1406 and 122 and Netherlands Hydrographic Office 1449, 1349, 1350 and 1540)

### Description of the deep water route

The deep water route is bounded by a line connecting the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 52°00'.0 N., | 3°27'.9 E. |
| (2) | 52°02'.1 N., | 3°53'.6 E. |
| (3) | 52°01'.3 N., | 3°56'.4 E. |
| (4) | 52°01'.1 N., | 3°55'.3 E. |
| (5) | 52°01'.3 N., | 3°51'.8 E. |
| (6) | 51°59'.4 N., | 3°28'.0 E. |

The directions of the route are:

082°.5—262°.5 and  
112° —292°.

### Note:

#### Least waterdepth

West of the line through positions (3) and (4) above the least waterdepth is 22.5 metres at mean LLWS and east of this line 22 metres at mean LLWS. The depths are checked and maintained by frequent surveys and dredging.

#### Electronic navigational aids

The Decca Navigator Chain (Holland Chain) enables masters of deep-draught vessels equipped with a Decca receiver to be informed continuously and highly accurately about the ships' deviation from, and progress along, the axes of the route.

For optimum use of this aid in the eastern part of the deep water route a special indicator is brought on board by the pilot.

**DEEP WATER ROUTE FORMING PART OF THE  
NORTH-EASTBOUND TRAFFIC LANE OF THE  
STRAIT OF DOVER AND ADJACENT WATERS  
TRAFFIC SEPARATION SCHEME**

(Reference charts: British Admiralty 1406 and 1895)

**Description of the deep water route**

A deep water route forming part of the north-eastbound traffic lane between the north-western edge of the Sandettie Bank and the separation line/zone described in paragraphs (a) and (b) of the traffic separation scheme in the Strait of Dover has been established between the following latitudes:

- (i) 51°10'.3 N.
- (ii) 51°22'.0 N.

The main direction of the route is 046°.

**Note:**

See note pertaining to the traffic separation scheme "In the Strait of Dover and Adjacent Waters" (Page 28).

## **PART IV**

### **AREAS TO BE AVOIDED**

### **AREAS TO BE AVOIDED**

1. In the region of the Rochebonne shelf
2. At Alphard Banks
3. In the region of Cape Terpeniya (Sakhalin)

**CAUTION:**

The chartlets are for illustrative purposes only and must not be used for navigation. Mariners should consult the appropriate nautical publications and charts for up-to-date details on aids to navigation and other relevant information.

## AREAS TO BE AVOIDED

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## IN THE REGION OF THE ROCHEBONNE SHELF

(Reference chart: British Admiralty 2648)

### Description of the area to be avoided

In order to avoid the risk of pollution due to an accident in the area, all tankers carrying oil should avoid the area contained within a circle of radius seven miles, centred at geographical position 46°10'.0 N., 2°26'.0 W. Local knowledge is essential for safe passage because of navigational hazards in the area.

## AT ALPHARD BANKS

(Reference chart: British Admiralty 2083)

### Description of the area to be avoided

All vessels should avoid the area contained within a circle of radius six miles, centred at geographical position 35°01'.7 S., 20°51'.2 E.

This area is established because of insufficient aids to navigation and the proximity of the Alphard Banks to traffic routes.

## IN THE REGION OF CAPE TERPENIYA (SAKHALIN)

(Reference chart: British Admiralty 2405)

### Description of the area to be avoided

The area described below should be avoided by ships of more than 1000 tons gross tonnage carrying oil or hazardous cargoes, for reasons of conservation of unique wildlife in the area, and of inadequate survey.

The area is bounded by a line passing through Cape Davydov and the points defined as follows:

- (1) 21.8 miles at 100° from Terpeniya Lighthouse (L.H.)
- (2) 40.5 miles at 126° from Terpeniya L.H.
- (3) 41.6 miles at 146°.7 from Terpeniya L.H.
- (4) 20.2 miles at 208°.5 from Terpeniya L.H.
- (5) 12.0 miles at 307°.5 from Terpeniya L.H. and thence eastward to the coast.

**RESOLUTION A.338(IX)**

*Adopted on 12 November 1975  
Agenda item 7(c)*

**ROUTEING SYSTEMS**

THE ASSEMBLY,

NOTING Article 16(i) of the IMCO Convention concerning the functions of the Assembly,

CONSIDERING Resolution A.284(VIII) by which the Assembly adopted general provisions, traffic separation schemes, deep water routes and areas to be avoided,

RECOGNIZING that the practice of following routeing systems adopted by the Organization for international use would contribute considerably to the avoidance of collisions between ships,

RECOGNIZING ALSO that such practice would consequently reduce the risk of pollution of the maritime environment and the risk of damage to marine life resulting from collisions or strandings,

HAVING EXAMINED the Recommendations by the Maritime Safety Committee at its thirty-first, thirty-second and thirty-third sessions,

ADOPTS the new and amended routeing systems described in the Annex to this Resolution,

INVITES the governments concerned to advise ships to comply with the adopted routeing measures,

REQUESTS the Secretary-General to advise all concerned of the details of the routes adopted.

ANNEX

## TRAFFIC SEPARATION SCHEMES

**IN THE APPROACHES TO ROSTOCK (as amended)**

(Reference chart: Seehydrographischer Dienst der DDR 163)

**Description of the traffic separation scheme**

The traffic separation scheme in the approaches to Rostock consists of two parts.

**Part I:****Western approach**

(a) Two separation zones bounded by a line connecting the following geographical positions:

(1) 54°20'.5 N.,	11°57'.5 E.	(6) 54°17'.7 N.,	12°00'.1 E.
(2) 54°20'.7 N.,	11°58'.0 E.	(7) 54°17'.9 N.,	12°00'.3 E.
(3) 54°19'.0 N.,	11°59'.5 E.	(8) 54°18'.0 N.,	12°00'.5 E.
(4) 54°18'.7 N.,	11°59'.2 E.	(9) 54°14'.6 N.,	12°03'.6 E.
(5) 54°18'.8 N.,	11°59'.5 E.	(10) 54°14'.6 N.,	12°03'.0 E.

A separation line connects positions (5) and (7).

(b) A traffic lane for north-westbound traffic is established between the separation zones and lines connecting the following geographical positions:

(11) 54°14'.6 N.,	12°04'.9 E.
(12) 54°18'.1 N.,	12°02'.0 E.
(13) 54°19'.8 N.,	12°00'.6 E.
(14) 54°21'.2 N.,	11°59'.5 E.

(c) A traffic lane for south-eastbound traffic is established between the separation zones and a line connecting the following geographical positions:

(15) 54°20'.0 N.,	11°55'.9 E.
(16) 54°14'.6 N.,	12°01'.6 E.

(d) The main traffic directions are:  
150°—330°.**Part II:****Eastern approach**

(a) A separation zone bounded by a line connecting the following geographical positions:

(17) 54°18'.9 N.,	12°01'.4 E.
(18) 54°23'.4 N.,	12°07'.0 E.
(19) 54°23'.4 N.,	12°07'.4 E.
(20) 54°18'.7 N.,	12°01'.6 E.

(b) A traffic lane for north-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

(21) 54°18'.1 N.,	12°02'.0 E.
(22) 54°23'.4 N.,	12°09'.8 E.

(c) A traffic lane for south-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

(23) 54°23'.4 N.,	12°05'.1 E.
(24) 54°19'.8 N.,	12°00'.6 E.

(d) The main traffic directions are:  
37°—217°.**Note:**

In positions (18), (19), (22) and (23), the eastern approach traffic separation scheme is connected to the traffic separation scheme south of Gedser.



**SOUTH OF GEDSER (new scheme)**

(Reference chart: Danish Chart 186)

**Description of the traffic separation scheme**

(a) A separation line connects the following geographical positions:

- |     |              |             |
|-----|--------------|-------------|
| (1) | 54°31'.2 N., | 12°14'.1 E. |
| (2) | 54°27'.6 N., | 12°12'.4 E. |
| (3) | 54°25'.3 N., | 12°09'.5 E. |
| (4) | 54°25'.3 N., | 12°07'.0 E. |

(b) A separation zone, half a mile wide, is centred upon the following geographical positions:

- |     |              |             |
|-----|--------------|-------------|
| (4) | 54°25'.3 N., | 12°07'.0 E. |
| (5) | 54°25'.3 N., | 12°00'.0 E. |

(c) A traffic lane for westbound traffic is established between the separation line, the separation zone and a line connecting the following geographical positions:

- |     |              |             |
|-----|--------------|-------------|
| (6) | 54°31'.6 N., | 12°10'.7 E. |
| (7) | 54°28'.1 N., | 12°09'.5 E. |
| (8) | 54°27'.1 N., | 12°05'.2 E. |
| (9) | 54°27'.1 N., | 12°00'.0 E. |

(d) A traffic lane for eastbound traffic is established between the separation line, the separation zone and a line connecting the following geographical positions:

- |      |              |             |
|------|--------------|-------------|
| (10) | 54°30'.8 N., | 12°17'.6 E. |
| (11) | 54°27'.2 N., | 12°15'.2 E. |
| (12) | 54°23'.4 N., | 12°09'.8 E. |
| (13) | 54°23'.4 N., | 12°05'.1 E. |
| (14) | 54°23'.4 N., | 12°00'.0 E. |

**Notes:**

- (i) The northern termination of the traffic separation scheme is connected to the deep water route north-east of Gedser.
- (ii) In positions (12) and (13) the traffic separation scheme is connected to the eastern approach traffic separation scheme in the approaches to Rostock.

**BETWEEN KORSOER AND SPROGOE (new scheme)**  
(Reference chart: Danish Chart 143)

**Description of the traffic separation scheme**

- (a) A separation line connects the following geographical positions:
- |     |              |             |
|-----|--------------|-------------|
| (1) | 55°22'.1 N., | 11°02'.6 E. |
| (2) | 55°19'.5 N., | 11°01'.8 E. |
- (b) A traffic lane for northbound traffic is established between the separation line and a line connecting the following geographical positions:
- |     |              |             |
|-----|--------------|-------------|
| (3) | 55°22'.0 N., | 11°03'.5 E. |
| (4) | 55°20'.0 N., | 11°02'.9 E. |
| (5) | 55°19'.4 N., | 11°03'.4 E. |
- (c) A traffic lane for southbound traffic is established between the separation line and a line connecting the following geographical positions:
- |     |              |             |
|-----|--------------|-------------|
| (6) | 55°22'.3 N., | 11°01'.3 E. |
| (7) | 55°21'.1 N., | 11°01'.5 E. |
| (8) | 55°19'.6 N., | 11°01'.1 E. |

**Notes:**

- (i) Cross channel traffic  
Immediately south of the traffic separation scheme there is a heavy east and westbound ferry traffic.
- (ii) For ships with a deadweight tonnage of more than 40,000 tons participating in the radio position reporting system covering the entrances to the Baltic Sea the following will apply:  
Upon receipt of notification of passage, the east and westbound ferries will endeavour to navigate so that risk of collision, as far as possible, does not arise. If, nevertheless, risk of collision does arise, the International Regulations for Preventing Collisions at Sea must always be applied.

**IN THE SOUND** (as amended)

(Reference charts: British Admiralty 2115 and 2594)

**Description of the traffic separation scheme**

(a) A separation line connects the following geographical positions:

- (1) 56°07'.3 N., 12°31'.5 E.
- (2) 56°03'.3 N., 12°39'.2 E.
- (3) 55°58'.9 N., 12°41'.4 E.

(b) A traffic lane for northbound traffic is established between the separation line and a line connecting the following geographical positions:

- (4) 56°08'.0 N., 12°32'.8 E.
- (5) 56°06'.4 N., 12°34'.9 E.
- (6) 56°03'.4 N., 12°40'.1 E.
- (7) 55°59'.1 N., 12°42'.5 E.

(c) A traffic lane for southbound traffic is established between the separation line and a line connecting the following geographical positions:

- (8) 56°06'.6 N., 12°30'.3 E.
- (9) 56°05'.5 N., 12°33'.3 E.
- (10) 56°03'.2 N., 12°38'.3 E.
- (11) 56°01'.2 N., 12°37'.7 E.

In the southern part of this traffic lane the southbound traffic is divided up into two lanes by a line connecting the following geographical positions:

- (12) 56°01'.2 N., 12°38'.6 E.
- (13) 56°01'.7 N., 12°38'.9 E.
- (14) 56°00'.0 N., 12°40'.0 E.
- (15) 55°58'.8 N., 12°40'.1 E.

**Inshore traffic zones**

The areas between the outer boundaries of the traffic separation scheme and the adjacent coast are designated as inshore traffic zones.

**Note:**

Cross channel traffic

All precautions, including if necessary a reduction of speed, should be taken in the area between Helsingborg and Helsingor, which is widely used by local cross channel ferry traffic.

**IN THE APPROACHES TO HOOK OF HOLLAND** (as amended)

(Reference charts: British Admiralty 1406 and 122; Netherlands Hydrographic Office 1449, 1349 and 1350)

**Description of the traffic separation scheme**

The traffic separation scheme in the approaches to Hook of Holland consists of two parts.

**Part I:**

**At the Goeree**

- (a) A separation zone bounded by a line connecting the following geographical positions:
- |     |              |            |
|-----|--------------|------------|
| (1) | 51°59'.3 N., | 3°46'.7 E. |
| (2) | 51°58'.8 N., | 3°46'.9 E. |
| (3) | 51°57'.3 N., | 3°39'.1 E. |
| (4) | 51°56'.5 N., | 3°34'.5 E. |
| (5) | 51°57'.5 N., | 3°34'.0 E. |
| (6) | 51°58'.3 N., | 3°38'.7 E. |
- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- |     |              |            |
|-----|--------------|------------|
| (7) | 52°00'.7 N., | 3°46'.0 E. |
| (8) | 51°59'.2 N., | 3°33'.3 E. |
- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (9)  | 51°54'.6 N., | 3°35'.4 E. |
| (10) | 51°55'.8 N., | 3°39'.8 E. |
| (11) | 51°57'.3 N., | 3°47'.6 E. |

**Part II:**

**North of the entrance to the Rotterdam Waterway**

- (a) A separation zone 1 mile wide is centred upon the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (12) | 52°06'.6 N., | 3°55'.9 E. |
| (13) | 52°03'.7 N., | 3°54'.8 E. |
- (b) A traffic lane for southbound traffic is established between the separation zone in paragraph (a) above and a line connecting the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (14) | 52°07'.2 N., | 3°52'.0 E. |
| (15) | 52°04'.3 N., | 3°50'.8 E. |
- (c) A separation zone 1 mile wide is centred upon the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (16) | 52°06'.2 N., | 3°59'.0 E. |
| (17) | 52°03'.3 N., | 3°58'.0 E. |
- (d) A traffic lane for northbound traffic is established between the separation zone in paragraph (c) above and a line connecting the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (18) | 52°05'.6 N., | 4°03'.0 E. |
| (19) | 52°02'.7 N., | 4°02'.0 E. |

**Notes:**

## (i) Precautionary area

A precautionary area is established off the entrance to the Rotterdam Waterway.

The area is bounded by a line connecting the following geographical positions:

(15) 52°04'.3 N., 3°50'.8 E.

(19) 52°02'.7 N., 4°02'.0 E.

(20) North Mole Head Light

(21) South Mole Head Light

thence along the South Mole to the geographical position:

(22) 51°57'.7 N., 4°00'.6 E.

and further connecting the geographical positions (11), (7) and (15).

The focal point of the precautionary area is located at the following geographical position:

(23) 52°01'.2 N., 3°53'.6 E.

This position coincides with the present position of the "Maas Center" buoy.

## (ii) CAUTION:

1. Any vessel which is not obliged to adhere to the deep water route should, if practicable, not enter a circular area of half a mile in diameter around "Maas Center" buoy.
2. All vessels navigating in the precautionary area should keep the above circular area on their port side unless the available water depth, the density of traffic, the pilotage or the weather condition warrants otherwise.

**AT WEST HINDER (amendment)**

Delete the cautionary note in the description of the traffic separation scheme.

**NEWARP/CROSS SAND (cancellation)**

This traffic separation scheme is cancelled.

**SARONICOS GULF** (in the approaches to Piraeus Harbour) (as amended)  
(Reference charts: British Admiralty 1657 and Greek Hydrographic Office 140)

**Description of the traffic separation scheme**

- (a) A separation zone, one-and-a-half miles wide, is centred upon the following geographical positions:
  - (1) 37°40'.0 N., 23°44'.0 E.
  - (2) 37°50'.0 N., 23°38'.0 E.
- (b) A traffic lane, one mile wide, is established on each side of the separation zone.
- (c) The main traffic directions are:  
335°—155°.

**Inshore traffic zone**

The area between the coast and the eastern boundary of the traffic separation scheme is designated as an inshore traffic zone.

**Notes:**

- (i) Ships in the area between the northern boundaries of the scheme and the adjacent coast of the mainland and Salamis Island should proceed with caution, as heavy traffic especially of small ships, fishing boats and pleasure craft from all directions may be encountered.
- (ii) Large ships bound to Piraeus and Salamis Strait should reduce speed to bare steerage way before entering the appropriate lane of the scheme.

**IN THE APPROACHES TO RAS TANURA AND JU'AYMAH (as amended)**

(Reference charts: British Admiralty 3788 and  
United States Naval Oceanographic Office 62415)

**Description of the traffic separation scheme****Part I:****Ras Tanura Approach**

- (a) A separation zone bounded by a line connecting the following geographical positions:
- |                                |                                |
|--------------------------------|--------------------------------|
| (1) 27°06'50" N., 50°42'00" E. | (4) 26°57'30" N., 50°14'36" E. |
| (2) 27°06'06" N., 50°23'18" E. | (5) 27°05'16" N., 50°23'30" E. |
| (3) 26°58'00" N., 50°14'00" E. | (6) 27°06'08" N., 50°42'05" E. |
- (b) A separation line connects the following geographical positions:
- |                                |                                |
|--------------------------------|--------------------------------|
| (7) 26°57'45" N., 50°14'12" E. | (8) 26°56'12" N., 50°12'36" E. |
|--------------------------------|--------------------------------|
- (c) A separation zone bounded by a line connecting the following geographical positions:
- |                                 |                                 |
|---------------------------------|---------------------------------|
| (9) 26°56'28" N., 50°12'18" E.  | (12) 26°51'09" N., 50°11'17" E. |
| (10) 26°56'00" N., 50°11'51" E. | (13) 26°55'33" N., 50°12'23" E. |
| (11) 26°49'18" N., 50°10'26" E. | (14) 26°55'56" N., 50°12'52" E. |
- (d) A separation line connects the following geographical positions:
- |                                 |                                 |
|---------------------------------|---------------------------------|
| (15) 26°49'18" N., 50°10'26" E. | (19) 26°43'00" N., 50°11'53" E. |
| (16) 26°48'19" N., 50°10'15" E. | (20) 26°41'56" N., 50°12'14" E. |
| (17) 26°45'12" N., 50°11'09" E. | (21) 26°41'01" N., 50°12'08" E. |
| (18) 26°44'26" N., 50°11'28" E. | (22) 26°40'52" N., 50°12'06" E. |
- (e) A traffic lane for traffic bound for Ras Tanura is established between the separation zones/lines and a line connecting the following geographical positions:
- |                                 |                                 |
|---------------------------------|---------------------------------|
| (23) 27°07'16" N., 50°42'00" E. | (27) 26°48'02" N., 50°09'52" E. |
| (24) 27°06'28" N., 50°23'00" E. | (28) 26°42'02" N., 50°11'42" E. |
| (25) 26°56'21" N., 50°11'29" E. | (29) 26°40'52" N., 50°11'44" E. |
| (26) 26°49'32" N., 50°09'50" E. |                                 |
- (f) A traffic lane for traffic departing from Ras Tanura is established between the separation zones/lines and a line connecting the following geographical positions:
- |                                 |                                 |
|---------------------------------|---------------------------------|
| (30) 26°40'52" N., 50°12'16" E. | (37) 26°49'16" N., 50°10'42" E. |
| (31) 26°41'00" N., 50°12'18" E. | (38) 26°50'54" N., 50°11'36" E. |
| (32) 26°41'57" N., 50°12'24" E. | (39) 26°55'07" N., 50°13'02" E. |
| (33) 26°42'25" N., 50°12'22" E. | (40) 26°55'32" N., 50°13'08" E. |
| (34) 26°43'07" N., 50°12'07" E. | (41) 27°04'51" N., 50°23'52" E. |
| (35) 26°44'17" N., 50°11'42" E. | (42) 27°05'34" N., 50°42'06" E. |
| (36) 26°47'23" N., 50°10'57" E. |                                 |

**Part II:****Ju'aymah Approach**

- (g) A traffic lane, two miles wide, for traffic bound for Ju'aymah is centred upon the following geographical positions:
- |                                 |                                 |
|---------------------------------|---------------------------------|
| (43) 26°57'36" N., 50°12'48" E. | (44) 26°59'00" N., 50°11'18" E. |
|---------------------------------|---------------------------------|

**Part III:****Ju'aymah Departure**

- (h) A traffic lane, two miles wide, for traffic departing from Ju'aymah is centred upon the following geographical positions:
- |                                 |                                 |
|---------------------------------|---------------------------------|
| (45) 27°01'24" N., 50°09'12" E. | (47) 27°11'30" N., 50°36'00" E. |
| (46) 27°11'30" N., 50°11'45" E. |                                 |

## IN THE APPROACHES TO LOS ANGELES — LONG BEACH

(A continuation of the Santa Barbara Channel scheme)

(new scheme in southern approach)

(Reference charts: United States National Ocean Survey C & GS 5101, 5142, 5147 and 5148)

### Description of the traffic separation scheme

The traffic separation scheme in the approaches to Los Angeles — Long Beach consists of two parts.

#### *Part I:*

##### **Western approach**

(a) A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 33°39'.7 N., 118°17'.6 W.
- (2) 33°39'.7 N., 118°27'.3 W.
- (3) 33°44'.1 N., 118°36'.3 W.

(b) A traffic lane, one mile wide, is established on each side of the separation zone.

(c) The main traffic directions are:

090°–270° and  
120°–300°.

#### *Part II:*

##### **Southern approach**

(a) A separation zone, two miles wide, is centred upon the following geographical positions:

- (4) 33°37'.7 N., 118°08'.9 W.
- (5) 33°19'.7 N., 118°03'.4 W.

(b) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (6) 33°37'.7 N., 118°11'.3 W.
- (7) 33°19'.1 N., 118°06'.3 W.

(c) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (8) 33°37'.7 N., 118°06'.5 W.
- (9) 33°20'.3 N., 118°00'.5 W.

(d) The main traffic directions are:

167° and 345°.

#### **Note:**

Precautionary area

The Los Angeles — Long Beach precautionary area consists of the water area enclosed by a line connecting Point Fermin Light at 33°42'.3 N., 118°17'.6 W. to 33°37'.7 N., 118°17'.6 W., thence to 33°37'.7 N., 118°05'.4 W., thence to the shoreline at 33°41'.7 N., 118°02'.8 W.



**DEEP WATER ROUTES****DEEP WATER ROUTE NORTH EAST OF GEDSER (new route)**

(Reference chart: Danish Chart 187)

**Description of the deep water route**

A deep water route with a minimum depth of water below mean sea level of 17 metres is bounded by a line connecting the following geographical positions:

- |     |              |             |
|-----|--------------|-------------|
| (1) | 54°31'.3 N., | 12°13'.4 E. |
| (2) | 54°36'.5 N., | 12°15'.9 E. |
| (3) | 54°46'.9 N., | 12°43'.3 E. |
| (4) | 54°46'.1 N., | 12°44'.1 E. |
| (5) | 54°35'.4 N., | 12°17'.0 E. |
| (6) | 54°31'.2 N., | 12°14'.9 E. |

**Notes:**

- (i) The deep water route is connected to the northern termination of the traffic separation scheme south of Gedser.
- (ii) Ships, other than ships which, because of their draught, must use the deep water route, are recommended to use the areas to the north and south of this route, in such a manner that eastbound ships proceed on the south side of the deep water route and westbound ships on the north side.

## DEEP WATER ROUTE OFF THE EAST COAST OF LANGELAND (new route)

(Reference charts: Danish Charts 142, 185)

### Description of the deep water route

A deep water route with a minimum depth of water below mean sea level of 17 metres is bounded by a line connecting the following geographical positions:

(1)	55°11'.9 N.,	11°04'.0 E.
(2)	55°11'.3 N.,	11°02'.1 E.
(3)	55°08'.9 N.,	10°59'.1 E.
(4)	55°04'.4 N.,	10°59'.0 E.
(5)	55°03'.9 N.,	10°59'.5 E.
(6)	55°02'.4 N.,	10°59'.6 E.
(7)	54°59'.2 N.,	10°58'.1 E.
(8)	54°58'.4 N.,	10°57'.4 E.
(9)	54°56'.6 N.,	10°52'.6 E.
(10)	54°52'.7 N.,	10°50'.2 E.
(11)	54°48'.2 N.,	10°49'.6 E.
(12)	54°44'.3 N.,	10°46'.4 E.
(13)	54°40'.1 N.,	10°45'.3 E.
(14)	54°41'.2 N.,	10°47'.2 E.
(15)	54°44'.1 N.,	10°47'.3 E.
(16)	54°48'.3 N.,	10°50'.3 E.
(17)	54°52'.5 N.,	10°50'.6 E.
(18)	54°56'.3 N.,	10°53'.8 E.
(19)	54°58'.4 N.,	10°58'.6 E.
(20)	54°59'.6 N.,	10°59'.4 E.
(21)	54°01'.8 N.,	11°00'.2 E.
(22)	54°04'.0 N.,	11°00'.5 E.
(23)	55°04'.8 N.,	10°59'.8 E.
(24)	55°08'.6 N.,	10°59'.9 E.
(25)	55°09'.4 N.,	11°00'.5 E.
(26)	55°10'.4 N.,	11°02'.7 E.

### Note:

Ships with draughts in excess of 13 metres are recommended to use the deep water route because of navigational difficulties for such ships in following the nationally recommended track which lies to the east.

**DEEP WATER ROUTE BETWEEN HATTER REV AND HATTER BARN (new route)**

(Reference chart: Danish Chart 103)

**Description of the deep water route**

A deep water route with a minimum depth of water below mean sea level of 17 metres is bounded by a line connecting the following geographical positions:

- |     |              |             |
|-----|--------------|-------------|
| (1) | 55°56'.2 N., | 10°59'.1 E. |
| (2) | 55°54'.1 N., | 10°51'.8 E. |
| (3) | 55°53'.4 N., | 10°48'.3 E. |
| (4) | 55°47'.4 N., | 10°47'.8 E. |
| (5) | 55°47'.4 N., | 10°49'.2 E. |
| (6) | 55°53'.2 N., | 10°49'.6 E. |
| (7) | 55°55'.5 N., | 10°58'.8 E. |

**Note:**

Ships which are not obliged by reason of their draught to use the deep water route, should follow the nationally recommended track which lies to the eastward and where there is a minimum depth of water below mean sea level of 11.4 metres.

**DEEP WATER ROUTE FROM NORTH HINDER TO TW/1 AND TW/A LIGHTBUOYS  
VIA DRI LIGHTBUOY (additional route)**

(Reference charts: British Admiralty 2182<sup>a</sup>, 1503, 1405, 1408, 1406 and  
Netherlands Hydrographic Office 1014, 1035, 1037 and  
German Hydrographic Office 50, 53)

**Description of the Deep Water Route**

The deep water route is bounded by a line connecting the following geographical positions:

- |      |              |            |
|------|--------------|------------|
| (1)  | 54°04'.8 N., | 4°42'.7 E. |
| (2)  | 53°58'.3 N., | 3°20'.8 E. |
| (3)  | 53°44'.4 N., | 3°01'.4 E. |
| (4)  | 53°04'.8 N., | 2°36'.0 E. |
| (5)  | 52°18'.2 N., | 2°36'.0 E. |
| (6)  | 51°51'.9 N., | 2°33'.3 E. |
| (7)  | 51°53'.3 N., | 2°41'.6 E. |
| (8)  | 52°18'.2 N., | 2°44'.0 E. |
| (9)  | 53°04'.0 N., | 2°44'.0 E. |
| (10) | 53°41'.6 N., | 3°08'.6 E. |
| (11) | 53°53'.7 N., | 3°25'.2 E. |
| (12) | 54°00'.0 N., | 4°46'.0 E. |

The subject route joins the "Deep Water Route from North Hinder to Lightbuoys TW/1 and TW/A via S2 Lightbuoy" in geographical positions (1) and (12).

**Note:**

Least water depths

The area bounded by a line connecting the geographical positions (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11) and (12) above was closely surveyed in 1973. The least water depth found in this area was 28 metres at LWS except for one wreck in geographical position:

- (13) 53°17'15" N., 02°49'00" E.

The least water depth over that wreck found by wire-sweeping was 25.2 metres at LWS.

See also the note pertaining to the "Deep Water Route from North Hinder to Light-buoys TW/1 and TW/A via S2 Lightbuoy".

**DEEP WATER ROUTE FROM LIGHTBUOYS TW/1 AND TW/A TO NORTH HINDER**

The title is amended to read:

**"DEEP WATER ROUTE FROM NORTH HINDER TO LIGHTBUOYS TW/1  
AND TW/A VIA S2 LIGHTBUOY"**

**DEEP WATER ROUTE LEADING TO EUROPOORT (as amended)**

(Reference charts: British Admiralty 1406 and 122 and  
Netherlands Hydrographic Office 1449, 1349, 1350 and 1540)

**Description of the deep water route**

The deep water route is bounded by a line connecting the following geographical positions:

- |     |              |            |
|-----|--------------|------------|
| (1) | 52°00'.0 N., | 3°27'.9 E. |
| (2) | 52°02'.1 N., | 3°53'.6 E. |
| (3) | 52°01'.3 N., | 3°56'.4 E. |
| (4) | 52°01'.1 N., | 3°55'.3 E. |
| (5) | 52°01'.3 N., | 3°51'.8 E. |
| (6) | 51°59'.4 N., | 3°28'.0 E. |

The directions of the route are:

082½°–262½° and  
112°–292°.

**Notes:****(i) Least water depth**

1. In the western approaches to the deep water route an overall least water depth is established at 23.50 metres at mean LLWS.
2. Between longitudes 3°27'.9 E. and 3°44'.9 E. the least water depths in the deep water route are as follows:
  - (a) 23.50 metres at mean LLWS in a mid-channel zone of 600 metres wide centred upon the axis of the route;
  - (b) 22.50 metres at mean LLWS in the two peripheral zones of 300 metres wide which border the mid-channel zone at each side.
3. Between longitudes 3°44'.9 E. and 3°53'.6 E. the least water depths in the deep water route are as follows:
  - (a) 23.00 metres at mean LLWS in a mid-channel zone of 600 metres wide centred upon the axis of the route;
  - (b) 22.50 metres at mean LLWS in the two peripheral zones of 300 metres wide which border the mid-channel zone at each side.
4. East of longitude 3°53'.6 E. the least water depth in the deep water route is 22.50 metres at mean LLWS.
5. The above depths are checked and maintained by frequent surveys and dredging.

**(ii) Electronic navigational aids**

1. The Decca Navigator Chain (Holland Chain) enables masters of deep draught vessels equipped with a Decca receiver to be informed continuously and highly accurately about the ships' deviation from and progress along the axes of the route. For optimum use of this aid in the mid-channel zone and in the eastern part of the deep water route a special indicator is brought on board by the pilot.
2. Especially the deep draught vessels which, because of their draughts, are confined to the mid-channel zone, are strongly advised to make use of the above equipment.

**RESOLUTION A.339(IX)**

Revoked by A.620(15)

*Adopted on 12 November 1975*  
*Agenda item 7(c)*

**RECOMMENDATION ON NAVIGATION THROUGH THE  
ENTRANCES TO THE BALTIC SEA**

THE ASSEMBLY,

BEING AWARE of the close relationship between safety of navigation and the prevention of pollution from ships,

BEING ALSO AWARE of the urgent need to protect the vulnerable Baltic Sea Area which has been designated a special area against pollution,

NOTING that, due to the risk of grounding or collision and the strong sea current, the navigation of large ships through the entrances to the Baltic Sea constitutes a potential danger of pollution of the entrances and of the entire Baltic Sea Area,

NOTING ALSO that at several places this passage will be difficult to navigate,

TAKING NOTE of

- Resolution 5 on Intentional Pollution of the Sea and Accidental Spillages adopted by the International Conference on Marine Pollution, London 1973;
- Resolution A.159(ES.IV) – Recommendation on Pilotage; and
- Resolution A.156(ES.IV) – Recommendation on the Carriage of Electronic Position-Fixing Equipment,

RECOMMENDS:

- (a) that ships over 40,000 tons deadweight when passing through the entrances to the Baltic Sea, in view of the fact that 17 metres is the maximum obtainable depth without dredging in the area north-east of Gedser and that the charted depths, even under normal conditions, may be decreased by as much as 2 metres due to unknown and moving obstructions, should:
  - (i) not pass the area unless they have a draught with which it is safe to navigate through the area, taking into account the possibility of depths being as much as 2 metres less than charted as mentioned above and additionally taking into account the possible changes in the indicated depth of water due to meteorological or other effects,
  - (ii) participate in the radio position reporting system operated by the Government of Denmark,
  - (iii) in certain areas in Store Bælt (Hatter Rev, Vengeancegrund and in the narrow route east of Langeland), when constrained by their draught, show the signal prescribed in Rule 28 in the International Regulations for Preventing Collisions at Sea, 1972;
- (b) that ships with a draught of 13 metres or more should furthermore:
  - (i) be equipped with a VHF radiotelephone installation, fitted with appropriate frequencies,

- (ii) have on board suitable electronic fixing equipment to make use of hyperbolic systems which will provide sufficient fixing accuracy for navigating in this area,
  - (iii) use for the passage the pilotage services locally established by the coastal States,
  - (iv) be aware that anchoring may be necessary owing to the weather and sea conditions in relation to the size and draught of the ship and to the sea level, and in this respect take special account of the information available from the pilot and from radio navigation information services in the area;
- (c) that a routing system be established so that the ships referred to and complying with the recommendations contained in paragraphs (a) and (b) above can safely navigate into the Baltic.

**RESOLUTION A.374(X)**

*Adopted on 14 November 1977  
Agenda item 8(b)*

**ROUTEING SYSTEMS**

THE ASSEMBLY,

NOTING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

CONSIDERING that the Assembly has adopted general provisions, traffic separation schemes, deep water routes and areas to be avoided,

RECOGNIZING that the practice of following routeing systems adopted by the Organization for international use would contribute considerably to the avoidance of collisions between ships,

RECOGNIZING ALSO that such practice would consequently reduce the risk of pollution of the marine environment and the risk of damage to marine life resulting from collisions or strandings,

HAVING EXAMINED the Recommendations by the Maritime Safety Committee at its thirty-fourth and thirty-sixth sessions,

DECIDES:

- (a) to adopt the new and amended routeing systems described in the Annex to this Resolution;
- (b) to withdraw the traffic separation scheme "Off Cape Finisterre", adopted by Resolutions A.161(ES.IV) and A.284(VIII),

INVITES the governments concerned to advise ships to comply with the adopted routeing measures from the appropriate date,

REQUESTS the Secretary-General to advise all concerned of the details of the routeing systems described in the Annex to this Resolution and to promulgate their dates of coming into force or withdrawal.



ANNEX**TRAFFIC SEPARATION SCHEMES****AT NORTH HINDER (amended scheme)**

(Reference charts: British Admiralty 1406 and Netherlands Hydrographic Office 1349)

**Description of the traffic separation scheme**

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:
  - (1) 51°49'.1 N., 2°45'.8 E.
  - (2) 51°48'.0 N., 2°39'.4 E.
- (b) A separation line connects the following geographical positions:
  - (3) 51°48'.0 N., 2°39'.4 E.
  - (4) 51°47'.2 N., 2°34'.5 E.
- (c) A separation zone, one mile wide, is centred upon the following geographical positions:
  - (5) 51°47'.2 N., 2°34'.5 E.
  - (6) 51°47'.0 N., 2°33'.0 E.
  - (7) 51°28'.0 N., 2°07'.1 E.
- (d) A traffic lane for south-westbound traffic is established between the separation zones/line and a line connecting the following geographical positions:
  - (8) 51°53'.6 N., 2°43'.8 E.
  - (9) 51°51'.2 N., 2°28'.5 E.
  - (10) 51°30'.4 N., 2°00'.0 E.
- (e) A traffic lane for north-eastbound traffic is established between the separation zones/line and a line connecting the following geographical positions:
  - (11) 51°44'.5 N., 2°47'.5 E.
  - (12) 51°42'.3 N., 2°36'.2 E.
  - (13) 51°39'.7 N., 2°31'.2 E.
  - (14) 51°22'.8 N., 2°12'.4 E.

**Note:**

The separation zones of this scheme are connected by a separation line to indicate the area where a concentration of crossing traffic is likely to be met.

**AT WEST HINDER** (amended scheme)

(Reference charts: British Admiralty 1406, 1895 and Belgian Hydrographic Office "Vlaamse Banken")

**Description of the traffic separation scheme**

(a) A separation line connects the following geographical positions:

- (1) 51°22'.0 N., 2°42'.7 E.
- (2) 51°22'.0 N., 2°37'.0 E.
- (3) 51°22'.5 N., 2°30'.0 E.
- (4) 51°19'.2 N., 2°16'.7 E.

(b) A separation zone bounded by a line connecting the following geographical positions:

- (5) 51°19'.2 N., 2°16'.7 E.
- (6) 51°20'.8 N., 2°11'.0 E.
- (7) 51°19'.6 N., 2°10'.1 E.

(c) A traffic lane for westbound traffic is established between the separation line/zone described in paragraphs (a) and (b) above and a line connecting the following geographical positions:

- (8) 51°23'.0 N., 2°42'.7 E.
- (9) 51°23'.0 N., 2°37'.0 E.
- (10) 51°23'.5 N., 2°30'.0 E.
- (11) 51°22'.8 N., 2°26'.5 E.
- (12) 51°21'.3 N., 2°17'.7 E.
- (13) 51°22'.8 N., 2°12'.4 E.

(d) A traffic lane for eastbound traffic is established between the separation line/zone described in paragraphs (a) and (b) above and a separation line connecting the following geographical positions:

- (14) 51°21'.2 N., 2°42'.7 E.
- (15) 51°21'.2 N., 2°37'.0 E.
- (16) 51°21'.5 N., 2°31'.2 E.
- (17) 51°20'.0 N., 2°24'.6 E.
- (18) 51°12'.5 N., 2°05'.0 E.

**Inshore traffic zone**

The area between the continental coast and the southern boundary of the traffic separation scheme is designated as an inshore traffic zone.

**IN THE STRAIT OF DOVER AND ADJACENT WATERS** (amended scheme)

(Reference charts: British Admiralty 1406, 1598, 1895 and 2451)

**Description of the traffic separation scheme**

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:
- |     |              |            |
|-----|--------------|------------|
| (1) | 51°28'.0 N., | 2°07'.1 E. |
| (2) | 51°25'.4 N., | 2°03'.7 E. |
- (b) A separation line connects the following geographical positions:
- |     |              |            |
|-----|--------------|------------|
| (3) | 51°25'.4 N., | 2°03'.7 E. |
| (4) | 51°23'.7 N., | 2°01'.5 E. |
- (c) A separation zone, one mile wide, is centred upon the following geographical positions:
- |     |              |            |
|-----|--------------|------------|
| (5) | 51°23'.7 N., | 2°01'.5 E. |
| (6) | 51°16'.5 N., | 1°52'.4 E. |
- (d) A separation line connects the following geographical positions:
- |     |              |            |
|-----|--------------|------------|
| (7) | 51°16'.5 N., | 1°52'.4 E. |
| (8) | 51°06'.1 N., | 1°38'.2 E. |
- (e) A separation zone, one mile wide, is centred upon the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (9)  | 51°06'.1 N., | 1°38'.2 E. |
| (10) | 50°57'.2 N., | 1°23'.6 E. |
- (f) A natural separation zone is formed by The Ridge or Le Colbart.
- (g) A separation zone, two miles wide, is centred upon the following positions:
- |      |              |            |
|------|--------------|------------|
| (11) | 50°48'.9 N., | 1°16'.2 E. |
| (12) | 50°37'.9 N., | 1°04'.4 E. |
| (13) | 50°33'.7 N., | 0°57'.8 E. |
- (h) A separation zone bounded by a line connecting the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (14) | 50°33'.0 N., | 0°59'.0 E. |
| (15) | 50°34'.4 N., | 0°56'.7 E. |
| (16) | 50°28'.8 N., | 0°00'.0    |
| (17) | 50°25'.0 N., | 0°00'.0    |
- (i) A traffic lane for south-westbound traffic is established between the separation zones/line described in paragraphs (a), (b), (c), (d), (e) and (f) above and a separation line connecting the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (18) | 51°30'.4 N., | 2°00'.0 E. |
| (19) | 51°23'.0 N., | 1°50'.0 E. |
| (20) | 51°14'.1 N., | 1°44'.1 E. |
| (21) | 51°06'.9 N., | 1°31'.0 E. |
| (22) | 50°57'.3 N., | 1°12'.2 E. |
- (j) The traffic lane for south-westbound traffic described in paragraph (i) above is continued between the separation zones described in paragraphs (f), (g) and (h) above and a separation zone, half a mile wide, centred upon the following geographical positions:
- |      |              |            |
|------|--------------|------------|
| (23) | 50°57'.3 N., | 1°12'.2 E. |
| (24) | 50°52'.0 N., | 1°02'.2 E. |
| (25) | 50°36'.8 N., | 0°27'.4 E. |
| (26) | 50°34'.7 N., | 0°00'.0    |

- (k) A traffic lane for north-eastbound traffic is established between the separation zones described in paragraphs (g) and (h) above and a separation zone, half a mile wide, centred upon the following geographical positions:

(27) 50°37'.7 N., 1°21'.0 E.  
(28) 50°26'.6 N., 0°58'.8 E.  
(29) 50°12'.0 N., 0°00'.0

- (l) The traffic lane for north-eastbound traffic described in paragraph (k) above is continued between the separation zones/line described in paragraphs (a), (b), (c), (d), (e) and (f) above and a separation line connecting the following geographical positions:

(30) 51°22'.8 N., 2°12'.4 E.  
(31) 51°12'.5 N., 2°05'.0 E.  
(32) 51°06'.4 N., 1°49'.0 E.  
(33) 50°53'.6 N., 1°30'.8 E.  
(34) 50°44'.5 N., 1°27'.0 E.  
(35) 50°37'.7 N., 1°21'.0 E.

- (m) A deep water route forming part of the north-eastbound traffic lane between the north-western edge of the Sandettie Bank and the separation zone/line described in paragraphs (c) and (d) above has been established between the latitude of 51°10'.3 N and a line connecting the following geographical positions:

(i) 51°23'.4 N., 2°02'.2 E.  
(ii) 51°22'.3 N., 2°05'.8 E.  
(iii) 51°18'.4 N., 2°04'.8 E.

#### **Inshore traffic zones**

The areas between the outer boundaries of the traffic separation scheme and the adjacent coasts are designated as inshore traffic zones.

#### **WARNING**

1. A deep water route forming part of the north-eastbound traffic lane is established to the north-west of the Sandettie Bank and masters considering the use of this route should take into account the proximity of traffic using the south-westbound lane.
2. The main traffic lane for north-eastbound traffic lies to the south-east of the Sandettie Bank and shall be followed by all such vessels as can safely navigate therein having regard to their draught.
3. In the area of the deep water route east of the separation line vessels are recommended to avoid overtaking.

**IN THE GULF OF SUEZ (new scheme)**

(Reference charts: British Admiralty 757, 2373, 2374 and 2375)

**Description of the traffic separation scheme**

- (a) A separation zone is bounded by a line connecting the following geographical positions:
- |          |               |              |
|----------|---------------|--------------|
| (1)      | 29°45'.00 N., | 32°31'.70 E. |
| (2)      | 29°35'.60 N., | 32°31'.70 E. |
| (3)      | 28°29'.70 N., | 33°04'.90 E. |
| (3)(bis) | 28°19'.00 N., | 33°11'.80 E. |
| (4)      | 28°10'.45 N., | 33°17'.90 E. |
| (5)      | 27°52'.60 N., | 33°40'.60 E. |
| (6)      | 28°11'.25 N., | 33°19'.30 E. |
| (7)      | 28°30'.00 N., | 33°05'.45 E. |
| (8)      | 29°35'.60 N., | 32°32'.35 E. |
| (9)      | 29°45'.00 N., | 32°32'.35 E. |
- (b) A separation line connects the following geographical positions:
- |      |               |              |
|------|---------------|--------------|
| (10) | 27°52'.60 N., | 33°40'.60 E. |
| (11) | 27°36'.85 N., | 33°55'.55 E. |
- (c) A separation zone is bounded by a line connecting the following geographical positions:
- |      |               |              |
|------|---------------|--------------|
| (12) | 27°36'.85 N., | 33°55'.55 E. |
| (13) | 27°30'.00 N., | 34°05'.80 E. |
| (14) | 27°30'.00 N., | 34°08'.00 E. |
- (d) A traffic lane for southbound traffic is established between a separation zone/line and a line connecting the following geographical positions:
- |      |               |              |
|------|---------------|--------------|
| (15) | 29°45'.00 N., | 32°30'.00 E. |
| (16) | 29°35'.30 N., | 32°30'.00 E. |
| (17) | 28°28'.00 N., | 33°04'.00 E. |
| (18) | 28°09'.95 N., | 33°17'.00 E. |
| (19) | 27°48'.40 N., | 33°43'.30 E. |
| (20) | 27°36'.30 N., | 33°54'.80 E. |
| (21) | 27°30'.00 N., | 34°03'.60 E. |
- (e) A traffic lane for northbound traffic is established between a separation zone/line and a line connecting the following geographical positions:
- |      |               |              |
|------|---------------|--------------|
| (22) | 29°45'.00 N., | 32°34'.10 E. |
| (23) | 29°35'.70 N., | 32°34'.10 E. |
| (24) | 28°31'.20 N., | 33°06'.75 E. |
| (25) | 28°11'.80 N., | 33°20'.30 E. |
| (26) | 27°57'.40 N., | 33°37'.20 E. |
| (27) | 27°37'.45 N., | 33°56'.20 E. |
| (28) | 27°30'.00 N., | 33°11'.00 E. |

**OFF DELAWARE BAY** (amended scheme)

(Reference charts: British Admiralty 2563 and United States Charts 12214, 12200)

**Description of the traffic separation scheme**

The traffic separation scheme off Delaware Bay consists of two parts.

**Part I:**

**Eastern approach**

- (a) A separation zone bounded by a line connecting the following geographical positions:
  - (1) 38°46'.8 N., 74°34'.6 W.
  - (2) 38°46'.8 N., 74°55'.7 W.
  - (3) 38°47'.8 N., 74°55'.4 W.
  - (4) 38°47'.8 N., 74°34'.6 W.
- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:
  - (5) 38°49'.8 N., 74°34'.6 W.
  - (6) 38°48'.8 N., 74°55'.3 W.
- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
  - (7) 38°45'.8 N., 74°56'.1 W.
  - (8) 38°44'.8 N., 74°34'.6 W.

**Part II:**

**South-eastern approach**

- (a) A separation zone bounded by a line connecting the following geographical positions:
  - (9) 38°27'.0 N., 74°42'.3 W.
  - (10) 38°43'.4 N., 74°58'.0 W.
  - (11) 38°44'.2 N., 74°57'.2 W.
  - (12) 38°27'.6 N., 74°41'.3 W.
- (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:
  - (13) 38°28'.8 N., 74°39'.3 W.
  - (14) 38°45'.1 N., 74°56'.6 W.
- (c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
  - (15) 38°42'.8 N., 74°58'.9 W.
  - (16) 38°27'.0 N., 74°45'.4 W.

**Precautionary area**

A precautionary area of radius eight miles is centred upon Harbour of Refuge Light in geographical position:

38°48'.9 N., 75°05'.6 W

**OFF FALSTERBOREV (amended scheme)**

(Reference charts: Swedish Administration of Shipping and Navigation 921 and 929)

**Description of the traffic separation scheme**

The traffic separation scheme off Falsterborev consists of four parts:

**Part I:**

- (a) A roundabout with a circular traffic separation zone of half a mile in diameter is centred at the following geographical position:
  - (1)  $55^{\circ}18'.6$  N.,  $12^{\circ}39'.5$  E.
- (b) A circular traffic lane, one-and-three-quarter miles wide is established around the circular separation zone.

**Part II:**

- (a) A separation line connects the following geographical positions:
    - (2)  $55^{\circ}15'.9$  N.,  $12^{\circ}51'.8$  E.
    - (3)  $55^{\circ}17'.5$  N.,  $12^{\circ}42'.5$  E.
  - (b) A traffic lane, one point one mile wide, is established on each side of the separation line and the outside limits of the traffic lanes are extended to intersect with the outside limit of the roundabout.
- The main traffic directions are:  
 $107^{\circ} - 287^{\circ}$ .

**Part III:**

- (a) A separation line connects the following geographical positions:
    - (4)  $55^{\circ}13'.1$  N.,  $12^{\circ}39'.1$  E.
    - (5)  $55^{\circ}16'.6$  N.,  $12^{\circ}38'.9$  E.
  - (b) A traffic lane, one mile wide, is established on each side of the separation line and the outside limits of the traffic lanes are extended to intersect with the outside limit of the roundabout.
- The main traffic directions are:  
 $177^{\circ} - 357^{\circ}$ .

**Part IV:**

- (a) A separation line connects the following geographical positions:
    - (6)  $55^{\circ}20'.5$  N.,  $12^{\circ}39'.4$  E.
    - (7)  $55^{\circ}25'.0$  N.,  $12^{\circ}40'.7$  E.
  - (b) A traffic lane, one-and-a-half miles wide, is established on each side of the separation line and the outside limit of the traffic lanes are extended to intersect with the outside limit of the roundabout.
- The main traffic directions are:  
 $010^{\circ} - 190^{\circ}$ .

**Note:**

The roundabout serves the purpose of facilitating manoeuvring in the area where traffic to and from the Baltic Sea, the Kiel Canal and the Sound meet.

**OFF USHANT (amended scheme)**

(Reference chart: British Admiralty 2643)

**Description of the traffic separation scheme**

(a) A separation zone, two miles wide, is centred upon the following geographical positions:

- (1) 48°29'.1 N., 05°24'.9 W.
- (2) 48°34'.6 N., 05°20'.5 W.
- (3) 48°38'.2 N., 05°12'.8 W.

(b) A traffic lane, five miles wide, is established on each side of the separation zone.

The main traffic directions are:

028° – 208° and  
055° – 235°.

**IN THE SOUTHERN APPROACHES TO THE KERCH STRAIT (new scheme)**

(Reference chart: USSR Chart No. 514)

**Description of the traffic separation scheme**

(a) A separation zone is bounded by lines connecting the following geographical positions:

- (1) 44°49'.7 N., 36°29'.0 E.
- (2) 45°02'.3 N., 36°30'.0 E.
- (3) 44°49'.7 N., 36°31'.0 E.

(b) A separation line connects the following geographical positions:

- (2) 45°02'.3 N., 36°30'.0 E.
- (4) 45°06'.8 N., 36°30'.0 E.

(c) An eastern boundary of a traffic lane connects the following geographical positions:

- (5) 44°49'.7 N., 36°33'.2 E.
- (6) 45°06'.8 N., 36°30'.3 E.

(d) A western boundary of a traffic lane connects the following geographical positions:

- (7) 45°06'.8 N., 36°29'.7 E.
- (8) 44°49'.7 N., 36°26'.8 E.

The main traffic directions are:

355° and 185°.



**IN THE APPROACHES TO PORTLAND, MAINE (amended scheme)**

(Reference charts: United States Charts 13006, 13009, 13260, 13286, 13288 and 13290)

**Description of the traffic separation scheme**

The traffic separation scheme in the approaches to Portland, Maine consists of three parts:

**Part I:**

**Precautionary area**

- (a) A precautionary area of radius five miles is centred upon geographical position 43°31'.5 N., 70°06'.0 W., the areas within separation zones and traffic lanes excluded.

**Part II:**

**Eastern approach**

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:
  - (1) 43°30'.15 N., 69°58'.9 W.
  - (2) 43°24'.75 N., 69°33'.0 W.
- (b) A traffic lane, one and one-half miles wide, is established on each side of the separation zone.

The main traffic directions are:

107° and 287°.

**Part III:**

**Southern approach**

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:
  - (3) 43°26'.8 N., 70°03'.4 W.
  - (4) 43°07'.8 N., 69°55'.3 W.
- (b) A traffic lane, one and one-half miles wide, is established on each side of the separation zone.

The main traffic directions are:

162° and 342°.

**OFF NEW YORK** (amended scheme)

(Reference charts: United States Charts 12300 and 12326)

**Description of the traffic separation scheme**

The traffic separation scheme off New York consists of five parts:

**Part I:**

**Precautionary area**

- (a) A precautionary area of radius seven miles is centred upon Ambrose Light in geographical position  $40^{\circ}27'34.9''$  N.,  $73^{\circ}49'51.4''$  W.

**Part II:**

**Eastern approach; off Nantucket**

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (1)  $40^{\circ}28'45''$  N.,  $69^{\circ}14'50''$  W.
  - (2)  $40^{\circ}27'37''$  N.,  $70^{\circ}13'46''$  W.
  - (3)  $40^{\circ}30'37''$  N.,  $70^{\circ}14'00''$  W.
  - (4)  $40^{\circ}31'45''$  N.,  $69^{\circ}14'58''$  W.
- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (5)  $40^{\circ}36'45''$  N.,  $69^{\circ}15'10''$  W.
  - (6)  $40^{\circ}35'37''$  N.,  $70^{\circ}14'09''$  W.
- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (7)  $40^{\circ}22'37''$  N.,  $70^{\circ}13'36''$  W.
  - (8)  $40^{\circ}23'45''$  N.,  $69^{\circ}14'38''$  W.

**Part III:**

**Eastern approach; off Ambrose Light**

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (9)  $40^{\circ}24'20''$  N.,  $73^{\circ}04'58''$  W.
  - (10)  $40^{\circ}24'12''$  N.,  $73^{\circ}11'30''$  W.
  - (11)  $40^{\circ}26'00''$  N.,  $73^{\circ}40'56''$  W.
  - (12)  $40^{\circ}27'00''$  N.,  $73^{\circ}40'45''$  W.
  - (13)  $40^{\circ}27'12''$  N.,  $73^{\circ}11'30''$  W.
  - (14)  $40^{\circ}27'20''$  N.,  $73^{\circ}04'57''$  W.
- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (15)  $40^{\circ}32'20''$  N.,  $73^{\circ}04'57''$  W.
  - (16)  $40^{\circ}32'12''$  N.,  $73^{\circ}11'30''$  W.
  - (17)  $40^{\circ}28'00''$  N.,  $73^{\circ}40'44''$  W.
- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (18)  $40^{\circ}25'03''$  N.,  $73^{\circ}41'19''$  W.
  - (19)  $40^{\circ}19'12''$  N.,  $73^{\circ}11'30''$  W.
  - (20)  $40^{\circ}19'20''$  N.,  $73^{\circ}04'58''$  W.

**Part IV:****South-eastern approach**

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (21) 40°03'06" N., 73°17'56" W.
  - (22) 40°06'30" N., 73°22'44" W.
  - (23) 40°22'27" N., 73°43'33" W.
  - (24) 40°23'12" N., 73°42'42" W.
  - (25) 40°08'43" N., 73°20'06" W.
  - (26) 40°05'19" N., 73°15'17" W.
- (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (27) 40°08'59" N., 73°10'52" W.
  - (28) 40°12'25" N., 73°15'40" W.
  - (29) 40°24'01" N., 73°41'58" W.
- (c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (30) 40°21'49" N., 73°44'33" W.
  - (31) 40°02'48" N., 73°27'09" W.
  - (32) 39°59'26" N., 73°22'21" W.

**Part V:****Southern approach**

- (a) A separation zone bounded by a line connecting the following geographical positions:
- (33) 39°45'42" N., 73°48'00" W.
  - (34) 40°20'38" N., 73°48'20" W.
  - (35) 40°20'52" N., 73°47'04" W.
  - (36) 39°45'42" N., 73°44'00" W.
- (b) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (37) 39°45'42" N., 73°37'42" W.
  - (38) 40°21'15" N., 73°45'51" W.
- (c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (39) 40°20'32" N., 73°49'39" W.
  - (40) 39°45'42" N., 73°54'24" W.

**Note:**

Use of LORAN C enables masters of appropriately equipped vessels to be informed highly accurately and continuously about the vessel's position in the area covered by this scheme.

**IN THE APPROACHES TO CHESAPEAKE BAY** (amended scheme)

(Reference charts: United States Charts 12200, 12207 and 12221)

**Description of the traffic separation scheme**

The traffic separation scheme in the approaches to Chesapeake Bay consists of three parts:

**Part I:**

**Precautionary area**

- (a) A precautionary area of radius two miles is centred upon geographical position  
36°56'.1 N., 75°57'.5 W.

**Part II:**

**Eastern approach**

- (a) A separation line connects the following geographical positions:
- |     |              |             |
|-----|--------------|-------------|
| (1) | 36°58'.7 N., | 75°48'.7 W. |
| (2) | 36°56'.8 N., | 75°55'.1 W. |
- (b) A traffic lane, half a mile wide, is established on each side of the separation line.

The main traffic directions are:

070° and 250°.

**Part III:**

**Southern approach**

- (a) A separation line connects the following geographical positions:
- |     |              |             |
|-----|--------------|-------------|
| (3) | 36°51'.3 N., | 75°50'.9 W. |
| (4) | 36°54'.8 N., | 75°55'.6 W. |
- (b) A traffic lane, half a mile wide, is established on each side of the separation line.

The main traffic directions are:

132° and 312°.

**IN THE APPROACHES TO ANTOFAGASTA (new scheme)**

(Reference charts: Chilean Hydrographic Office 200 and 204)

**Description of the traffic separation scheme**

- (a) A separation zone, one mile wide, is centred upon the following geographical positions:
  - (1) 23°38'43" S., 70°26'37" W.
  - (2) 23°38'43" S., 70°30'42" W.
- (b) A traffic lane for westbound traffic is established between the separation zone and a line connecting the following geographical positions:
  - (3) 23°37'13" S., 70°26'37" W.
  - (4) 23°36'13" S., 70°30'42" W.
- (c) A traffic lane for eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
  - (5) 23°40'13" S., 70°26'37" W.
  - (6) 23°41'13" S., 70°30'42" W.

The main traffic directions are:

090° – 270°.

**IN THE APPROACHES TO QUINTERO BAY (new scheme)**

(Reference charts: Chilean Hydrographic Office 407 and 501)

**Description of the traffic separation scheme**

- (a) A separation zone, half a mile wide, is centred upon the following geographical positions:
  - (1) 32°44'42" S., 71°32'22" W.
  - (2) 32°44'42" S., 71°36'48" W.
- (b) A traffic lane for westbound traffic is established between the separation line and a line connecting the following geographical positions:
  - (3) 32°43'42" S., 71°32'22" W.
  - (4) 32°43'12" S., 71°36'48" W.
- (c) A traffic lane for eastbound traffic is established between the separation line and a line connecting the following geographical positions:
  - (5) 32°45'42" S., 71°32'22" W.
  - (6) 32°46'12" S., 71°36'48" W.

The main traffic directions are:

090° – 270°.

**IN THE APPROACHES TO VALPARAISO (new scheme)**

(Reference charts: Chilean Hydrographic Office 501 and 502)

**Description of the traffic separation scheme**

- (a) A separation zone, half a mile wide, is centred upon the following geographical positions:
- (1) 32°57'43" S., 71°37'44" W.
  - (2) 33°00'38" S., 71°36'59" W.
- (b) A traffic lane for southbound traffic is established between the separation zone and a separation line connecting the following geographical positions:
- (3) 32°57'58" S., 71°39'11" W.
  - (4) 33°00'48" S., 71°37'52" W.
- (c) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (5) 32°57'27" S., 71°36'17" W.
  - (6) 33°00'28" S., 71°36'07" W.

The main traffic directions are:

168° – 348°.

**Inshore traffic zone**

The area between the coast and the landward boundary of the traffic separation scheme is designated as an inshore traffic zone.

**IN THE APPROACHES TO CONCEPCION BAY (new scheme)**

(Reference charts: Chilean Hydrographic Office 601)

**Description of the traffic separation scheme**

- (a) A separation zone, a quarter of a mile wide, is centred upon the following geographical positions:
- (1) 36°34'06" S., 73°01'45" W.
  - (2) 36°36'04" S., 73°01'19" W.
  - (3) 36°38'30" S., 73°01'19" W.
- (b) A traffic lane, half a mile wide, is established on each side of the separation zone.

The main traffic directions are:

170° – 350° and  
000° – 180°.

**IN THE APPROACHES TO SAN VICENTE BAY (new scheme)**

(Reference charts: Chilean Hydrographic Office 601)

**Description of the traffic separation scheme**

(a) A separation zone is bounded by a line connecting the following geographical positions:

- (1) 36°40'54" S., 73°13'25" W.
- (2) 36°43'54" S., 73°10'08" W.
- (3) 36°43'48" S., 73°10'02" W.
- (4) 36°40'35" S., 73°12'57" W.

(b) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (5) 36°41'46" S., 73°14'42" W.
- (6) 36°44'10" S., 73°10'33" W.

(c) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

- (7) 36°39'50" S., 73°11'50" W.
- (8) 36°43'31" S., 73°09'36" W.

The main traffic directions are:

140° -- 320°.

**DEEP WATER ROUTES****DEEP WATER ROUTE LEADING TO THE PORT OF ANTIFER (new route)**

(Reference charts: 6614-T, 6614-D by Service hydrographique et océanographique de la Marine, France)

**Description of the deep water route**

(a) The deep water route is bounded by a line connecting the following geographical positions:

- (1) 49°55'.3 N., 00°40'.7 W.
- (2) 49°44'.8 N., 00°10'.8 W.
- (3) 49°44'.7 N., 00°06'.8 W.
- (4) 49°45'.1 N., 00°06'.5 W.
- (5) 49°47'.4 N., 00°08'.5 W.
- (6) 49°58'.2 N., 00°39'.2 W.

The main traffic directions are:

118°.5 – 298°.5.

**Note:**

This deep water route is a continuation of the buoyed fairway leading from Antifer harbour.

**DEEP WATER ROUTE FORMING PART OF THE NORTH-EASTBOUND TRAFFIC LANE  
OF THE STRAIT OF DOVER AND ADJACENT WATERS TRAFFIC SEPARATION  
SCHEME (amended route)**

(Reference charts: British Admiralty 1406 and 1895)

**Description of the deep water route**

A deep water route forming part of the north-eastbound traffic lane between the north-western edge of the Sandettie Bank and the separation zone/line described in paragraphs (c) and (d) of the traffic separation scheme in the Strait of Dover has been established between the latitude of 51°10'.3 N and a line connecting the following geographical positions:

- (i) 51°23'.4 N., 2°02'.2 E.
- (ii) 51°22'.3 N., 2°05'.8 E.
- (iii) 51°18'.4 N., 2°04'.8 E.

**Notes:**

1. See note pertaining to the traffic separation scheme "In the Strait of Dover and Adjacent Waters".
2. Limiting depths available in the route should be ascertained by reference to the latest large scale navigational charts of the area, noting that the seabed is relatively unstable.



**RESOLUTION A.375(X)**

Amended by A.476(XII)

*Adopted on 14 November 1977*  
*Agenda item 8(b)*

**NAVIGATION THROUGH THE  
STRAITS OF MALACCA AND SINGAPORE**

THE ASSEMBLY,

NOTING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

BEING AWARE of the close relationship between safety of navigation and the prevention of pollution from ships,

BEING INFORMED of the decisions and measures taken by the Governments of Indonesia, Malaysia and Singapore concerning the safety of navigation and the protection of the marine environment in the Straits of Malacca and Singapore, given in the Annexes to this Resolution,

CONSIDERING Resolution A.378(X) by which the Assembly adopted general provisions on ships' routing,

HAVING EXAMINED the Recommendation by the Maritime Safety Committee at its thirty-seventh session,

ADOPTS the new routing system for the Straits of Malacca and Singapore including traffic separation schemes, deep water routes and rules described in Annexes I to V to this Resolution,

ENDORSES the necessity that all oil tankers navigating through the Straits shall be adequately covered by relevant insurance and compensation schemes for oil pollution damage, including clean-up costs,

AGREES that the additional and improved aids to navigation listed in Annex VI to this Resolution will represent an important contribution to the safety of navigation of ships using the new routing system,

INVITES the governments concerned to advise ships to comply with this Resolution from the appropriate date,

REQUESTS the Secretary-General to advise all concerned of the details of this routing system described in the Annexes to this Resolution and to promulgate the date of entry into force as determined by the governments concerned.

ANNEX I

**AT ONE FATHOM BANK (new scheme)**

(Reference chart: Japanese 622B, edition date: 1 October 1973)

**Description of the traffic separation scheme**

(a) A separation zone is bounded by a line connecting the following geographical positions:

- |     |              |              |
|-----|--------------|--------------|
| (1) | 03°00'.7 N., | 100°47'.4 E. |
| (2) | 02°53'.7 N., | 100°55'.8 E. |
| (3) | 02°49'.5 N., | 100°59'.5 E. |
| (4) | 02°47'.1 N., | 101°04'.0 E. |
| (5) | 02°46'.7 N., | 101°03'.7 E. |
| (6) | 02°49'.0 N., | 100°59'.5 E. |
| (7) | 02°53'.4 N., | 100°55'.4 E. |
| (8) | 03°00'.3 N., | 100°47'.1 E. |

(b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

- |      |              |              |
|------|--------------|--------------|
| (9)  | 03°02'.7 N., | 100°48'.8 E. |
| (10) | 02°52'.5 N., | 101°00'.0 E. |
| (11) | 02°49'.4 N., | 101°05'.4 E. |

(c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

- |      |              |              |
|------|--------------|--------------|
| (12) | 02°54'.7 N., | 100°43'.1 E. |
| (13) | 02°44'.4 N., | 101°02'.2 E. |

ANNEX II**IN THE SINGAPORE STRAIT (new scheme)**

(Reference charts: Japanese 622A, edition date: 2 July 1973;  
 Japanese 750A, edition date: 4 September 1976;  
 Japanese 750B, edition date: 4 September 1976)

**Description of the traffic separation scheme**

(a) A separation zone is bounded by a line connecting the following geographical positions:

- |                                 |                                  |
|---------------------------------|----------------------------------|
| (1) 01°23'12" N., 103°12'24" E. | (7) 01°07'30" N., 103°43'43" E.  |
| (2) 01°13'12" N., 103°23'24" E. | (8) 01°10'21" N., 103°39'51" E.  |
| (3) 01°07'48" N., 103°31'42" E. | (9) 01°10'21" N., 103°33'48" E.  |
| (4) 01°03'36" N., 103°38'57" E. | (10) 01°13'48" N., 103°24'00" E. |
| (5) 01°05'54" N., 103°43'23" E. | (11) 01°24'12" N., 103°13'36" E. |
| (6) 01°08'36" N., 103°45'26" E. |                                  |

(b) A separation line connects the following geographical positions:

- (12) 01°08'36" N., 103°45'26" E.  
 (13) 01°10'17" N., 103°48'06" E.  
 (14) 01°11'42" N., 103°51'31" E.  
 (15) 01°13'21" N., 103°55'00" E.  
 (16) 01°14'53" N., 103°59'00" E.

(c) A separation zone is bounded by a line connecting the following geographical positions:

- (17) 01°14'53" N., 103°59'00" E.  
 (18) 01°15'40" N., 104°03'24" E.  
 (19) 01°15'25" N., 104°03'27" E.

(d) A traffic lane for westbound traffic is established between the separation zones/line and a line connecting the following geographical positions:

- |                                  |                                  |
|----------------------------------|----------------------------------|
| (20) 01°25'30" N., 103°15'00" E. | (25) 01°10'27" N., 103°47'30" E. |
| (21) 01°15'12" N., 103°25'18" E. | (26) 01°11'57" N., 103°51'12" E. |
| (22) 01°14'13" N., 103°30'00" E. | (27) 01°14'00" N., 103°55'00" E. |
| (23) 01°11'30" N., 103°40'33" E. | (28) 01°16'01" N., 104°00'00" E. |
| (24) 01°08'39" N., 103°44'24" E. | (29) 01°16'36" N., 104°03'19" E. |

(e) A traffic lane for eastbound traffic is established between the separation zones/line and a line connecting the following geographical positions:

- |                                  |                                  |
|----------------------------------|----------------------------------|
| (30) 01°22'00" N., 103°11'06" E. | (35) 01°09'28" N., 103°48'42" E. |
| (31) 01°11'33" N., 103°22'48" E. | (36) 01°11'27" N., 103°52'51" E. |
| (32) 01°01'36" N., 103°39'39" E. | (37) 01°13'30" N., 103°57'40" E. |
| (33) 01°05'00" N., 103°43'40" E. | (38) 01°14'03" N., 104°03'35" E. |
| (34) 01°07'48" N., 103°46'15" E. |                                  |

**Note:**

Deep water routes forming part of the eastbound traffic lane are established in the Singapore Strait westward of Batu Berhanti.

ANNEX III

**AT HORSBURGH LIGHT AREA (new scheme)**

(Reference chart: Japanese 749, edition date: 2 June 1973)

**Description of the traffic separation scheme**

- (a) A separation zone is bounded by a line connecting the following geographical positions:
- (1) 01°17'19" N., 104°15'00" E.
  - (2) 01°18'00" N., 104°19'42" E.
  - (3) 01°24'33" N., 104°27'03" E.
  - (4) 01°24'18" N., 104°27'15" E.
  - (5) 01°17'48" N., 104°19'51" E.
  - (6) 01°17'06" N., 104°15'00" E.
- (b) A traffic lane for south-westbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (7) 01°25'24" N., 104°26'19" E.
  - (8) 01°19'24" N., 104°19'30" E.
  - (9) 01°18'38" N., 104°15'00" E.
- (c) A traffic lane for north-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:
- (10) 01°15'24" N., 104°15'00" E.
  - (11) 01°16'18" N., 104°19'51" E.
  - (12) 01°23'24" N., 104°27'57" E.

ANNEX IV**DEEP WATER ROUTES FORMING PART OF THE EASTBOUND TRAFFIC LANE  
OF THE TRAFFIC SEPARATION SCHEME IN THE SINGAPORE STRAIT**

(Reference charts: Japanese 622A, edition date: 2 July 1973;  
 Japanese 750A, edition date: 4 September 1976;  
 Japanese 750B, edition date: 4 September 1976)

**Description of the deep water routes**

- (a) The deep water route is established within the eastbound lane described in paragraph (e) of the traffic separation scheme "In the Singapore Strait". The deep water route is bounded by a line connecting the following geographical positions:

- (i) 01°03'36" N., 103°38'57" E.
- (ii) 01°05'54" N., 103°43'23" E.
- (iii) 01°08'36" N., 103°45'26" E.
- (iv) 01°10'17" N., 103°48'06" E.
- (v) 01°09'57" N., 103°48'17" E.
- (vi) 01°08'54" N., 103°46'49" E.
- (vii) 01°04'57" N., 103°42'52" E.
- (viii) 01°02'58" N., 103°39'06" E.

- (b) The deep water route is established within the eastbound lane described in paragraph (e) of the traffic separation scheme "In the Singapore Strait". The deep water route is bounded by a line connecting the following geographical positions:

- (ix) 01°10'17" N., 103°48'06" E.
- (x) 01°11'42" N., 103°51'31" E.
- (xi) 01°12'04" N., 103°52'15" E.
- (xii) 01°11'48" N., 103°52'38" E.
- (xiii) 01°09'57" N., 103°48'17" E.

## ANNEX V

### **RULES FOR VESSELS NAVIGATING THROUGH THE STRAITS OF MALACCA AND SINGAPORE**

#### **I. DEFINITIONS**

For the purpose of these Rules the following definitions should apply:

1. A vessel having a draught of 15 metres or more shall be deemed to be a deep draught vessel.
2. A tanker of 150,000 dwt and above shall be deemed to be a Very Large Crude Carrier (VLCC).

**Note:**

The above definitions do not prejudice the definition of "vessel constrained by her draught" described in Rule 3(h) of the International Regulations for Preventing Collisions at Sea, 1972.

#### **II. GENERAL PROVISIONS**

1. Deep draught vessels and VLCCs shall allow for an Under Keel Clearance (UKC) of at least 3.5 metres at all times during the entire passage through the Straits of Malacca and Singapore and shall also take all necessary safety precautions especially when navigating through the traffic separation schemes.
2. Masters of deep draught vessels and VLCCs shall have particular regard to navigational constraints when planning their passage through the Straits.
3. All deep draught vessels and VLCCs navigating within the traffic separation schemes are recommended to use the pilotage service of the respective countries when they become available.

#### **III. RULES**

- Rule 1 — (a) Deep draught vessels shall use the designated Deep Water Route (DWR) between positions 01°09'57" N., 103°48'17" E. and 01°02'58" N., 103°39'06" E. Other vessels should, as far as practicable, avoid the deep water route.
- (b) Deep draught vessels are advised to use the deep water route between Buffalo Rock and Batu Berhanti.
- Rule 2 — Deep draught vessels navigating in the deep water route shall, as far as practicable, avoid overtaking.
- Rule 3 — All vessels navigating within the traffic separation scheme shall proceed in the appropriate traffic lane in the general direction of traffic flow for that lane and maintain as steady a course as possible consistent with safe navigation.
- Rule 4 — In the event of an emergency or breakdown of a vessel in the traffic lane it shall, as far as practicable and safe, leave the lane by pulling out to the starboard side.

- Rule 5 — Westbound vessels when approaching Raffles Lighthouse in the Strait of Singapore shall proceed with caution, taking note of locally established signals, and give way to deep draught vessels approaching the Single Buoy Mooring facility (in approximate position latitude 1°11'25" N., longitude 103°47'30" E.) from Phillip Channel.
- Rule 6 — VLCCs and deep draught vessels are advised to navigate at a speed of not more than 12 knots over the ground.
- Rule 7 — All vessels navigating in the traffic separation scheme shall maintain at all times a safe speed consistent with safe navigation, shall proceed with caution, and shall be in a maximum state of manoeuvring readiness.
- Rule 8 — VLCCs and deep draught vessels navigating in the Straits of Malacca and Singapore are advised to participate in the existing voluntary ships' reporting system. Under this system, such vessels broadcast eight hours before entering the Straits/traffic separation schemes, navigational warnings giving names, deadweight tonnage, draught, speed and times of passing One Fathom Bank Lighthouse, Raffles Lighthouse and Horsburgh Lighthouse. Difficult and unwieldy tows also broadcast similar warnings giving the type, length, speed of tows and times of passing the three above-mentioned areas.
- Rule 9 — All vessels navigating in the Straits of Malacca and Singapore are requested to report by radio to the nearest shore authority any damage or malfunction of the aids to navigation in the Straits, or any aids out of position in the Straits.
- Rule 10 — Flag States, owners and operators should ensure that their vessels are adequately equipped in accordance with the appropriate international conventions/recommendations.

#### IV. WARNING

Mariners are warned that local traffic which could be unaware of the internationally agreed regulations and practices of seafarers, may be encountered in or near the traffic separation schemes, and should take any precautions which may be required by the ordinary practice of seamen or by the special circumstances of the case.

ANNEX VI

**LIST OF NAVIGATIONAL AIDS TO BE INSTALLED OR IMPROVED**

**PART I**

**NAVIGATIONAL AIDS TO BE INSTALLED PRIOR TO THE  
ENTRY INTO FORCE OF THE ROUTING SYSTEM**

**(a) In the traffic separation scheme "At One Fathom Bank"**

1. The installation of a navigational aid fitted with RACON in approximate position 5.5 miles south-west of One Fathom Bank Lighthouse.
2. The establishment and marking of a 23 metre depth navigable channel in the area specified in (1) above; and
3. The installation of a resilient light beacon at the north-west end of One Fathom Bank (03°02'18" N., 100°49'00" E.).

**(b) In the traffic separation scheme "In the Singapore Strait"**

4. The installation of a resilient light beacon at Batu Berhanti (01°11'45" N., 103°52'36" E.).
5. The installation of a resilient light beacon in position 01°05'48" N., 103°43'48" E.

**PART II**

**OTHER NAVIGATIONAL AIDS TO BE INSTALLED OR IMPROVED**

1. Resilient light beacon with radar reflector to be installed.  
03°02'18" N., 100°49'00" E.
2. Piled light beacon with radar reflector to be installed.  
02°48'15" N., 100°53'30" E.
3. One Fathom Bank to be fitted with Racon.
4. Piled light beacon (Blenheim Shoal 2.4 m) to be installed.  
03°04'24" N., 100°56'48" E.
5. Resilient light beacon with radar reflector (18 m patch) to be installed.  
02°33'36" N., 101°23'30" E.
6. Light beacon at Tg. Tohor to be improved vis. 10 miles.
7. Light beacon to be installed at Tg. Piai vis. 10 miles.
8. Resilient light beacon to replace existing buoy (north of Pulau Nipa Lt. Bn.).  
01°10'04" N., 103°39'56" E.
9. Resilient light beacon with radar reflector to replace existing buoy.  
01°03'51" N., 103°39'00" E.
10. Resilient light beacon with radar reflector to be installed.  
01°09'39" N., 103°47'06" E.
11. Resilient light beacon to replace existing buoy at Buffalo Rock.  
01°09'54" N., 103°48'15" E.
12. Batu Berhanti light beacon to be fitted with Racon.
13. Resilient light beacon in position 01°05'48" N., 103°43'48" E. to be fitted with Racon.



**RESOLUTION A.427(XI)**

Revoked by [A.579\(14\)](#)

*Adopted on 15 November 1979  
Agenda item 10(b)*

**RECOMMENDATION ON THE USE OF PILOTAGE SERVICES  
IN THE SOUND**

THE ASSEMBLY,

RECALLING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

BEING AWARE of the close relationship between the safety of navigation and the prevention of pollution from ships,

BEING ALSO AWARE of the urgent need to protect the vulnerable Baltic Sea area, which has been designated a special area, against pollution,

NOTING that the navigation of large oil tankers and chemical tankers and gas carriers through the Sound as an entrance to the Baltic Sea area constitutes, due to the risk of grounding or collision, a potential danger of pollution of the Sound, and also, due to the strong sea-current, a potential danger for pollution of the entire Baltic Sea area,

NOTING ALSO that at several places this passage is difficult to navigate,

BEARING IN MIND:

- (a) Resolution 5 on intentional pollution of the sea and accidental spillages, adopted by the International Conference on Marine Pollution, 1973;
- (b) Resolution A.159(ES.IV) on pilotage;
- (c) MSC/Circ.158 of 5 April 1974 on control of movements of chemical tankers and gas carriers;
- (d) Resolution A.339(IX) on navigation through the entrances to the Baltic Sea,

RECOMMENDS that oil tankers in loaded condition with a draught of 7 metres or more, and all loaded chemical tankers and gas carriers, irrespective of size, when navigating in the part of the Sound which is limited by a line connecting Svinbåden Lighthouse and Hornbaek Harbour and a line connecting Skanör Harbour and Aflandshage (the southernmost point of the Amager Island), should use the pilotage services established by the Governments of Denmark and Sweden.

**RESOLUTION A.429(XI)**

*Adopted on 15 November 1979  
Agenda item 10(b)*

**ROUTEING SYSTEMS**

THE ASSEMBLY,

RECALLING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

RECALLING ALSO Regulation 8, Chapter V of the International Conventions for the Safety of Life at Sea, 1960 and 1974,

RECALLING FURTHER resolutions A.284(VIII) and A.338(IX),

BEARING IN MIND resolution A.377(X) by which it established a procedure for adoption and amendment of routeing systems other than traffic separation schemes,

HAVING CONSIDERED the recommendations made by the Maritime Safety Committee at its thirty-ninth and fortieth sessions,

ENDORSES the adoption by the Maritime Safety Committee of the routeing systems described in the Annex to the present resolution.

**ANNEX**

**ROUTEING SYSTEMS OTHER THAN TRAFFIC SEPARATION SCHEMES**

**1. DEEP WATER ROUTES**

**DEEP WATER ROUTE FROM NORTH HINDER TO TW/1 AND TW/A LIGHTBUOYS VIA DR1 LIGHTBUOY (amendment)**

(a) The title (resolution A.338(IX), Annex) is amended to:

**“DEEP WATER ROUTE FROM NORTH HINDER TO TW/1 AND TW/2 LIGHTBUOYS VIA DR1 LIGHTBUOY”;**

(b) all references to “TW/1 and TW/A Lightbuoys” in the text are amended to “TW/1 and TW/2 Lightbuoys”.

**DEEP WATER ROUTE FROM NORTH HINDER TO LIGHTBUOYS TW/1 AND TW/A VIA S2 LIGHTBUOY (amendment)**

(a) The title (resolution A.338(IX), Annex) is amended to:

**“DEEP WATER ROUTE FROM NORTH HINDER TO LIGHTBUOYS TW/1 AND TW/2 VIA S2 LIGHTBUOY”;**

- (b) add the following at the end of the description of the deep water route (resolution A.284(VIII), Annex II):

“The deep water route coincides with the two-way route for tankers from North Hinder to the German Bight.”

## 2. AREAS TO BE AVOIDED

### AT LOUISIANA OFFSHORE OIL PORT (LOOP) IN THE GULF OF MEXICO

(Reference charts: United States Charts

Number	Edition	Edition date	Datum
11340	37th	10 June 1978	North American-1927
11348	26th	13 May 1978	North American-1927)

#### Description of routeing measures

#### Precautionary area

A precautionary area described as follows:

starting at:

(1) 28°55'23" N., 90°00'37" W.

a rhumb line to

(2) 28°53'50" N., 90°04'07" W.

then an arc with a 4,465 metre radius centred at

(3) 28°53'06" N., 90°01'30" W.

to a point

(4) 28°51'08" N., 89°59'55" W.

then a rhumb line to

(5) 28°48'36" N., 89°55'00" W.

then a rhumb line to

(6) 28°52'04" N., 89°52'42" W.

then a rhumb line to

(7) 28°54'05" N., 89°56'38" W.

then a rhumb line to

(8) 28°52'21" N., 89°57'47" W.

then a rhumb line to

(9) 28°52'51" N., 89°58'46" W.

then an arc with a 4,465 metre radius centred at

(3) 28°53'06" N., 90°01'30" W.

to a point

(1) 28°55'23" N., 90°00'37" W.

#### Areas to be avoided

The following areas to be avoided by all ships not calling at the deep water port are established within the precautionary area:

an area to be avoided described as a circle with a 600 metre radius centred at

(3) 28°53'06" N., 90°01'30" W. and

six areas to be avoided, each described as a circle with a 500 metre radius, centred on the following points:

(10) 28°54'12" N., 90°00'37" W.

(11) 28°53'16" N., 89°59'59" W.

(12)	28°52'15" N.,	90°00'19" W.	(14)	28°52'08" N.,	90°02'33" W.
(13)	28°51'45" N.,	90°01'25" W.	(15)	28°53'07" N.,	90°03'02" W.

**Note:**

Ship movement in the port area is monitored and supervised by a Port Vessel Traffic Supervisor on a 24 hour basis. Any ship planning to enter this precautionary area is requested to contact the LOOP Deep Water Port Vessel Traffic Supervisor on channel 10 VHF-FM and comply with his instructions while transiting the area.

### 3. OTHER ROUTEING MEASURES

#### TWO-WAY ROUTE FOR TANKERS FROM NORTH HINDER TO THE GERMAN BIGHT

(Reference charts: German Hydrographic Office 50D and 53D (edition dates: fourth editions 1978/3); Netherlands Hydrographic Office 1035 and 1037 (edition dates: March 1978))

##### Description of the two-way route

The two-way route is bounded by a line connecting the following geographical positions:

(1)	54°10'54" N.,	6°00'12" E.	(7)	51°53'16" N.,	2°41'38" E.
(2)	54°04'47" N.,	4°42'40" E.	(8)	52°09'35" N.,	2°43'20" E.
(3)	53°35'31" N.,	3°36'30" E.	(9)	52°54'10" N.,	3°22'00" E.
(4)	52°55'45" N.,	3°14'15" E.	(10)	53°32'24" N.,	3°43'29" E.
(5)	52°09'55" N.,	2°35'00" E.	(11)	54°00'00" N.,	4°46'00" E.
(6)	51°51'56" N.,	2°33'20" E.	(12)	54°06'06" N.,	6°03'00" E.

This two-way route coincides with the deep water route from North Hinder to Light-buoys TW/1 and TW/2 via S2 Lightbuoy.

##### Application

The two-way route is recommended for use by the following ships of 10,000 tons gross tonnage and upwards:

- tankers carrying oils mentioned in Appendix I, Annex I to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, with the exception of gasolines, jet fuels and naphtha, mentioned in this Convention; and
- ships carrying in bulk liquid substances classed in categories A and B mentioned in Appendices I and II, Annex II to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973.

##### Use of the two-way route

- Ships referred to above are recommended to use the two-way route or a part of it:
  - when sailing from North Hinder to North Sea ports of the Federal Republic of Germany and of the Netherlands northwards of latitude 53° north and vice versa;
  - when sailing between North Sea ports of the Netherlands and/or the Federal Republic of Germany, except in the case of adjacent port areas;
- The traffic separation scheme "Deutsche Bucht Lightvessel, Western Approach" should be used in continuation of the two-way route;
- Ships should, as far as practicable, keep to the starboard side of the two-way route.

##### Joining and leaving the two-way route

The above-mentioned ships when joining or leaving the two-way route should do so at the nearest point of the route to the port of destination or departure which permits a safe passage to or from that port.

**Note:**

It is recommended that an efficient electronic position-fixing device appropriate for the area should be carried on board.

**RESOLUTION A.430(XI)**

Revoked by [A.670\(16\)](#)

*Adopted on 15 November 1979  
Agenda item 10(b)*

**NAVIGATION IN THE STRAIT OF BONIFACIO**

THE ASSEMBLY,

RECALLING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization concerning the functions of the Assembly,

BEING AWARE of the close relationship between safety of navigation and prevention of pollution from ships,

RECOGNIZING the necessity expressed by the Governments of France and Italy, of protecting the vulnerable coasts of those countries from pollution in the vicinity of the Strait of Bonifacio,

BEARING IN MIND the international status of the Strait of Bonifacio,

RECOGNIZING FURTHER the importance of the right of navigation through international straits and of not derogating from that right,

TAKING INTO ACCOUNT that a ship reporting procedure and an information system for notifying ships of the navigational conditions in the narrow waters of the Strait of Bonifacio will be an important factor in the safety of navigation,

BEING INFORMED of the decision of the Governments of France and Italy to establish such a system on a permanent basis in the Strait of Bonifacio,

RECALLING the Convention on the International Regulations for Preventing Collisions at Sea, 1972, and resolution 5 on intentional pollution of the sea and accidental spillages adopted by the International Conference on Marine Pollution, 1973,

HAVING EXAMINED the recommendation made by the Maritime Safety Committee at its forty-first session,

1. RECOMMENDS Governments to request masters of laden oil tankers and of ships transporting dangerous chemicals or substances likely to pollute the sea or the coastline in case of accident, and of more than 5,000 gross register tons, to avoid passing through the Strait of Bonifacio, with the exception of tankers and ships sailing in either direction between Porto Torres and any port on the Italian coast between and including Civitavecchia and Naples;
2. ENDORSES the regulations concerning a system of surveillance and information for ships in the Strait of Bonifacio set out in the Annex to the present resolution.

ANNEX

**REGULATIONS CONCERNING SHIP REPORTING AND INFORMATION  
FOR SHIPS IN THE STRAIT OF BONIFACIO**

† For the purpose of improving the safety of navigation in the Strait of Bonifacio and reducing the risks of pollution of the French and Italian coastlines in the Strait as a result of groundings or collisions involving tankers, gas carriers or bulk chemical carriers, a system of surveillance and information for mariners shall be established by the Governments of France and Italy.

The system shall have the following objectives:

- (a) To monitor, from radio stations designated for that purpose, the movement of ships in the Strait of Bonifacio and in its eastern and western approaches so as to be able to notify the coastal authorities concerned sufficiently in advance of any accident that might occur to such ships and to be able to warn the ships themselves of any hazard that might threaten their safe passage;
- (b) To monitor, from radio stations designated for that purpose, the passage through the Strait of Bonifacio of ships that are or might be a hazard for other shipping because they are restricted in their ability to navigate as a result of a defect in their essential equipment which they need in order to pass through the Strait under the prevailing conditions; to communicate any relevant information on such ships to other ships crossing the Strait;
- (c) To inform all ships crossing the Strait of the existing navigational conditions and hazards.

2 In order to achieve this end, every ship which is in a position to do so when entering or crossing the Strait of Bonifacio is requested:

- (a) To make VHF radiotelephone contact with the French or Italian radio stations on channel 10 or, if necessary, on channel 16 before beginning their passage and to maintain such contact without interruption while in the Strait;
- (b) To transmit to one of the radio stations indicated in paragraph 3 below, at the request of the station, the following information in English, French or Italian as indicated in the reporting format set out in the Appendix.

3 The radio stations providing information for mariners in the Strait of Bonifacio are:

— On the French side:

Pertusato Signal Station  
Call-sign: Pertusato traffic  
Frequency: VHF channel 10

Date of entry into service: 1 May 1979

— On the Italian side:

La Maddalena Signal Station  
Call-sign: La Maddalena  
Frequency: VHF channel 10

Date of entry into service: in the course of 1980.

APPENDIXPROPOSED FORMAT FOR SHIP MOVEMENT MESSAGES  
IN THE STRAIT OF BONIFACIO

Message identifier:	– MAREP (BONIFACIO)
Type of report:	A – PR (Position report) DR (Defect report)
Ship:	B – Name, type and call-sign or ship station identity
Date/time (GMT):	C – A 6-digit group giving date of month (first 2 digits), hour and minutes (last 4 digits), suffixed by ZULU
Position:	D – Departure port (for crossing ships) OR E – A 4-digit group giving latitude in degrees and minutes suffixed with NORTH and a 4-digit group giving longitude in degrees and minutes suffixed with EAST (for through ships)
True course:	F – A 3-digit group
Speed in knots:	G – A 2-digit group
Route information:	H – A 4-digit number giving time of passing due south of the LAVEZZI lighthouse (for ships passing through the Strait)
ETA:	I – Date time group expressed by a 6-digit group, as in C above, followed by destination (for crossing ships)
Miscellaneous:	L – Nature of cargo (for ships carrying oil, gas and bulk chemicals); nature and scope of any restriction in the ship's ability to manoeuvre (for ships restricted in their mobility)

## RESOLUTION A.475(XII)

*Adopted on 19 November 1981  
Agenda item 10(b)*

### SHIPS' ROUTEING

THE ASSEMBLY,

RECALLING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization,

RECALLING ALSO resolutions A.377(X) and A.428(XI) by which it established procedures for adoption and amendment of routeing systems other than traffic separation schemes and the amendment of the general provisions on ships' routeing,

HAVING EXAMINED the reports of the Maritime Safety Committee on its forty-second, forty-third and forty-fourth sessions,

CONFIRMS the adoption by IMCO of:

- (a) The new and amended routeing systems other than traffic separation schemes given in Annex 1 to the present resolution;
- (b) The amendments to the general provisions on ships' routeing given in Annex 2 to the present resolution.

### ANNEX 1

#### ROUTEING SYSTEMS OTHER THAN TRAFFIC SEPARATION SCHEMES

##### 1 DEEP WATER ROUTES

##### 1.1 "DEEP WATER ROUTE OFF THE EAST COAST OF LANGELAND" (amendment)

Amend geographical positions (1) and (2) (resolution A.338(IX), Annex) to read as follows:

- “(1) 55°11'3 N., 11°02'1 E.
- (2) 55°10'3 N., 11°00'0 E.”

##### 1.2 "DEEP WATER ROUTE FORMING PART OF THE NORTH-EASTBOUND TRAFFIC LANE OF THE STRAIT OF DOVER AND ADJACENT WATERS TRAFFIC SEPARATION SCHEME" (amendment)

The text dealing with the deep water route (resolution A.374(X), Annex) is replaced by the following:

“(Reference charts: British Admiralty 1610, February 1977 edition)



### Description of the deep water route

The deep water route forming part of the north-eastbound traffic lane between the separation zone described in paragraph (i) and the separation zone/line described in paragraphs (c) and (d) of the traffic separation scheme "In the Strait of Dover and Adjacent Waters" has been established between latitude 51°09'.7 N. and a line connecting the following geographical positions:

- (i) 51°23'.82 N., 2°00'.62 E.
- (ii) 51°22'.30 N., 2°05'.80 E.
- (iii) 51°18'.40 N., 2°04'.80 E.

### WARNINGS

- .1 A deep water route forming part of the north-eastbound traffic lane is established to the north-west of the Sandettie Bank and masters considering the use of this route should take into account the proximity of traffic using the south-westbound lane.
- .2 The main traffic lane for north-eastbound traffic lies to the south-east of the Sandettie Bank and shall be followed by all such ships as can safely navigate therein having regard to their draught.
- .3 In the area of the deep water route east of the separation line ships are recommended to avoid overtaking.

### Note:

Limiting depths available in the route should be ascertained by reference to the latest large-scale navigational charts of the area, noting that the seabed is relatively unstable."

### 1.3 DEEP WATER ROUTES FORMING PART OF THE EASTBOUND TRAFFIC LANE OF THE TRAFFIC SEPARATION SCHEME IN THE SINGAPORE STRAIT (amendment)

Amend geographical positions (i) to (xiii) (resolution A.375(X), Annex) to read as follows:

- “(i) 01°03'36" N., 103°38'57" E.
- (ii) 01°05'54" N., 103°43'23" E.
- (iii) 01°08'36" N., 103°45'26" E.
- (iv) 01°10'15" N., 103°47'54" E.
- (v) 01°09'57" N., 103°48'17" E.
- (vi) 01°08'54" N., 103°46'49" E.
- (vii) 01°04'57" N., 103°42'52" E.
- (viii) 01°02'58" N., 103°39'06" E.
- (ix) 01°10'15" N., 103°47'54" E.
- (x) 01°11'18" N., 103°50'30" E.
- (xi) 01°12'07" N., 103°52'12" E.
- (xii) 01°11'48" N., 103°52'38" E.
- (xiii) 01°09'57" N., 103°48'17" E.”

## 2 AREAS TO BE AVOIDED

### 2.1 IN THE ENGLISH CHANNEL AND ITS APPROACHES (new areas)

(Reference charts for:

— positions 1, 2, 3 and 4 below:

French: 4735, edition Nr. 4/1975.

**Note:**

This chart is on a local geodetic datum. The geographical co-ordinates can be adjusted to European datum by adding 0'.02 to the latitude and subtracting 0'.13 from the longitude.

— positions 5, 6, 7 and 8 below:

British Admiralty: 442, March 1979 edition; 2454, March 1979 edition;  
2450, March 1979 edition.

**Note:**

These charts are based on "Ordnance Survey of Great Britain (1936)".

#### Description of the areas to be avoided

All ships should avoid the areas within circles of radius two (2) miles centred on the following geographical positions:

(1)	48°22'.4 N.,	6°04'.0 W.
(2)	48°40'.5 N.,	5°50'.0 W.
(3)	48°56'.0 N.,	5°27'.4 W.
(4)	49°05'.0 N.,	5°04'.4 W.
(5)	49°33'.10 N.	3°50'.00 W.
(6)	50°05'.90 N.,	1°48'.35 W.
(7)	50°12'.10 N.,	1°12'.40 W.
(8)	50°18'.30 N.,	0°36'.10 W.

These areas are established to avoid hazard to navigational aids which are established at the geographical positions listed above and which are considered to be vital to the safety of navigation.

### 2.2 AREA TO BE AVOIDED "IN THE BASS STRAIT" (new area)

(Reference chart: Australian AUS 422, April 1971 edition

**Note:**

This chart is based on the Australian geodetic datum, 1966.)

#### Description of the area to be avoided

The area described below should be avoided by ships of more than 200 tons gross tonnage.

The area is bounded by lines joining the following points:

- (1) The low water-line in latitude 38°15' S.
- (2) 38°35' S., 147°44' E.
- (3) 38°41' S., 148°06' E.
- (4) 38°41' S., 148°13' E.
- (5) 38°32' S., 148°26' E.
- (6) 38°19' S., 148°35' E.
- (7) 38°08' S., 148°31' E.
- (8) 38°05' S., 148°24' E.
- (9) The low water-line in latitude 37°58' S.

Thence along the low water-line to the point of commencement.

### 2.3 IN THE REGION OF NANTUCKET SHOALS (new area)

(Reference chart: NOAA No. 13009, 15th ed. Feb.5/77)

#### Description of the area to be avoided

Because of the great danger of stranding and for reasons of environmental protection, all ships carrying cargoes of oil or hazardous materials and all other ships of more than 1,000 gross tons should avoid the area which is bounded by a line connecting the following points:

- (1) 41°16'.5 N., 70°12'.5 W.
- (2) 40°43'.2 N., 70°00'.5 W.
- (3) 40°44'.5 N., 69°19'.0 W.
- (4) 41°04'.5 N., 69°19'.0 W.
- (5) 41°23'.5 N., 69°31'.5 W.
- (6) 41°23'.4 N., 70°02'.8 W.

### 2.4 IN THE REGION OF THE NORTHWEST HAWAIIAN ISLANDS (new areas)

(Reference chart: NOAA No. 540, 13th ed. June 17/78)

#### Description of the areas to be avoided

In order to avoid the risk of pollution due to an accident in the areas which are designated as wildlife refuges, all ships of more than 1,000 gross tons carrying cargoes of oil or hazardous materials should avoid the areas contained within a circle of radius 50 nautical miles centred upon the following geographical co-ordinates:

- (1) 27°50' N., 175°50' W. (Pearl and Hermes Reef)
- (2) 26°00' N., 173°55' W. (Lisianski Island)
- (3) 25°45' N., 171°45' W. (Laysan Island)
- (4) 25°25' N., 170°35' W. (Maro Reef)
- (5) 25°00' N., 168°00' W. (Gardner Pinnacles)
- (6) 23°45' N., 166°15' W. (French Frigate Shoals)
- (7) 23°35' N., 164°40' W. (Necker Island)
- (8) 23°05' N., 161°55' W. (Nihoa)

### 3 OTHER ROUTEING MEASURES

#### 3.1 RECOMMENDED DIRECTIONS OF TRAFFIC FLOW IN THE ENGLISH CHANNEL

Ships proceeding from the traffic separation scheme "Off Casquets" to the traffic separation scheme "In the Dover Strait and Adjacent Waters" or vice versa are recommended to leave the mid-Channel areas to be avoided to port (see paragraph 2.1 of this Annex) proceeding parallel to a line connecting the centre of those areas.

### 4 ASSOCIATED RECOMMENDATIONS ON NAVIGATION

#### RECOMMENDATIONS ON NAVIGATION THROUGH THE ENGLISH CHANNEL AND THE DOVER STRAIT

#### 4.1 USE OF SHIPS' ROUTEING SYSTEM

4.1.1 Ships passing through the English Channel and intending to enter or having left the traffic separation scheme "Off Casquets" are recommended to leave the area to be avoided west of the traffic separation scheme to port.\*

4.1.2 Ships intending to enter or having left the traffic separation scheme "Off Ushant" are recommended to leave the area to be avoided south-west of the traffic separation scheme to port.\*

4.1.3 Subject to any factors that may adversely affect safe navigation, ships proceeding from the western part of the English Channel and Dover Strait and vice versa are strongly recommended to use the traffic separation scheme "Off Casquets".

4.1.4 Ships crossing or leaving or joining the easterly or westerly flow of traffic between the traffic separation schemes "Off Casquets" and "In the Dover Strait and Adjacent Waters" should cross as nearly as practicable at right angles or join or leave at as small an angle as practicable to the recommended directions of traffic flow.

4.1.5 Attention is drawn to the warnings relating to the use of the "deep water route forming part of the north-eastbound traffic lane of the Strait of Dover and Adjacent Waters traffic separation scheme".

4.1.6 Ships leaving the traffic separation scheme "At West Hinder" and intending to proceed through the Dover Strait should, when crossing the north-eastbound traffic lane of the traffic separation scheme "In the Strait of Dover and Adjacent Waters", keep to the north-east of the north-eastern limit of the deep water route forming part of the north-eastbound traffic lane of the Strait of Dover and Adjacent Waters traffic separation scheme.

#### 4.2 CROSSING TRAFFIC

4.2.1 Heavy crossing traffic exists in parts of the English Channel and the Dover Strait, with increased risk of collision in these areas.

4.2.2 Mariners are reminded that when risk of collision is deemed to exist, the Rules of the 1972 Collision Regulations fully apply and in particular the Rules of Part B, Sections II and III, of which Rules 15 and 19(d) are of specific relevance in the crossing situation.

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\* This recommendation will not become effective until the area to be avoided is implemented.

### 4.3 FISHING AND RECREATIONAL SAILING ACTIVITIES

4.3.1 Mariners should be aware that concentrations of fishing vessels and recreational craft may be encountered in the English Channel and the Dover Strait and should navigate with caution. Fishing vessels are reminded of the requirements of Rule 10(i) of the 1972 Collision Regulations and sailing vessels and all other vessels of less than 20 metres in length of the requirements of Rule 10(j) of the 1972 Collision Regulations.

### 4.4. PILOTAGE

4.4.1 Masters of ships passing through the English Channel and the Dover Strait should take into account the possibility of availing themselves of the services of an adequately qualified deep-sea pilot\* in connexion with the requirements of safe navigation.

4.4.2 Masters of ships taking a deep-sea pilot in the North Sea are advised to embark the pilot prior to sailing.

4.4.3 Masters of ships approaching from the west are advised to embark their deep-sea pilot as far westward in the English Channel as practicable and make an early decision whether to request helicopter delivery or to approach a pilot station (e.g. Brixham or Cherbourg).

4.4.4 For ships wishing to embark a district pilot, there are two approaches to the pilot station at Folkestone from the westward, either by using the English inshore traffic zone or by using the north-eastbound traffic lane of the traffic separation scheme "In the Strait of Dover and Adjacent Waters" and making a judicious crossing of the south-westbound traffic lane in accordance with Rule 10(c) of the 1972 Collision Regulations. Arrangements can be made to embark district pilots in the western approaches to the English Channel.

### 4.5 UNDER-KEEL ALLOWANCE FOR DEEP DRAUGHT SHIPS

Masters of ships when planning their passage through the Dover Strait and its approaches should ensure that there is an adequate under-keel clearance at the time of passage. In order to achieve this clearance, the static under-keel allowance should be not less than 4 metres, which includes allowance for squat for a speed not exceeding 12 knots. The static under-keel allowance is the difference between the calculated depth of water and the ship's draught when stopped.

### 4.6 TIDAL HEIGHT PREDICTIONS

When calculating the depth of water, mariners are reminded that the height of the tide in mid-Strait can be up to 1 metre less than that predicted for the adjacent standard port.

### 4.7 SHIP MOVEMENT REPORTING SCHEME (MAREP)

A voluntary ship movement reporting scheme (MAREP) has been established jointly by the Governments of the United Kingdom and France in the English Channel and the Dover Strait. Ships of the categories listed therein are invited to participate in the scheme.

### 4.8 DEFECTS AFFECTING SAFETY

Ships having defects affecting operational safety, in addition to reporting such defects by participating in the MAREP scheme, should take appropriate measures to overcome these defects before entering the Dover Strait.

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\* Reference is made to the recommendation on the use of adequately qualified deep-sea pilots in the North Sea, English Channel and Skagerrak (resolution A.486(XII)).

#### 4.9 NAVIGATION INFORMATION SERVICE

All ships navigating in the English Channel and the Dover Strait are recommended to make use of the information broadcasts made by the information services operated by the Governments of the United Kingdom and France and to keep watch on VHF as appropriate, as set out in the MAREP scheme.

### ANNEX 2

#### **AMENDMENTS TO THE GENERAL PROVISIONS ON SHIPS' ROUTEING (RESOLUTION A.378(X) AS AMENDED BY RESOLUTION A.428(XI))**

- 1 Amend sub-paragraph 2.1 (c) to read:

“Separation zone or line:

A zone or line separating the traffic lanes in which ships are proceeding in opposite or nearly opposite directions; or separating a traffic lane from the adjacent sea area; or separating traffic lanes designated for particular classes of ships proceeding in the same direction.”

- 2 Add a new paragraph 3.14 bis:

“Ships engaged in an operation for laying, servicing or picking up submarine cables may thereby be so restricted in their ability to manoeuvre as to be unable to comply fully with the provisions of Rule 10 of the 1972 Collision Regulations. The government or authority responsible for such operations should therefore ensure that:

- (a) information about such ships working in a traffic separation scheme is, as far as practicable, promulgated in advance by Notice to Mariners, and subsequently by radionavigation warnings broadcast before and at regular intervals during the operations;
- (b) such operations shall, as far as possible, be avoided in conditions of restricted visibility.”

- 3 Re-number paragraphs 6.11 to 6.16 as 6.12 to 6.17 and add the following new paragraph:

“6.11 When it is considered essential to provide within a traffic separation scheme an additional lane for ships carrying hazardous liquid substances in bulk, as specified in the International Convention for the Prevention of Pollution from Ships, 1973, in circumstances where it is not possible for ships to fix their position as set out in paragraph 6.10 over the whole area of that lane and an electronic position-fixing system covers that area, the existence of that system may be taken into account when designing the scheme.”

- 4 In paragraph 7.4 replace the words “two months” by “120 days”.

- 5 Amend paragraph 8.3 to read:

“A ship navigating in or near a traffic separation scheme adopted by the Organization shall in particular comply with Rule 10 of the International Regulations for Preventing Collisions at Sea, 1972, to minimise the development of risk of collision with another ship. The other rules of the 1972 Collision Regulations apply in all respects and particularly the rules of Part B, Sections II and III, if risk of collision with another ship is deemed to exist.”

**RESOLUTION A.476(XII)**

*Adopted on 19 November 1981  
Agenda item 10(b)*

**NAVIGATION THROUGH THE STRAITS OF MALACCA AND SINGAPORE**

THE ASSEMBLY,

RECALLING Article 16(i) of the Convention on the Inter-Governmental Maritime Consultative Organization,

RECALLING ALSO resolution A.375(X) by which it adopted a routeing system for the Straits of Malacca and Singapore including traffic separation schemes, deep water routes and rules,

NOTING that the Maritime Safety Committee at its forty-third session adopted amendments to the traffic separation schemes and deep water routes in the routeing system,

CONSIDERING the Rules for Vessels Navigating through the Straits of Malacca and Singapore appearing in Annex V to resolution A.375(X),

HAVING EXAMINED the recommendation made by the Maritime Safety Committee at its forty-fourth session,

ADOPTS the amendment to Rule 5, Section III of the Rules for Vessels Navigating through the Straits of Malacca and Singapore, given in the Annex to the present resolution.

ANNEX

**AMENDMENT TO THE RULES FOR VESSELS NAVIGATING  
THROUGH THE STRAITS OF MALACCA AND SINGAPORE  
(ANNEX V TO RESOLUTION A.375(X))**

Rule 5, Section III of Annex V to resolution A.375(X) is amended to read as follows:

- “Rule 5 – (a) Vessels proceeding in the westbound lane of the traffic separation scheme ‘In the Singapore Strait’ when approaching Raffles Lighthouse shall proceed with caution, taking note of the local warning system, and in compliance with Rule 18(d) of the International Regulations for Preventing Collisions at Sea, 1972 avoid impeding the safe passage of a vessel constrained by her draught and exhibiting the signals required by Rule 28, which is obliged to cross the westbound lane of the scheme in order to approach the single point mooring facility (in approximate position, latitude 1°11’25”N, longitude 103°47’30”E) from Phillip Channel.
- (b) Vessels proceeding in the westbound lane of the traffic separation scheme ‘In the Singapore Strait’ when approaching the Western Light Beacon in position 01°12’43”N, 103°35’53”E shall proceed with caution, taking note of the local warning system, and in compliance with Rule 18(d) of the International

Regulations for Preventing Collisions at Sea, 1972 avoid impeding the safe passage of a vessel constrained by her draught and exhibiting the signals required by Rule 28, which is obliged to cross the westbound lane of the scheme in order to approach the Sultan Shoal pilot boarding ground from the eastbound lane of the scheme.

- (c) A vessel proceeding in the westbound lane of the traffic separation scheme 'In the Singapore Strait' which is required to avoid impeding the safe passage of a vessel constrained by her draught shall so far as practicable navigate in such a way as to avoid the development of risk of collision.
- (d) Information relating to the movement of ships constrained by their draught as referred to in paragraphs (a) and (b) above will be given by radio broadcasts. The particulars of such broadcasts are promulgated by Notices to Mariners. All vessels navigating in the area of the traffic separation scheme 'In the Singapore Strait' should monitor these radio broadcasts and take account of the information received."



**RESOLUTION A.527(13)**

*Adopted on 17 November 1983  
Agenda item 10(b)*

**SHIPS' ROUTEING**

THE ASSEMBLY,

RECALLING Article 16(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations concerning maritime safety,

RECALLING ALSO resolution A.377(X) by which it established procedures for adopting and amending routeing systems other than traffic separation schemes,

RECALLING FURTHER resolution A.378(X) containing general provisions on ships' routeing and resolution A.428(XI) adopting amendments thereto,

HAVING CONSIDERED the reports of the Maritime Safety Committee on its forty-sixth and forty-eighth sessions,

1. CONFIRMS the adoption of the new and amended routeing systems other than traffic separation schemes, set out in Annex 1 to the present resolution;
2. ADOPTS the amendments to the general provisions on ships' routeing, set out in Annex 2 to the present resolution.

## ANNEX 1

NEW AND AMENDED ROUTING MEASURES OTHER  
THAN TRAFFIC SEPARATION SCHEMES

## 1 DEEP WATER ROUTES

1.1 DEEP WATER ROUTE BETWEEN HATTER REV AND HATTER BARN (amended route)  
(Reference chart: Danish 103)**Description of the deep water route**

A deep water route with a minimum depth of water below mean sea level of 17 metres is bounded by a line connecting the following geographical positions:

(1) 55°55'.52 N.,	10°56'.68 E.	(5) 56°50'.58 N.,	10°49'.42 E.
(2) 55°54'.15 N.,	10°51'.77 E.	(6) 55°53'.20 N.,	10°49'.60 E.
(3) 55°53'.40 N.,	10°48'.30 E.	(7) 55°54'.65 N.,	10°55'.39 E..
(4) 55°50'.61 N.,	10°48'.07 E.		

**Note:**

Ships which are not obliged by reason of their draught to use the deep water route, should use the traffic separation scheme which lies east of the route and where there is a minimum depth of water below mean sea level of 15 metres.

1.2 DEEP WATER ROUTE FROM NORTH HINDER TO TW/1 AND TW/2  
LIGHTBUOYS VIA S2 LIGHTBUOY (amended route)

(Reference charts: British Admiralty 2182a, 1503, 1405, 1408, 1406 and Netherlands Hydrographic Office 1014, 1035, 1037 and German Hydrographic Office 50, 53)

**Description of the deep water route**

The deep water route is bounded by a line connecting the following geographical positions:

(1) 54°10'.90 N.,	6°00'.20 E.	(7) 52°01'.23 N.,	2°42'.47 E.
(2) 54°04'.78 N.,	4°42'.67 E.	(8) 52°09'.58 N.,	2°43'.33 E.
(3) 53°35'.52 N.,	3°36'.50 E.	(9) 52°54'.17 N.,	3°22'.00 E.
(4) 52°55'.75 N.,	3°14'.25 E.	(10) 53°32'.40 N.,	3°43'.48 E.
(5) 52°09'.92 N.,	2°35'.00 E.	(11) 54°00'.00 N.,	4°46'.00 E.
(6) 51°54'.88 N.,	2°33'.60 E.	(12) 54°06'.10 N.,	6°03'.00 E.

The deep water route coincides with the two-way route for tankers from North Hinder to the German Bight.

**Note:**

Least waterdepths

The area bounded by a line connecting the geographical positions (1), (2), (3), (10), (11) and (12) above was closely surveyed in 1972. The least waterdepth found in this area was more than 25 metres at LWS.

The area bounded by a line connecting the geographical positions (3), (4), (5), (6), (7), (8), (9) and (10) above, was closely surveyed in 1972. The least waterdepth found in this area was 23 metres at LWS.

See also note pertaining to the traffic separation scheme "Deutsche Bucht Lightvessel Western Approach".

### 1.3 DEEP WATER ROUTE FROM NORTH HINDER TO TW/1 AND TW/2 LIGHTBUOYS VIA DR1 LIGHTBUOY (amended route)

(Reference charts: British Admiralty 2182a, 1503, 1405, 1408, 1406 and Netherlands Hydrographic Office 1014, 1035, 1037 and German Hydrographic Office 50, 53)

**Note:**

These charts are based on European datum.

**Description of the deep water route**

The deep water route is bounded by a line connecting the following geographical positions:

- |      |              |            |
|------|--------------|------------|
| (1)  | 54°04'.8 N., | 4°42'.7 E. |
| (2)  | 53°58'.3 N., | 3°20'.8 E. |
| (3)  | 53°44'.4 N., | 3°01'.4 E. |
| (4)  | 53°04'.8 N., | 2°36'.0 E. |
| (5)  | 52°18'.2 N., | 2°36'.0 E. |
| (6)  | 51°54'.9 N., | 2°33'.6 E. |
| (7)  | 52°01'.2 N., | 2°42'.5 E. |
| (8)  | 52°18'.2 N., | 2°44'.0 E. |
| (9)  | 53°04'.0 N., | 2°44'.0 E. |
| (10) | 53°41'.6 N., | 3°08'.6 E. |
| (11) | 53°53'.7 N., | 3°25'.2 E. |
| (12) | 54°00'.0 N., | 4°46'.0 E. |

The subject route joins the "Deep Water Route from North Hinder to TW/1 and TW/2 Lightbuoys via S2 Lightbuoy" in geographical position (1) and (12).

**Note:**

Least waterdepths

The area bounded by a line connecting the geographical positions (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11) and (12) above was closely surveyed in 1973. The least water-depth found in this area was 28 metres at LWS except for one wreck in geographical position:

- (13) 53°17'.25 N., 02°49'.0 E.

The least waterdepth over that wreck found by wire-sweeping was 25.2 metres at LWS.

See also the note pertaining to the "Deep Water Route from North Hinder to TW/1 and TW/2 Lightbuoys via S2 Lightbuoy".

#### 1.4 DEEP WATER ROUTE LEADING TO EUROPOORT (amended route)

(Reference charts: Netherlands Hydrographic Office 1349, 1350, 1449 and 1540; International 1416)

**Note:**

These charts are based on European datum.

##### Description of the deep water route

The deep water route is bounded by a line connecting the following geographical positions:

- |        |               |             |  |
|--------|---------------|-------------|--|
| (i)    | 52°00'43" N., | 3°57'01" E. |  |
| (ii)   | 52°01'02" N., | 3°57'12" E. |  |
| (iii)  | 52°02'04" N., | 3°53'19" E. |  |
| (iv)   | 51°58'30" N., | 3°09'55" E. | (position (26) of the Maas West Outer traffic separation scheme) |
| (v)    | 51°59'55" N., | 3°09'36" E. |  |
| (vi)   | 52°00'47" N., | 3°02'10" E. |  |
| (vii)  | 52°00'36" N., | 2°59'22" E. |  |
| (viii) | 51°57'10" N., | 2°54'31" E. |  |
| (ix)   | 51°57'39" N., | 3°00'00" E. |  |
| (x)    | 51°57'00" N., | 3°00'09" E. |  |
| (xi)   | 52°01'18" N., | 3°51'47" E. |  |
| (xii)  | 52°01'16" N., | 3°54'18" E. |  |
| (xiii) | 52°00'57" N., | 3°56'09" E. | and position (i)   |

The main traffic directions are:

082½° – 26½° and  
112° – 292°.

**Notes:**

(i) Least waterdepth

- 1 West of longitude 3°27'.9 E. an overall least waterdepth is established at 23.50 metres at mean LLWS.
- 2 Between longitudes 3°27'.9 E. and 3°44'.9 E. the least waterdepths in the deep water routes are as follows:
  - (a) 23.50 metres at mean LLWS in a mid-channel zone of 600 metres wide centred upon the axis of the route;
  - (b) 22.50 metres at mean LLWS in the two peripheral zones of 300 metres wide which border the mid-channel zone at each side.
- 3 Between longitudes 3°44'.9 E. and 3°53'.6 E. the least waterdepths in the deep water route are as follows:
  - (a) 23.00 metres at mean LLWS in a mid-channel zone of 600 metres wide centred upon the axis of the route;
  - (b) 22.50 metres at mean LLWS in the two peripheral zones of 300 metres wide which border the mid-channel zone at each side.
- 4 East of longitude 3°53'.6 E. the least waterdepth in the deep water route is 22.50 metres at mean LLWS.
- 5 The above depths are checked and maintained by frequent surveys and dredging.

(ii) Electronic navigational aids

- 1 The Decca Navigator Chain (Holland Chain) enables masters of deep draught vessels equipped with a Decca receiver to be informed continuously and highly accurately about the ship's deviation from and progress along the axis of the route. For optimum use of this aid in the mid-channel zone and in the eastern part of the deep water route a special indicator is brought on board by the pilot.
- 2 Those vessels which, because of their draughts, are confined to the mid-channel zone, are strongly advised to make use of the above equipment.

## 2 AREAS TO BE AVOIDED

### 2.1 AT MAAS CENTRE (new area)

(Reference charts: Netherlands Hydrographic Office 1035, 1449, 1349 and 1350; International 1416)

**Note:**

These charts are based on European datum.

The following area to be avoided by all vessels not compelled to adhere to the deep water route is established within the precautionary area off the entrance to the Rotterdam Waterway: an area bounded by a circle with a 0.6 mile radius, centred on the following geographical position:

52°01'45".94 N.,      3°53'34".38 E.

### 2.2 AT NORTH HINDER JUNCTION POINT (new area)

(Reference charts: Netherlands Hydrographic Office 1035, 1349; International 1416)

**Note:**

These charts are based on European datum.

The following area to be avoided by all vessels is established within the precautionary area off North Hinder:

an area bounded by a circle with a 0.5 mile radius, centred on the following geographical position:

52°00'.13 N.,      2°51'.18 E.

### 2.3 IN THE DOVER STRAIT (new area)

(Reference charts: British Admiralty 1610 (February 1977 edition); 1828 (September 1980 edition))

**Note:**

These charts are based on Ordnance Survey of Great Britain (1936) datum.

**Description of the area to be avoided**

All ships should avoid the area within a circle of radius 0.3 mile centred on the following geographical position:

51°08'.58 N.,      01°34'.03 E.

This area is established to avoid hazard to the navigational aid which is established at the above geographical position, and which is considered to be vital to the safety of navigation.

**2.4 IN THE REGION OF THE GREAT BARRIER REEF (new area)**

(Reference chart: AUS 819, April 1978 edition)

**Note:**

This chart is based on the Australian geodetic datum.

**Description of the area to be avoided**

In order to avoid the risk of pollution and damage to the environment in the Capricornia Section of the Great Barrier Reef Marine Park, all ships in excess of 500 tons gross tonnage should avoid the area which is bounded by a line connecting the following geographical positions:

(1)	23°10' S.,	151°56' E.	(8)	23°33' S.,	151°35' E.
(2)	23°53' S.,	152°28' E.	(9)	23°30' S.,	151°35' E.
(3)	23°55' S.,	152°28' E.	(10)	23°25' S.,	151°53' E.
(4)	23°57' S.,	152°26' E.	(11)	23°20' S.,	151°50' E.
(5)	23°57' S.,	152°24' E.	(12)	23°20' S.,	151°40' E.
(6)	23°32' S.,	151°55' E.	(13)	23°15' S.,	151°40' E.
(7)	23°36' S.,	151°39' E.	(14)	23°10' S.,	151°52' E.

Thence to the point of commencement.

**2.5 IN THE GULF OF CAMPECHE (new area)**

(Reference chart: Dirección General de Oceanografía S.M.840 (Revised August 1981 edition))

**Description of the area to be avoided**

The area to be avoided by ships not involved in the oil activities being conducted in the area is bounded by a line connecting the following geographical positions:

(1)	19°38'.20 N.,	092°14'.00 W.
(2)	19°38'.20 N.,	092°10'.80 W.
(3)	19°35'.30 N.,	092°04'.90 W.
(4)	19°24'.40 N.,	091°59'.10 W.
(5)	19°20'.00 N.,	091°59'.20 W.
(6)	19°15'.60 N.,	092°08'.00 W.
(7)	19°12'.60 N.,	092°17'.20 W.
(8)	19°23'.00 N.,	092°22'.20 W.

**Notes:****1 Anchorage**

An anchorage is established bounded by a line connecting the following geographical positions:

(i)	19°15'.28 N.,	091°52'.33 W.
(ii)	19°20'.28 N.,	091°52'.33 W.
(iii)	19°20'.28 N.,	091°57'.58 W.
(iv)	19°15'.28 N.,	091°57'.58 W.

**2 Special provisions**

Ship movement in the area is monitored and controlled by a maritime traffic controller on a 24-hour basis.

Any ship planning to enter the area to be avoided is requested to contact the maritime traffic controller on VHF channel 16 and is requested to comply with the appropriate regulations while transiting the area.

**2.6 AT MARITIME OIL TERMINAL OFF CAYO ARCAS (new area)**

(Reference chart: United States Naval Oceanographic Office H.O. 1233 (28 June 1975 edition))

**Description of the area to be avoided**

The area to be avoided by ships not involved in the oil-related activities being conducted in the area is bounded by a line connecting the following geographical positions:

- |     |               |               |
|-----|---------------|---------------|
| (1) | 20°07'.28 N., | 092°00'.03 W. |
| (2) | 20°10'.47 N., | 091°59'.98 W. |
| (3) | 20°11'.25 N., | 092°00'.45 W. |
| (4) | 20°12'.42 N., | 091°59'.58 W. |
| (5) | 20°11'.78 N., | 091°58'.57 W. |
| (6) | 20°09'.85 N., | 091°57'.43 W. |
| (7) | 20°07'.28 N., | 091°57'.68 W. |

**Notes:****1 Anchorage**

An anchorage is established bounded by a line connecting the following geographical positions:

- |       |               |               |
|-------|---------------|---------------|
| (i)   | 20°07'.47 N., | 091°44'.75 W. |
| (ii)  | 20°12'.50 N., | 091°44'.75 W. |
| (iii) | 20°12'.50 N., | 091°50'.00 W. |
| (iv)  | 20°07'.47 N., | 091°50'.00 W. |

**2 Special provisions**

Ship movement in the terminal area is monitored and controlled by a maritime traffic controller on a 24-hour basis.

Any ship planning to enter this area to be avoided is requested to contact the maritime traffic controller on VHF channel 16 and is requested to comply with the appropriate regulations while transiting the area.

### 3 OTHER ROUTEING MEASURES

#### 3.1 TWO-WAY ROUTE FOR TANKERS FROM NORTH HINDER TO THE GERMAN BIGHT (amended route)

(Reference charts: German Hydrographic Office 50D and 53D  
(edition dates: fourth editions 1978/3);  
Netherlands Hydrographic Office 1014, 1035 and 1037)

**Note:**

These charts are based on European datum.

##### **Description of the two-way route**

The two-way route is bounded by a line connecting the following geographical positions:

(1) 54°10'.90 N.,	6°00'.20 E.	(7) 52°01'.23 N.,	2°42'.47 E.
(2) 54°04'.78 N.,	4°42'.67 E.	(8) 52°09'.58 N.,	2°43'.33 E.
(3) 53°35'.52 N.,	3°36'.50 E.	(9) 52°54'.17 N.,	3°22'.00 E.
(4) 52°55'.75 N.,	3°14'.25 E.	(10) 53°32'.40 N.,	3°43'.48 E.
(5) 52°09'.92 N.,	2°35'.00 E.	(11) 54°00'.00 N.,	4°46'.00 E.
(6) 51°54'.88 N.,	2°33'.60 E.	(12) 54°06'.10 N.,	6°03'.00 E.

This two-way route coincides with the deep water route from North Hinder to lightbuoys TW/1 and TW/2 via S2 lightbuoy.

##### **Application**

The two-way route is recommended for use by the following ships of 10,000 gross tonnage and upwards.

- (a) tankers carrying oils mentioned in Appendix I, Annex I to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973 as modified by the Protocol of 1978 relating thereto (MARPOL 73/78); and
- (b) ships carrying in bulk liquid substances classed in categories A and B mentioned in Appendices I and II, Annex II, to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973.

##### **Use of the two-way route**

- (a) Ships referred to above are recommended to use the two-way route or a part of it:
  - (i) when sailing from North Hinder to North Sea ports of the Federal Republic of Germany and of the Netherlands northwards of latitude 53° North and vice versa;
  - (ii) when sailing between North Sea ports of the Netherlands and/or the Federal Republic of Germany, except in the case of adjacent port areas;
- (b) the traffic separation scheme "Deutsche Bucht Lightvessel, Western Approach" should be used in continuation of the two-way route;
- (c) ships should, as far as practicable, keep to the starboard side of the two-way route.

##### **Joining and leaving the two-way route**

The above-mentioned ships when joining or leaving the two-way route should do so at the nearest point of the route to the port of destination or departure which permits a safe passage to or from that port.

**Note:**

It is recommended that an efficient electronic position-fixing device appropriate for the area should be carried on board.



### 3.2 RECOMMENDED TRACKS IN THE GULF OF CAMPECHE (new track)

(Reference chart: Dirección General de Oceanografía S.M.840 (Revised August 1981 edition))

#### Description of the recommended tracks

The following tracks are recommended for use by ships of 1000 gross tonnage and upwards:

- (a) A track for ships westbound from the vicinity of Isla del Carmen to the Port of Dos Bocas is defined by a line connecting the following geographical positions:
 

(1) 18°52'.50 N.,	091°51'.03 W.	(3) 18°45'.33 N.,	092°49'.20 W.
(2) 18°44'.70 N.,	092°30'.67 W.	(4) 18°29'.95 N.,	093°08'.53 W.
- (b) A track for ships eastbound from the Port of Dos Bocas to the vicinity of Isla del Carmen is defined by a line connecting the following geographical positions:
 

(5) 18°28'.47 N.,	093°07'.25 W.	(7) 18°42'.70 N.,	092°30'.50 W.
(6) 18°43'.47 N.,	092°48'.30 W.	(8) 18°50'.45 N.,	091°51'.30 W.
- (c) A track for ships northbound from the vicinity of Isla del Carmen to the main oilfield platform area is defined by a line connecting the following geographical positions:
 

(9) 18°44'.50 N.,	091°54'.50 W.	(11) 19°16'.90 N.,	092°05'.00 W.
(10) 18°48'.80 N.,	091°59'.33 W.		
- (d) A track for ships southbound from the main oilfield platform area to the vicinity of Isla del Carmen is defined by a line connecting the following geographical positions:
 

(12) 19°16'.10 N.,	092°06'.90 W.	(14) 18°44'.50 N.,	091°57'.50 W.
(13) 18°48'.47 N.,	092°01'.72 W.		
- (e) A track for ships southbound from latitude 20°15' N to the vicinity of Isla del Carmen is defined by a line connecting the following geographical positions:
 

(15) 20°15'.00 N.,	091°43'.75 W.	(9) 18°44'.50 N.,	091°54'.50 W.
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- (f) A track for ships northbound from the vicinity of Isla del Carmen to latitude 20°15' N is defined by a line connecting the following geographical positions:
 

(16) 18°44'.50 N.,	091°51'.80 W.	(17) 20°15'.00 N.,	091°41'.67 W.
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#### Precautionary areas

Two precautionary areas are established at the junctions of the recommended tracks, bounded by lines connecting the following geographical positions:

- (a)
 

(18) 18°50'.42 N.,	092°02'.00 W.	(10) 18°48'.80 N.,	091°59'.33 W.
(19) 18°50'.80 N.,	091°59'.75 W.	(13) 18°48'.47 N.,	092°01'.72 W.
- (b)
 

(10) 18°52'.03 N.,	091°53'.50 W.	(8) 18°50'.45 N.,	091°51'.30 W.
(9) 18°52'.50 N.,	091°51'.03 W.	(21) 18°49'.97 N.,	091°53'.67 W.

#### Notes:

##### 1 Anchorage

An anchorage off the Port of Dos Bocas is established bounded by a line connecting the following geographical positions:

- (i) 18°42'.50 N., 093°08'.00 W.
- (ii) 18°47'.50 N., 093°08'.00 W.
- (iii) 18°47'.50 N., 093°13'.25 W.
- (iv) 18°42'.50 N., 093°13'.25 W.

- 2 Loran "C" covers the area of the recommended tracks and is recommended for use by suitably fitted ships.

### 3.3 RECOMMENDED DIRECTIONS OF TRAFFIC FLOW OFF RAS SHUKHEIR

**Note:**

See Rules for ships navigating in the Gulf of Suez (paragraph 3.4).

Recommended directions of traffic flow are established in the approaches to Ras Shukheir Oil Terminal, July, Ramadan and Morgan oilfields as shown in the chartlet below.

### 3.4 RULES FOR SHIPS NAVIGATING IN THE GULF OF SUEZ

#### 1 General provisions

- 1.1 Ships should take into account that crossing traffic may be encountered in the traffic junction eastward of Ain Sukhna and in the precautionary area off Ras Shukheir, and should be in a high state of readiness to manoeuvre in these areas.
- 1.2 Exceptional care is needed, when overtaking another ship within a lane, not to enter the separation zone or force the overtaken ship to do so.
- 1.3 Ships navigating in the Gulf of Suez are requested to keep continuous listening watch on the Suez Gulf Traffic Information Broadcasts and report to "SUZ" as from 1 January 1983 any aids to navigation which are malfunctioning or are out of position and which are not already included in the Suez Gulf Traffic Information Broadcasts.

#### 2 Rules

- 2.1 All ocean ships should have their radar in effective use by day and night throughout the passage between Shaker Island and Suez Port as an aid to achieving maximum feasible lane conformity and avoiding risk of collision. Particular care is required for strict adherence to the confines of relevant traffic lanes.
- 2.2 Ships proceeding south from Suez should be alert for tankers heading for the SUMED oil terminal off Ain Sukhna.
- 2.3 Northbound tankers heading for SUMED oil terminal should report their intention of using the traffic junction off Ain Sukhna on the appropriate frequencies.
- 2.4 All ships north and southbound when navigating through the precautionary area off Ras Shukheir or in the vicinity of the July oilfield should avoid overtaking in the traffic lanes in these areas.
- 2.5 All ships including service and supply craft serving the oil workings in July, Ramadan and Morgan oilfields proceeding in and out of Ras Shukheir oil terminal, should only cross the south and northbound traffic flow through the precautionary area off Ras Shukheir. Within the precautionary area local rules relating to crossing traffic apply.
- 2.6 Tankers leaving the Ras Shukheir oil terminal and intending to join the northbound traffic lane should only do so when no through southbound traffic is in the vicinity and should always report their movements to other ships beforehand on VHF.
- 2.7 Ships anchored in the designated waiting area for Ras Shukheir should ensure that they are never less than 0.25 of a mile from the edge of the southbound traffic lane and should pay special regard to their correct light signals for ships at anchor. They should show their deck lights.

ANNEX 2

**AMENDMENTS TO THE GENERAL PROVISIONS ON SHIPS' ROUTEING**

(Assembly resolution A.378(X) as amended by resolution A.428(XI))

**1 Section 3.5**

Replace second sentence by:

“That date shall not be earlier than six months after the date of adoption of a routeing system by the Organization, but when new chart editions necessitate a substantially longer period between adoption and implementation, the Organization shall set a later date as required by the circumstances of the case.”

**2 Section 9.1, symbol 8**

Replace “details” for symbol 8 by:

“8. Boundary of areas to be avoided, and explicitly defined limit of designated inshore traffic zones where not already defined by the adjacent traffic separation line or zone (6) (5)”.

## **RESOLUTION A.579(14)**

*Adopted on 20 November 1985  
Agenda item 10(b)*

### **USE OF PILOTAGE SERVICES IN THE SOUND**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

BEING AWARE of the close relationship between safety of navigation and the prevention of pollution from ships,

BEING ALSO AWARE of the urgent need to protect the Baltic Sea area, which is listed as a special area in Annex I to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto,

NOTING that navigation of loaded gas carriers and loaded chemical tankers of 1,600 gross tonnage and above carrying noxious liquid substances of category A or B, as defined in Annex II to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, and navigation of ships carrying a shipment of class 7 radioactive materials as specified in paragraph 9.5.2 of the introduction to class 7 of the International Maritime Dangerous Goods Code (IMDG Code), constitutes a potential danger of pollution of the entrances to the Baltic Sea and a potential hazard to international shipping,

BEARING IN MIND:

- (a) Resolution 5 on intentional pollution of the sea and accidental spillages adopted by the International Conference on Marine Pollution, 1973,
- (b) Resolution A.159(ES.IV) on pilotage,
- (c) MSC/Circ.158 of 5 April 1974 on the control of movements of chemical tankers and gas carriers,
- (d) Resolution A.339(IX) on navigation through the entrances to the Baltic Sea,

1. RECOMMENDS that 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 class 7 radioactive materials as specified in paragraph 9.5.2 of the introduction to class 7 of the International Maritime Dangerous Goods Code (IMDG Code), when navigating the Sound between a line connecting Svinbådan Lighthouse and Hornbaek Harbour and a line connecting Skanör Harbour and Aflandshage (the southernmost point of Amager Island), use the pilotage services established by the Governments of Denmark and Sweden;

2. REVOKES resolution A.427(XI).

**RESOLUTION A.618(15)**

*Adopted on 19 November 1987  
Agenda item 12*

**SHIPS' ROUTEING**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

FURTHER RECALLING resolution A.377(X) by which it established procedures for the adoption and amendment of routeing systems other than traffic separation schemes,

HAVING EXAMINED the reports of the Maritime Safety Committee on its fifty-third and fifty-fourth sessions,

CONFIRMS the adoption by the Organization of the new and amended routeing systems other than traffic separation schemes set forth in the Annex to the present resolution.

**ANNEX**

**ROUTEING SYSTEMS OTHER THAN  
TRAFFIC SEPARATION SCHEMES**

**1 PRECAUTIONARY AREA AND SPECIAL PROVISIONS IN THE AMENDED TRAFFIC SEPARATION SCHEME OFF TERSCHELLING AND IN THE GERMAN BIGHT**

(Reference charts: German Hydrographic Office 84 and 87  
Netherlands Hydrographic Office 1352 and 1355)

**Note:** These charts are based on European datum.

**1.1 Precautionary area**

A precautionary area is established bounded by a line connecting the following geographical positions:

(18) 54°02'.4 N., 7°38'.1 E.	(20) 53°52'.0 N., 7°45'.6 E.
(19) 53°52'.0 N., 7°47'.4 E.	(21) 54°01'.7 N., 7°33'.0 E.

**1.2 Special provisions**

It is recommended that this scheme should not be used by the following ships of 10,000 tons gross tonnage and upwards:

- (a) tankers carrying oils mentioned in appendix I, Annex I, to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), with the exception of gasolines, jet fuels and naphtha, mentioned in this Convention; and
- (b) ships carrying in bulk liquid substances classed in categories A and B mentioned in appendices I and II, Annex II, to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).

These ships are recommended, instead, to use the "Two-way route for tankers from North Hinder to the German Bight" and the traffic separation scheme "Deutsche Bucht Lightvessel Western Approach".

## 2 SPECIAL PROVISIONS AND PRECAUTIONARY AREA IN THE NEW TRAFFIC SEPARATION SCHEME OFF VLIELAND

(Reference charts: German Hydrographic Office 84  
Netherlands Hydrographic Office 1352)

**Note:** These charts are based on European datum.

### 2.1 Special provisions

It is recommended that this scheme should not be used by the following ships of 10,000 tons gross tonnage and upwards:

- (a) tankers carrying oils mentioned in appendix I, Annex I, to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), with the exception of gasolines, jet fuels and naphtha, mentioned in this Convention; and
- (b) ships carrying in bulk liquid substances classed in categories A and B, mentioned in appendices I and II, Annex II, to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).

These ships are recommended, instead, to use the "Two-way route for tankers from North Hinder to the German Bight" and the traffic separation scheme "Deutsche Bucht Lightvessel Western Approach".

### 2.2 Precautionary area "Vlieland Junction"

A precautionary area is established off Vlieland. The area is bounded by a line connecting the following geographical positions:

- |                                |                                 |
|--------------------------------|---------------------------------|
| (2) 53°29'.07 N., 04°46'.66 E. | (30) 53°31'.92 N., 04°45'.07 E. |
| (3) 53°28'.02 N., 04°42'.25 E. | (23) 53°32'.97 N., 04°49'.49 E. |

3 PRECAUTIONARY AREA IN THE AMENDED TRAFFIC SEPARATION SCHEME IN THE GULF OF SUEZ

3.1 Precautionary area

(n) A precautionary area is established bounded by a line connecting the following geographical positions:

- |                                 |                                 |
|---------------------------------|---------------------------------|
| (64) 28°09'.90 N., 33°17'.10 E. | (66) 28°09'.30 N., 33°23'.70 E. |
| (65) 28°06'.80 N., 33°19'.40 E. | (67) 28°12'.20 N., 33°21'.45 E. |

**Note:** Recommended directions of traffic flow off Ras-Shukheir.  
Recommended directions of traffic flow are established in the approaches to Ras-Shukheir Oil Terminal, July, Ramadan and Morgan oilfields.

4 DEEP-WATER ROUTE "WEST OF THE HEBRIDES"

(Reference chart: British Admiralty No.2721, May 1985 edition)

**Note:** This chart is based on Ordnance Survey of Great Britain (1936) datum.

4.1 Description of the deep-water route

The deep-water route lies between the outer Hebrides Isles on its south-east side and the Flannan Islands and St. Kilda to the north-west. It is bounded by a line connecting the following geographical positions:

- (1) 57°34.50' N., 8°00.00' W.
- (2) 58°20.70' N., 7°03.50' W.
- (3) 58°24.10' N., 7°13.50' W.
- (4) 57°38.05' N., 8°09.95' W.

**Notes:** (i) The waterdepth in the route, as confirmed by recent detailed hydrographic surveys, is nowhere less than 34 metres.

(ii) Laden tankers of over 10,000 grt are recommended, weather conditions permitting, to use this route in preference to sailing through the restricted waters of the Minches.

**RESOLUTION A.620(15)**

*Adopted on 19 November 1987*  
*Agenda item 12*

**NAVIGATION THROUGH THE ENTRANCES TO THE BALTIC SEA**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

BEING AWARE of the close relationship between safety of navigation and the prevention of pollution from ships,

NOTING that, owing to the risk of grounding or collision and the strong sea current, the navigation of large ships through the entrances to the Baltic Sea constitutes a potential danger of pollution of the entrances and of the entire Baltic Sea area,

NOTING ALSO that ships carrying radioactive materials constitute a potential danger of pollution of the entrances to the Baltic Sea and a potential hazard to international shipping,

NOTING FURTHER that, at several places, the entrances to the Baltic Sea are difficult to navigate,

TAKING NOTE of:

- (a) resolution 5 on intentional pollution of the sea and accidental spillages adopted by the International Conference on Marine Pollution, 1973,
- (b) resolution A.159(ES.IV) – Recommendation on pilotage,
- (c) resolution A.156(ES.IV) – Recommendation on the carriage of electronic position-fixing equipment,
- (d) resolution A.339(IX) – Recommendation on navigation through the entrances to the Baltic Sea,
- (e) the established routing system (route T) through the entrances to the Baltic Sea,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-third session,

1. RECOMMENDS:

- (a) That ships over 40,000 tonnes deadweight, when passing through the entrances to the Baltic Sea, in view of the fact that 17 metres is the maximum obtainable depth without dredging in the area north-east of Gedser and that the charted depths, even under normal conditions, may be decreased by as much as 2 metres owing to unknown and moving obstructions, should:



- (i) not pass the area unless they have a draught with which it is safe to navigate through the area, taking into account the possibility of depths being as much as 2 metres less than charted, as mentioned above, and additionally taking into account the possible changes in the indicated depth of water caused by meteorological or other effects;
  - (ii) participate in the ship reporting system (SHIPPOS) operated by the Government of Denmark; and
  - (iii) exhibit the signal prescribed in rule 28 of the International Regulations for Preventing Collisions at Sea, 1972, in certain areas in the Store Bælt (Hatter Rev, Vengeancegrund and in the narrow route east of Langeland), when constrained by their draught;
- (b) That ships with a draught of 13 metres or more should, furthermore:
  - (i) be equipped with a VHF radiotelephone installation capable of operating on appropriate frequencies;
  - (ii) have on board suitable electronic position-fixing equipment to make use of hyperbolic systems providing sufficient position-fixing accuracy for navigating in these areas;
  - (iii) use for the passage the pilotage services locally established by the coastal States; and
  - (iv) be aware that anchoring may be necessary owing to the weather and sea conditions in relation to the size and draught of the ship and to the sea level and, in this respect, take special account of the information available from the pilot and from radio navigation information services in the area;
- (c) That, irrespective of size or draught, ships carrying a shipment of class 7 radioactive materials, as specified in paragraph 9.5.2 of the introduction to class 7 of the International Maritime Dangerous Goods Code (IMDG Code), should:
  - (i) participate in the ship reporting system (SHIPPOS) operated by the Government of Denmark;
  - (ii) be equipped with a VHF radiotelephone installation capable of operating on appropriate frequencies; and
  - (iii) use for the passage the pilotage services locally established by the coastal States.

2. REVOKES resolution A.339(IX).

**RESOLUTION A.669(16)**

*Adopted on 19 October 1989  
Agenda item 10*

**SHIPS' ROUTEING**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

FURTHER RECALLING resolutions A.377(X) and A.572(14) by which it established procedures for the adoption and amendment of routeing systems other than traffic separation schemes and the amendment of the General Provisions on Ships' Routeing,

HAVING EXAMINED the reports of the Maritime Safety Committee on its fifty-fifth and fifty-seventh sessions,

1. ADOPTS the amendment to the General Provisions on Ships' Routeing set forth in Annex 1 to the present resolution;
2. CONFIRMS the adoption of the new and amended routeing systems other than traffic separation schemes set forth in Annex 2 to the present resolution.

**ANNEX 1**

**AMENDMENT TO THE GENERAL PROVISIONS ON SHIPS' ROUTEING  
(Resolution A.572(14))**

Add an asterisk at the end of paragraphs 3.2.2 and 3.3 and the following footnote:

''

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\* The minimum standards to which hydrographic surveys are to be conducted, to verify the accuracy of charted depths in the traffic lanes of a proposed or amended traffic separation scheme or in a deep water route or other routeing measure, are those defined in Special Publication No.44 of the International Hydrographic Organization – IHO standards for hydrographic surveys classification criteria for deep sea soundings – Procedures for elimination of doubtful data.

## ANNEX 2

NEW AND AMENDED ROUTEING SYSTEMS OTHER THAN  
TRAFFIC SEPARATION SCHEMES

## 1 NEW AND CANCELLED AREAS TO BE AVOIDED

## 1.1 BETWEEN THE SMALLS LIGHTHOUSE AND GRASSHOLME ISLAND (new area)

**Description of the area to be avoided**

In order to avoid the risk of pollution due to a stranding in this area, which is in the close vicinity of important breeding grounds for sea-bird populations, all tankers, gas carriers and chemical tankers carrying noxious liquid substances, and all other vessels of 500 gross tons or over should avoid the area bounded by lines joining the following points:

- |     |               |             |     |               |             |
|-----|---------------|-------------|-----|---------------|-------------|
| (1) | 51°44'.50 N., | 5°40'.25 W. | (4) | 51°41'.50 N., | 5°33'.25 W. |
| (2) | 51°44'.50 N., | 5°27'.50 W. | (5) | 51°42'.20 N., | 5°41'.30 W. |
| (3) | 51°42'.50 N., | 5°27'.50 W. |     |               |             |

## 1.2 IN THE ENGLISH CHANNEL AND ITS APPROACHES (cancelled areas)

Cancel the five areas to be avoided (1), (2), (3), (4) and (5) "In the English Channel and its approaches" given in Assembly resolution A.475(XII), Annex 1, section 2.1.

## 1.3 IN THE REGION OF THE ALDABRA ISLANDS IN THE SEYCHELLES (new area)

(Reference chart: British Admiralty 758 July 1965 edition)

**Description of the area to be avoided**

In order to avoid risk of pollution and damage to the environment in this area of unique wildlife, all vessels of more than 500 gross tons carrying cargoes of oil or hazardous materials should avoid the area contained within a circle of radius 30 nautical miles, centred at geographical position 09°36' S., 46°21' E.

## 1.4 IN THE REGION OF MAHE ISLAND IN THE SEYCHELLES (new areas)

(Reference charts: British Admiralty 721 September 1983 edition  
British Admiralty 740 July 1980 edition)

**Note:** These charts are based on South East Island Datum.

**Description of the areas to be avoided**

In order to avoid risk of pollution and damage to the environment, all vessels of more than 200 tons gross tonnage, whether or not bound for ports in the Seychelles, should avoid the areas bounded by lines connecting the following geographical positions:

(a) **West of Mahe**

(1)	04°40'.8 S.,	55°32'.2 E.	(5)	04°00'.0 S.,	54°22'.0 E.
(2)	04°49'.5 S.,	55°34'.5 E.	(6)	03°40'.0 S.,	54°58'.0 E.
(3)	05°06'.8 S.,	55°08'.5 E.	(7)	03°40'.0 S.,	55°25'.0 E.
(4)	04°42'.0 S.,	53°52'.0 E.	(8)	04°33'.5 S.,	55°25'.9 E.

thence along the low water line on the west and south-east coasts of Mahe to the point of commencement; and

(b) **East of Mahe**

(1)	05°10'.0 S.,	57°13'.0 E.	(6)	04°31'.0 S.,	55°40'.0 E.
(2)	05°50'.0 S.,	57°00'.0 E.	(7)	04°26'.0 S.,	55°32'.0 E.
(3)	05°50'.0 S.,	56°24'.0 E.	(8)	03°42'.0 S.,	55°38'.0 E.
(4)	05°12'.0 S.,	55°36'.0 E.	(9)	03°45'.0 S.,	56°02'.0 E.
(5)	04°49'.0 S.,	55°41'.5 E.			

## 2 ASSOCIATED RECOMMENDATIONS ON NAVIGATION

Section 4 of Annex 1 to Assembly resolution A.475(XII) should be replaced by the following:

### “RECOMMENDATIONS ON NAVIGATION THROUGH THE ENGLISH CHANNEL AND THE DOVER STRAIT

#### 1 Use of ships' routing system

1.1 Subject to any factors that may adversely affect safe navigation, ships proceeding from the western part of the English Channel to the Dover Strait and vice versa are strongly recommended to use the traffic separation scheme “Off Casquets”.

1.2 Ships crossing or leaving or joining the easterly or westerly flow of traffic between the traffic separation schemes “Off Casquets” and “In the Dover Strait and Adjacent Waters” should cross as nearly as practicable at right angles or join or leave at as small an angle as practicable to the recommended directions of traffic flow.

1.3 Attention is drawn to the warnings relating to the use of the deep water route forming part of the north-eastbound traffic lane of the traffic separation scheme “In the Strait of Dover and Adjacent Waters”.

1.4 Ships leaving the traffic separation scheme “At West Hinder” and intending to proceed through the Dover Strait should, when crossing the north-eastbound traffic lane of the traffic separation scheme “In the Strait of Dover and Adjacent Waters”, keep to the north-east of the north-eastern limit of the deep water route forming part of the north-eastbound traffic lane of the traffic separation scheme “In the Strait of Dover and Adjacent Waters”.

## 2 Crossing traffic

2.1 Heavy crossing traffic exists in parts of the English Channel and the Dover Strait, with increased risk of collision in these areas. Mariners are reminded that when risk of collision is deemed to exist the rules of the 1972 Collision Regulations fully apply and in particular the rules of part B, sections II and III, of which rules 15 and 19(d) are of specific relevance in the crossing situation.

## 3 Fishing and recreational sailing activities

3.1 Mariners should be aware that concentrations of fishing vessels and recreational craft may be encountered in the English Channel and the Dover Strait and should navigate with caution. Fishing vessels are reminded of the requirements of rule 10(i) of the 1972 Collision Regulations and sailing vessels and all other vessels of less than 20 m in length of the requirements of rule 10(j) of the Collision Regulations.

## 4 Pilotage

4.1 Masters of ships passing through the English Channel and the Dover Strait should take into account the possibility of availing themselves of the services of an adequately qualified deep-sea pilot\* in connection with the requirements of safe navigation.

4.2 Masters of ships taking a deep-sea pilot in the North Sea are advised to embark the pilot prior to sailing.

4.3 Masters of ships approaching from the west are advised to embark their deep-sea pilot as far westward in the English Channel as practicable and make an early decision either to request helicopter delivery or to approach a pilot station (e.g. Brixham or Cherbourg).

4.4 Ships wishing to embark a Thames district pilot should proceed to the NE Spit or the Sunk Pilot Stations.

Ships should not use the English Inshore Traffic Zone as a route to these Pilot Stations if they can safely use the north-east traffic lane of the traffic separation scheme and make a judicious crossing of the south-west traffic lane in accordance with rule 10(c) of the 1972 Collision Regulations. Arrangements can also be made to embark district pilots in the western approaches to the English Channel (see paragraph 4.3).

## 5 Under-keel allowance for deep-draught ships

5.1 Masters of ships, when planning their passage through the Dover Strait and its approaches, should ensure that there is an adequate under-keel clearance at the time of passage. To achieve this, allowance must be made for the effects of squat at the passage speed, for uncertainties in charted depths and tide levels, and for the effects of waves and swell resulting from local and distant storms.

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\* Reference is made to the Recommendation on the Use of Adequately Qualified Deep-Sea Pilots in the North Sea, English Channel and Skagerrak (Assembly resolution A.486(XII)).

5.2 In assessing a safe under-keel allowance, masters of vessels constrained by their draught are strongly advised to consult the Sailing Directions, Mariners' Routeing Guides and Deep-Draught Planning Guides published for the area by Hydrographic Offices, and be guided by the recommendations for under-keel allowance contained therein.

## **6 Tidal height predictions**

6.1 When calculating the depth of water, mariners are reminded that the height of the tide in mid-Strait can be up to 1 m less than that predicted for the adjacent Standard Port.

## **7 Ship movement reporting scheme (MAREP)**

7.1 A voluntary ship movement reporting scheme (MAREP) has been established jointly by the Governments of the United Kingdom and France in the English Channel and the Dover Strait. Ships of the categories listed therein are invited to participate in the scheme.

## **8 Defects affecting safety**

8.1 Ships having defects affecting operational safety, in addition to reporting such defects by participating in the MAREP scheme, should take appropriate measures to overcome these defects before entering the Dover Strait.

## **9 Navigation information service**

9.1 All ships navigating in the English Channel and the Dover Strait are recommended to make use of the information broadcasts made by the Information Services operated by the Governments of the United Kingdom and France, and to keep watch on VHF as appropriate, as set out in the MAREP scheme."

**RESOLUTION A.670(16)**

Revoked by [A.766\(18\)](#)

*Adopted on 19 October 1989  
Agenda item 10*

**NAVIGATION IN THE STRAIT OF BONIFACIO**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

NOTING resolution A.648(16), General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants,

BEING AWARE of the close relationship between safety of navigation and prevention of pollution from ships,

RECOGNIZING the necessity expressed by the Governments of France and Italy, of protecting the vulnerable coasts of those countries from pollution in the vicinity of the Strait of Bonifacio,

BEARING IN MIND the international status of the Strait of Bonifacio,

RECOGNIZING FURTHER the importance of not derogating from the right of navigation through international straits,

TAKING INTO ACCOUNT that a ship reporting procedure and an information system for notifying ships of the navigational conditions in the narrow waters of the Strait of Bonifacio will be an important factor in the safety of navigation,

BEING INFORMED of the decision of the Governments of France and Italy to establish such a system on a permanent basis in the Strait of Bonifacio,

RECALLING the Convention on the International Regulations for Preventing Collisions at Sea, 1972, and resolution 5 on intentional pollution of the sea and accidental spillages adopted by the International Conference on Marine Pollution, 1973,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-seventh session,

1. RECOMMENDS Governments to request masters of laden oil tankers and of ships of more than 5,000 grt transporting dangerous chemicals or substances likely to pollute the sea or the coastline in case of accident to avoid passing through the Strait of Bonifacio, with the exception of tankers and ships sailing in either direction between Porto Torres and any port on the Italian coast between and including Civitavecchia and Naples;
2. ENDORSES the Regulations concerning a System of Surveillance and Information for Ships in the Strait of Bonifacio set out in the Annex to the present resolution;
3. REVOKES resolution A.430(XI).

**RESOLUTION A.670(16)**

Revoked by A.766(18)

*Adopted on 19 October 1989  
Agenda item 10*

**NAVIGATION IN THE STRAIT OF BONIFACIO**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

NOTING resolution A.648(16), General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants,

BEING AWARE of the close relationship between safety of navigation and prevention of pollution from ships,

RECOGNIZING the necessity expressed by the Governments of France and Italy, of protecting the vulnerable coasts of those countries from pollution in the vicinity of the Strait of Bonifacio,

BEARING IN MIND the international status of the Strait of Bonifacio,

RECOGNIZING FURTHER the importance of not derogating from the right of navigation through international straits,

TAKING INTO ACCOUNT that a ship reporting procedure and an information system for notifying ships of the navigational conditions in the narrow waters of the Strait of Bonifacio will be an important factor in the safety of navigation,

BEING INFORMED of the decision of the Governments of France and Italy to establish such a system on a permanent basis in the Strait of Bonifacio,

RECALLING the Convention on the International Regulations for Preventing Collisions at Sea, 1972, and resolution 5 on intentional pollution of the sea and accidental spillages adopted by the International Conference on Marine Pollution, 1973,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-seventh session,

1. RECOMMENDS Governments to request masters of laden oil tankers and of ships of more than 5,000 grt transporting dangerous chemicals or substances likely to pollute the sea or the coastline in case of accident to avoid passing through the Strait of Bonifacio, with the exception of tankers and ships sailing in either direction between Porto Torres and any port on the Italian coast between and including Civitavecchia and Naples;
2. ENDORSES the Regulations concerning a System of Surveillance and Information for Ships in the Strait of Bonifacio set out in the Annex to the present resolution;
3. REVOKES resolution A.430(XI).



ANNEX

**REGULATIONS CONCERNING A SYSTEM OF SURVEILLANCE AND  
INFORMATION FOR SHIPS IN THE STRAIT OF BONIFACIO**

1 For the purpose of improving the safety of navigation in the Strait of Bonifacio and reducing the risks of pollution of the French and Italian coastlines in the Strait as a result of groundings or collisions involving tankers, gas carriers or bulk chemical carriers, a system of surveillance and information for mariners shall be established by the Governments of France and Italy.

The system shall have the following objectives:

- (a) To monitor, from radio stations designated for that purpose, the movement of ships in the Strait of Bonifacio and in its eastern and western approaches so as to be able to notify the coastal authorities concerned sufficiently in advance of any accident that might occur to such ships and to be able to warn the ships themselves of any hazard that might threaten their safe passage;
- (b) To monitor, from radio stations designated for that purpose, the passage through the Strait of Bonifacio of ships that are or might be a hazard for other shipping because they are restricted in their ability to navigate as a result of a defect in their essential equipment which they need in order to pass through the Strait under the prevailing conditions; to communicate any relevant information on such ships to other ships crossing the Strait;
- (c) To inform all ships crossing the Strait of the existing navigational conditions and hazards.

2 In order to achieve this end, every ship which is in a position to do so when entering or crossing the Strait of Bonifacio is requested:

- (a) to make VHF radiotelephone contact with the French or Italian radio stations on channel 10 or, if necessary, on channel 16 before beginning their passage and to maintain such contact without interruption while in the Strait;
- (b) to transmit to one of the radio stations indicated in paragraph 3 below, at the request of the station, the following information in English, French or Italian as indicated in the reporting format set out in the appendix.

3 The radio stations providing information for mariners in the Strait of Bonifacio are:

- On the French side:
  - Pertusato Signal Station
  - Call sign: Pertusato traffic
  - Frequency: VHF channel 10
- On the Italian side:
  - La Maddalena Signal Station
  - Call sign: La Maddalena
  - Frequency: VHF channel 10

**APPENDIX****FORMAT FOR SHIP MOVEMENT MESSAGES  
IN THE STRAIT OF BONIFACIO**

Message identifier	MAREP	(BONIFACIO)
Type of report	POSREP or DEFREP or CHANGEREPA	(for a position report) (for a defect report) (for a change of position report)
Name of ship	A	Name of ship International call sign
Date/time (UTC) group	B	a 6-digit group giving date of month (first 2 digits), hour and minutes (last 4 digits), followed by Z
Position	C  or C   or D	Departure port (for ships crossing the Strait)  or A 4-digit group giving latitude in degrees and minutes followed by N and a 5-digit group giving longitude in degrees and minutes followed by E (for ships passing through the Strait)  or Azimuth: 3 digits indicating degrees. Name of landmark. Distance: 2 digits indicating miles
True course	E	A 3-digit group
Speed	F	A 3-digit group indicating knots and tenths of knots
ETA	I	A 6-digit group as in B above, indicating the date and time followed by the destination (for ships crossing the Strait)
Route information	L	A 4-digit group giving time of passing due south of the LAVEZZI lighthouse (for ships passing through the Strait)
Cargo	P	Nature of the cargo (for ships carrying oil, gas or bulk chemicals)

Message identifier	MAREP	(BONIFACIO)
Limited ability to navigate	Q	Nature and gravity of manoeuvring limitations, if any, to which the ship is restricted (for ships with restricted ability to manoeuvre)
Additional	X	Any other information which may be useful

**Resolution A.711(17)**  
*Adopted on 6 November 1991 1991*  
*(Agenda item 10)*

**SHIPS' ROUTEING**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

FURTHER RECALLING resolution A.377(X) by which it established procedures for the adoption and amendment of routeing systems other than traffic separation schemes,

HAVING EXAMINED the reports of the Maritime Safety Committee on its fifty-eighth and fifty-ninth sessions,

CONFIRMS the adoption by the Organization of the new and amended routeing systems other than traffic separation schemes set out in the annex to the present resolution.

Annex

**ROUTEING SYSTEMS OTHER THAN TRAFFIC SEPARATION SCHEMES**

**1 DEEP-WATER ROUTES**

**1.1 Deep-water routes in the routeing system "Off Friesland"\***

(Reference charts: British Admiralty 1405, 1406, 1408, 1505, and 2182 A  
Netherlands Hydrographic Office 1014, 1035, 1037 (INT 1043, 1046, 1045)  
German Hydrographic Office 50, 53 (INT 1045).)

**Note:** These charts are based on European Datum (1950).

**Descriptions of the deep-water routes**

**DEEP-WATER ROUTE FROM NORTH HINDER TO THE TRAFFIC SEPARATION SCHEME  
"OFF BROWN RIDGE"**

- (a) The deep-water route is bounded by a line connecting the following geographical positions:

- |                             |                             |
|-----------------------------|-----------------------------|
| (1) 52°55'.75 N, 3°14'.25 E | (4) 52°01'.23 N, 2°42'.47 E |
| (2) 52°09'.92 N, 2°35'.00 E | (5) 52°09'.58 N, 2°43'.33 E |
| (3) 51°54'.88 N, 2°33'.60 E | (6) 52°54'.17 N, 3°22'.00 E |

- (b) Geographical positions (1) and (6) to (12) form the traffic separation scheme "Off Brown Ridge".

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\* The routeing system "Off Friesland" replaces the "Deep-water route from North Hinder to TW/1 and TW/2 lightbuoy, via S2 lightbuoy" and the "Deep-water route from North Hinder to TW/1 and TW/2 lighthouse via DR1 lightbuoy" which were cancelled at 0000 hrs UTC on 1 December 1990.

DEEP-WATER ROUTE FROM THE TRAFFIC SEPARATION SCHEME "OFF BROWN RIDGE" TO THE TRAFFIC SEPARATION SCHEME "WEST FRIESLAND"

- (c) The deep-water route is bounded by a line connecting the following geographical positions:

(11) 53°02'.20 N, 3°26'.48 E	(13) 53°22'.94 N, 3°28'.40 E
(12) 53°03'.78 N, 3°18'.71 E	(14) 53°19'.89 N, 3°39'.74 E

- (d) Geographical positions (13) to (27) form the traffic separation scheme "West Friesland".

"FRIESLAND JUNCTION" PRECAUTIONARY AREA

- (e) The "Friesland Junction" precautionary area is bounded by a line connecting the following geographical positions.

(26) 53°57'.20 N, 4°10'.02 E	(29) 54°5'.59 N, 4°59'.32 E
(25) 54°00'.00 N, 4°46'.00 E	(30) 54°2'.57 N, 4°20'.92 E
(28) 54°01'.14 N, 5°00'.34 E	(31) 54°1'.91 N, 4°08'.96 E

- (f) Geographical positions (28) (29) and (32) to (40) form the traffic separation scheme "East Friesland".

DEEP-WATER ROUTE FROM THE TRAFFIC SEPARATION SCHEME "OFF BOTNEY GROUND" TO THE PRECAUTIONARY AREA "FRIESLAND JUNCTION"

- (g) The deep-water route is bounded by a line connecting the following geographical positions:

(26) 53°57'.20 N, 4°10'.02 E	(42) 54°00'.46 N, 3°43'.01 E
(41) 53°55'.24 N, 3°44'.88 E	(31) 54°01'.91 N, 4°08'.96 E

- (h) Geographical positions (41) to (56) form the traffic separation scheme "Off Botney Ground".

DEEP-WATER ROUTE "FROM NORTH HINDER TO INDEFATIGABLE BANK VIA DR1 LIGHTBUOY"

- (i) The deep-water route is bounded by a line connecting the following geographical positions:

(53) 53°36'.81 N, 2°56'.50 E	(59) 52°18'.20 N, 2°44'.00 E
(57) 53°04'.80 N, 2°36'.00 E	(60) 53°04'.00 N, 2°44'.00 E
(58) 52°18'.20 N, 2°36'.00 E	(61) 53°29'.54 N, 3°00'.67 E
(3) 51°54'.88 N, 2°33'.60 E	(54) 53°34'.76 N, 3°05'.49 E
(4) 52°01'.23 N, 2°42'.47 E	

**Notes:**

1 *Least water depths*

The deep-water routes from North Hinder to the traffic separation scheme "Off Brown Ridge" and from the traffic separation scheme "Off Brown Ridge" to the traffic separation scheme "West Friesland" and the traffic lanes of the traffic separation schemes "Off Brown Ridge" and "West Friesland" were closely surveyed in the period 1981 to 1986. The least water depth found in these areas was more than 23 m at LLWS except for one wreck in geographical position 52°46'.17 N, 3°13'.83 E. The least water depth over that wreck found by wire-sweeping was 20.0 m at LLWS.

(See also the note pertaining to the traffic separation scheme "Deutsche Bucht Lightvessel, western approach".)

2 *Least water depths*

The deep-water routes from the traffic separation scheme "Off Botney Ground" to the precautionary area "Friesland Junction" and "From North Hinder to Indefatigable Bank via DR1 lightbuoy", the traffic lanes of the traffic separation scheme "Off Botney Ground", the precautionary area "Friesland Junction", and the traffic separation scheme "East Friesland" were closely surveyed in the period 1981 to 1986. The least water depth found in these areas was more than 29 m at LLWS except for a few patches just north of the parallel 52° N, which have a depth of 26.5 m at LLWS.

## 1.2 Deep-water route "In the Southern Approach to Chesapeake Bay"

(Reference chart: United States 12221, 57th edition, 1989.

**Note:** This chart is based on North American (1983) datum.)

### Description of the deep-water route

A deep-water route is established in the southern approach of the traffic separation scheme "In the Approaches to Chesapeake Bay" between the separation lines which connect the following geographical positions of the traffic separation scheme:

(6) 36°55'.11 N,	75°55'.23 W	(9) 36°49'.52 N,	75°46'.94 W
(7) 36°52'.35 N,	75°52'.12 W	(10) 36°52'.18 N,	75°52'.29 W
(8) 36°49'.70 N,	75°46'.80 W	(11) 36°54'.97 N,	75°55'.43 W

### Notes:

- 1 It is recommended that the following ships use the deep-water route when bound for Chesapeake Bay from sea or to sea from Chesapeake Bay: Deep-draught ships (draughts defined as greater than 13.5 m/45 ft in fresh water) and naval aircraft carriers;
- 2 It is recommended that a ship using the deep-water route:
  - .1 announces its intention on VHF-FM channel 16 as it approaches Chesapeake Bay Southern Approach Lighted Whistle Buoy CB on the south end or Chesapeake Bay Junction Lighted Buoy CBJ, on the north end of the route;
  - .2 avoids, as far as practicable, overtaking other ships operating in the deep-water route;
  - .3 keeps as near to the outer limit of the route which lies on the starboard side as is safe and practicable.
- 3 All other ships approaching the Chesapeake Bay traffic separation scheme should use the appropriate inbound or outbound traffic lane of the traffic separation scheme "In the Approaches to Chesapeake Bay".

## 2 AREAS TO BE AVOIDED

### 2.1 "Off the California Coast"

(Reference chart: United States 18720, 1990 edition.

**Note:** These charts are based on North American (1983) datum.)

### Description of the areas to be avoided

In order to avoid risk of pollution in the area designated as the Channel Islands National Marine Sanctuary, all ships, except those bound to and from ports on one of the islands within the area, engaged in the trade of carrying cargo, including but not limited to tankers and other bulk carriers and barges, should avoid the following areas:

- (a) In the region of San Miguel, Santa Rosa, Santa Cruz and Anacapa Islands off the coast of southern California

The area bounded by a line connecting the following geographical positions is designated as an area to be avoided:

(1) 33°58'.7 N,	119°12'.8 W,	(5) 34°10'.4 N,	120°39'.5 W,
(2) 33°54'.0 N,	119°17'.0 W,	(6) 34°14'.0 N,	120°31'.3 W
(3) 33°46'.3 N,	120°07'.8 W,	(7) 34°10'.0 N,	119°56'.4 W,
(4) 33°59'.0 N,	120°39'.5 W	(8) 34°01'.4 N,	119°18'.6 W

- (b) In the region of the Santa Barbara Island off the coast of southern California

The area contained within a circle of radius 7.5 nautical miles, centred on the following geographical position, is designated as an area to be avoided:

(9) 33°28'.6 N,	119°02'.2 W
-----------------	-------------

## 2.2 “Off the Florida Coast”

(Reference charts: United States 11420, 1988 edition, 11460, 1988 edition.

**Note:** These charts are based on North American (1983) datum.)

### Description of the areas to be avoided

In order to avoid risk of pollution and damage to the environment of these sensitive areas, all ships carrying cargoes of oil and hazardous materials and all other ships greater than 50 m in length should avoid the following areas:

#### (a) In the vicinity of the Florida Keys

The area bounded by a line connecting the following geographical positions is designated as an area to be avoided:

(1) 25°45'.00 N, 80°06'.10 W	(12) 24°33'.60 N, 81°26'.00 W
(2) 25°38'.70 N, 80°02'.70 W	(13) 24°38'.20 N, 81°07'.00 W
(3) 25°22'.00 N, 80°03'.00 W	(14) 24°43'.20 N, 80°53'.20 W
(4) 25°00'.20 N, 80°13'.40 W	(15) 24°46'.10 N, 80°46'.15 W
(5) 24°37'.90 N, 80°47'.30 W	(16) 24°51'.10 N, 80°37'.10 W
(6) 24°29'.20 N, 81°17'.30 W	(17) 24°57'.50 N, 80°27'.50 W
(7) 24°22'.30 N, 81°43'.17 W	(18) 25°09'.90 N, 80°16'.20 W
(8) 24°28'.00 N, 81°43'.17 W	(19) 25°24'.00 N, 80°09'.10 W
(9) 24°28'.70 N, 81°43'.50 W	(20) 25°31'.50 N, 80°07'.00 W
(10) 24°29'.80 N, 81°43'.17 W	(21) 25°39'.70 N, 80°06'.85 W
(11) 24°33'.10 N, 81°35'.15 W	(22) 25°45'.00 N, 80°06'.10 W

#### (b) In the vicinity of Key West Harbour

The area bounded by a line connecting the following geographical positions is designated as an area to be avoided:

(23) 24°27'.95 N, 81°48'.65 W	(27) 24°29'.35 N, 81°53'.40 W
(24) 24°23'.00 N, 81°53'.50 W	(28) 24°29'.35 N, 81°50'.00 W
(25) 24°26'.60 N, 81°58'.50 W	(29) 24°27'.95 N, 81°48'.65 W
(26) 24°27'.75 N, 81°55'.70 W	

#### (c) Surrounding the Marquesas Keys

The area bounded by a line connecting the following geographical positions is designated as an area to be avoided:

(30) 24°26'.60 N, 81°59'.55 W	(37) 24°36'.15 N, 81°51'.78 W
(31) 24°23'.00 N, 82°03'.50 W	(38) 24°34'.40 N, 81°50'.60 W
(32) 24°23'.00 N, 82°27'.80 W	(39) 24°33'.44 N, 81°49'.73 W
(33) 24°34'.50 N, 82°37'.50 W	(40) 24°31'.20 N, 81°52'.10 W
(34) 24°43'.00 N, 82°26'.50 W	(41) 24°28'.70 N, 81°56'.80 W
(35) 24°38'.31 N, 81°54'.06 W	(42) 24°26'.60 N, 81°59'.55 W
(36) 24°37'.91 N, 81°53'.40 W	

#### (d) Surrounding the Tortugas Islands

The area bounded by a line connecting the following geographical positions is designated as an area to be avoided:

(43) 24°32'.00 N, 82°53'.50 W	(48) 24°42'.80 N, 82°43'.90 W
(44) 24°32'.00 N, 83°00'.05 W	(49) 24°39'.50 N, 82°43'.90 W
(45) 24°39'.70 N, 83°00'.05 W	(50) 24°35'.60 N, 82°46'.40 W
(46) 24°45'.60 N, 82°54'.40 W	(51) 24°32'.00 N, 82°53'.50 W
(47) 24°45'.60 N, 82°47'.20 W	

### 2.3 “In the region of the Shetland Islands”

(Reference charts: British Admiralty 1119, 1989 edition, 1233, 1989 edition and 3292, 1986 edition

**Note:** These charts are based on Ordnance Survey of Great Britain (1936) datum.)

#### Description of the areas to be avoided and precautionary areas

In order to avoid the risk of oil pollution and severe damage to the environment and economy of Shetland, all ships of more than 5,000 gross tons should avoid the area bounded by lines connecting the following geographical positions:

##### (a) North of Shetland

- (1) 60°39'.5 N, 1°09'.3 W
- (2) 60°58'.2 N, 1°09'.3 W
- (3) 61°01'.5 N, 0°59'.5 W
- (4) 61°01'.5 N, 0°48'.0 W
- (5) 60°56'.5 N, 0°27'.0 W
- (6) 60°36'.8 N, 0°25'.5 W
- (7) 60°34'.2 N, 0°48'.0 W
- (8) 60°33'.8 N, 0°53'.5 W
- (9) Thence up to the eastern side of Colgrave Sound to  
60°35'.8 N, 0°55'.4 W
- (10) 60°36'.8 N, 0°58'.0 W
- (11) 60°38'.4 N, 0°58'.8 W thence along the coastline to position (1)

##### (b) West of Shetland

In order to avoid the risk of oil pollution and severe damage to the environment and economy of Shetland, all ships of more than 5,000 gross tons should avoid the area bounded by lines connecting the following geographical positions:

- |                            |                            |
|----------------------------|----------------------------|
| (12) 59°51'.2 N, 1°16'.5 W | (16) 60°42'.5 N, 1°44'.0 W |
| (13) 59°42'.7 N, 1°26'.0 W | (17) 60°42'.5 N, 1°22'.0 W |
| (14) 60°00'.5 N, 2°20'.3 W | (18) 60°40'.0 N, 1°17'.0 W |
| (15) 60°08'.0 N, 2°32'.0 W | (19) 60°37'.3 N, 1°17'.9 W |

##### (c) Precautionary area in the northern approaches to Yell Sound

A precautionary area is established in the northern approaches to Yell Sound. The area is bounded by a line connecting the following geographical positions:

- |                            |                            |
|----------------------------|----------------------------|
| (20) 60°58'.2 N, 1°09'.3 W | (23) 60°42'.5 N, 1°22'.0 W |
| (21) 60°39'.5 N, 1°09'.3 W | (24) 60°42'.5 N, 1°44'.0 W |
| (22) 60°40'.0 N, 1°17'.0 W |                            |

##### (d) Precautionary area in the south-eastern approaches to Yell Sound

A precautionary area is established in the south-eastern approaches to Yell Sound. The area is bounded by a line connecting the following geographical positions:

- (25) 60°27'.4 N, 1°02'.4 W
- (26) 60°25'.5 N, 0°23'.0 W
- (27) 60°36'.8 N, 0°25'.5 W
- (28) 60°34'.2 N, 0°48'.0 W
- (29) 60°33'.8 N, 0°53'.5 W
- (30) Thence up to the eastern side of Colgrave Sound to  
60°35'.8 N, 0°55'.4 W
- (31) 60°36'.8 N, 0°58'.0 W



### 3 RECOMMENDED ROUTE FOR TANKERS FROM NORTH HINDER TO THE GERMAN BIGHT AND VICE VERSA\*

(Reference charts: British Admiralty 1405, 1406, 1408, 1505, and 2182 A  
Netherlands Hydrographic Office 1014, 1035, 1037 (INT 1043, 1046, 1045)  
German Hydrographic Office 50, 53 (INT 1045).

**Note:** These charts are based on European Datum.)

#### Description of the recommended route

##### DEEP-WATER ROUTE FROM NORTH HINDER TO THE TRAFFIC SEPARATION SCHEME "OFF BROWN RIDGE"

- (a) The deep-water route is bounded by a line connecting the following geographical positions:

- |                  |            |                  |            |
|------------------|------------|------------------|------------|
| (1) 52°55'.75 N, | 3°14'.25 E | (4) 52°01'.23 N, | 2°42'.47 E |
| (2) 52°09'.92 N, | 2°35'.00 E | (5) 52°09'.58 N, | 2°43'.33 E |
| (3) 51°54'.88 N, | 2°33'.60 E | (6) 52°54'.17 N, | 3°22'.00 E |

##### TRAFFIC SEPARATION SCHEME "OFF BROWN RIDGE"

- (b) A separation zone is bounded by a line connecting the following geographical positions:

- |                  |            |                   |            |
|------------------|------------|-------------------|------------|
| (7) 53°03'.14 N, | 3°21'.85 E | (9) 52°54'.81 N,  | 3°18'.87 E |
| (8) 52°55'.11 N, | 3°17'.38 E | (10) 53°02'.84 N, | 3°23'.34 E |

- (c) A traffic lane for northbound traffic is established between the separation zone in paragraph (b) above and a line connecting the following geographical positions:

- |                  |            |                   |            |
|------------------|------------|-------------------|------------|
| (6) 52°54'.17 N, | 3°22'.00 E | (11) 53°02'.20 N, | 3°26'.48 E |
|------------------|------------|-------------------|------------|

- (d) A traffic lane for southbound traffic is established between the separation zone in paragraph (b) above and a line connecting the following geographical positions:

- |                   |            |                  |            |
|-------------------|------------|------------------|------------|
| (12) 53°03'.78 N, | 3°18'.71 E | (1) 52°55'.75 N, | 3°14'.25 E |
|-------------------|------------|------------------|------------|

##### DEEP-WATER ROUTE FROM THE TRAFFIC SEPARATION SCHEME "OFF BROWN RIDGE" TO THE TRAFFIC SEPARATION SCHEME "WEST FRIESLAND"

- (e) The deep-water route is bounded by a line connecting the following geographical positions:

- |                   |            |                   |            |
|-------------------|------------|-------------------|------------|
| (11) 53°02'.20 N, | 3°26'.48 E | (13) 53°22'.94 N, | 3°28'.40 E |
| (12) 53°03'.78 N, | 3°18'.71 E | (14) 53°19'.89 N, | 3°39'.74 E |

##### TRAFFIC SEPARATION SCHEME "WEST FRIESLAND"

- (f) A separation zone is bounded by a line connecting the following geographical positions:

- |                   |            |                   |            |
|-------------------|------------|-------------------|------------|
| (15) 53°42'.99 N, | 3°42'.12 E | (19) 53°46'.73 N, | 4°20'.00 E |
| (16) 53°22'.12 N, | 3°31'.47 E | (20) 53°56'.69 N, | 4°36'.00 E |
| (17) 53°20'.67 N, | 3°36'.85 E | (21) 53°59'.22 N, | 4°36'.00 E |
| (18) 53°31'.12 N, | 3°44'.72 E | (22) 53°57'.60 N, | 4°15'.17 E |

- (g) A traffic lane for north-eastbound traffic is established between the separation zone in paragraph (f) above and a line connecting the following geographical positions:

- |                   |            |                   |            |
|-------------------|------------|-------------------|------------|
| (14) 53°19'.89 N, | 3°39'.74 E | (24) 53°45'.90 N, | 4°23'.32 E |
| (23) 53°30'.00 N, | 3°47'.37 E | (25) 54°00'.00 N, | 4°46'.00 E |

\* This recommended route for tankers coincides with the eastern route of the routing system "Off Friesland" and replaces the "Two-way route for tankers from North Hinder to the German Bight" which was cancelled at 0000 hrs UTC on 1 December 1990.

- (h) A traffic lane for south-westbound traffic is established between the separation zone in paragraph (f) above and a line connecting the following geographical positions:
- |                              |                              |
|------------------------------|------------------------------|
| (26) 53°57'.20 N, 4°10'.02 E | (13) 53°22'.94 N, 3°28'.40 E |
| (27) 53°43'.39 N, 3°38'.81 E |                              |

#### PRECAUTIONARY AREA "FRIESLAND JUNCTION"

- (i) A precautionary area is established directly to the north of the traffic separation scheme "West Friesland". The area is bounded by a line connecting the following geographical positions:
- |                              |                              |
|------------------------------|------------------------------|
| (26) 53°57'.20 N, 4°10'.02 E | (29) 54°05'.59 N, 4°59'.32 E |
| (25) 54°00'.00 N, 4°46'.00 E | (30) 54°02'.57 N, 4°20'.92 E |
| (28) 54°01'.14 N, 5°00'.34 E | (31) 54°01'.91 N, 4°08'.96 E |

#### TRAFFIC SEPARATION SCHEME "EAST FRIESLAND"

- (j) A separation zone is bounded by a line connecting the following geographical positions:
- |                              |                              |
|------------------------------|------------------------------|
| (32) 54°02'.62 N, 5°00'.00 E | (35) 54°08'.97 N, 6°01'.33 E |
| (33) 54°04'.21 N, 5°20'.00 E | (36) 54°05'.69 N, 5°19'.66 E |
| (34) 54°08'.00 N, 6°01'.90 E | (37) 54°04'.11 N, 4°59'.66 E |
- (k) A traffic lane for north-eastbound traffic is established between the separation zone in paragraph (j) above and a line connecting the following geographical positions:
- |                              |                            |
|------------------------------|----------------------------|
| (28) 54°01'.14 N, 5°00'.34 E | (38) 54°6'.10 N, 6°3'.00 E |
|------------------------------|----------------------------|
- (l) A traffic lane for south-westbound traffic is established between the separation zone in paragraph (j) above and a line connecting the following geographical positions:
- |                              |                             |
|------------------------------|-----------------------------|
| (39) 54°10'.90 N, 6°00'.20 E | (29) 54°5'.59 N, 4°59'.32 E |
| (40) 54°07'.17 N, 5°19'.32 E |                             |

**Note:** The positions (38), (34), (35) and (39) coincide with the positions (15), (11), (8) and (14) of the traffic separation scheme "Deutsche Bucht Lightvessel, western approach".

#### Application

The route is recommended for use by the following classes of ships of 10,000 tons gross tonnage and upwards:

- tankers carrying oils mentioned in appendix I, annex I to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78); and
- ships carrying in bulk liquid substances classed in categories A and B mentioned in appendices I and II, annex II, to MARPOL 73/78.

#### Use of the route

- The classes of ships referred to above are recommended to use the route or part of it:
  - when sailing from North Hinder to North Sea ports of Germany and of the Netherlands northwards of latitude 53° N and vice versa;
  - when sailing between North Sea ports of the Netherlands and/or Germany, except in the case of adjacent port areas;
- The traffic separation scheme "Deutsche Bucht Lightvessel, western approach" should be used in continuation of the route.
- Ships should use the appropriate traffic lanes of the traffic separation schemes forming part of the route; ships should follow the recommended direction of traffic flow in the precautionary areas (indicated by dashed open-outlined arrows in the charts) and ships should, as far as practicable, keep to the starboard side of the deep-water routes forming part of the route.

### **Joining and leaving the route**

The classes of ships referred to above when joining or leaving the route:

- (a) should do so at the nearest point of the route to the port of destination or departure which permits a safe passage to or from that port;
- (b) should be aware that oil and gas production facilities and mobile offshore drilling units may be encountered in the proximity of the route; safety zones of 500 m (0.27 nautical mile) diameter are established around all offshore structures;
- (c) must adhere to the appropriate rules of the Collision Regulations.

**Note:** It is recommended that an efficient electronic position-fixing device appropriate for the area should be carried on board. Numerous offshore structures situated within the limits of the separation zones and/or situated in the proximity of the route are equipped with X- and S-band RACONs.



ASSEMBLY - 18th session  
Agenda item 11

RESOLUTION A.766(18)  
adopted on 4 November 1993

NAVIGATION IN THE STRAIT OF BONIFACIO

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

NOTING resolution A.648(16) - General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants,

BEING AWARE of the close relationship between safety of navigation and prevention of pollution from ships,

RECALLING the necessity, duly recognized by resolution A.670(16), of protecting the vulnerable coasts of France and Italy in the vicinity of the Strait of Bonifacio in view of their ecological value,

BEARING IN MIND the international status of the Strait of Bonifacio,

RECOGNIZING the importance of not derogating from the right of navigation through international straits,

TAKING INTO ACCOUNT that a ship reporting procedure and an information system for notifying ships of the navigational conditions in the narrow waters of the Strait of Bonifacio would be an important factor in the safety of navigation,

BEING INFORMED of the decision of the Governments of France and Italy to establish such a system in the Strait of Bonifacio on a permanent basis,

NOTING that, despite the recommendation made by the Organization, the traffic of laden oil tankers and of ships carrying dangerous chemicals has increased by 40% in the Strait of Bonifacio since 1985,

RECOGNIZING FURTHER that laden oil tankers and ships carrying dangerous chemicals, which are neither bound for, nor sailing from, French or Italian ports are able to take routes which are equally convenient from the point of view of navigation or hydrographic characteristics,

RECALLING the Convention on the International Regulations for Preventing Collisions at Sea, 1972, and resolution 5 on Intentional Pollution of the Sea and Accidental Spillages, adopted by the International Conference on Marine Pollution, 1973,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its sixty-second session,

1. RECOMMENDS Governments to prohibit or at least strongly discourage the transit of the Strait of Bonifacio by laden oil tankers and ships carrying dangerous chemicals or substances in bulk liable, in the event of a casualty, to pollute the sea or the coasts, as listed in the Annex to resolution MEPC.49(31) adopted on 4 July 1991, and which are flying the flags of their respective States;
2. ENDORSES the Regulations concerning a system of surveillance and information for ships in the Strait of Bonifacio set out in the Annex to the present resolution;
3. REVOKES resolution A.670(16).

ANNEX

REGULATIONS CONCERNING A SYSTEM OF SURVEILLANCE AND  
INFORMATION FOR SHIPS IN THE STRAIT OF BONIFACIO

1 For the purpose of improving the safety of navigation in the Strait of Bonifacio and reducing the risks of pollution of the French and Italian coastlines in the Strait as a result of groundings or collisions involving tankers, gas carriers or bulk chemical carriers, a system of surveillance and information for mariners shall be established by the Governments of France and Italy.

The system shall have the following objectives:

- (a) to monitor, from radio stations designated for that purpose, the movement of ships in the Strait of Bonifacio and in its eastern and western approaches so as to be able to notify the coastal authorities concerned sufficiently in advance of any accident that might occur to such ships and to be able to warn the ships themselves of any hazard that might threaten their safe passage;
- (b) to monitor, from radio stations designated for that purpose, the passage through the Strait of Bonifacio of ships that are or might be a hazard for other shipping because they are restricted in their ability to navigate as a result of a defect in their essential equipment which they need in order to pass through the Strait under the prevailing conditions; to communicate any relevant information on such ships to other ships crossing the Strait;
- (c) to inform all ships crossing the Strait of the existing navigational conditions and hazards.

2 In order to achieve this end, every ship which is in a position to do so when entering or crossing the Strait of Bonifacio is requested:

- (a) to make VHF radiotelephone contact with the French or Italian radio stations on channel 10 or, if necessary, on channel 16 before beginning their passage and to maintain such contact without interruption while in the Strait;
- (b) to transmit to one of the radio stations indicated in paragraph 3 below, at the request of the station, the following information in English, French or Italian as indicated in the reporting format set out in the appendix.

3 The radio stations providing information for mariners in the Strait of Bonifacio are:

- On the French side:
  - Pertusato Signal Station
  - Call sign: Pertusato traffic
  - Frequency: VHF channel 10
- On the Italian side:
  - La Maddalena Signal Station
  - Call sign: La Maddalena
  - Frequency: VHF channel 10

## APPENDIX

FORMAT FOR SHIP MOVEMENT MESSAGES  
IN THE STRAIT OF BONIFACIO

Message identifier	MAREP	(BONIFACIO)
Type of report	POSREP or DEFREP or CHANGEREPE	(for a position report)  (for a defect report)  (for a change of position report)
Name of ship	A	Name of ship International call sign
Date/time (UTC) group	B	a 6-digit group giving date of month (first 2 digits), hour and minutes (last 4 digits), followed by Z
Position	C  or C   or D	Departure port (for ships crossing the Strait)  or A 4-digit group giving latitude in degrees and minutes followed by N and a 5-digit group giving longitude in degrees and minutes followed by E (for ships passing through the Strait)  or Azimuth: 3 digits indicating degrees. Name of landmark. Distance: 2 digits indicating miles
True course	E	A 3-digit group
Speed	F	A 3-digit group indicating knots and tenths of knots
ETA	I	A 6-digit group as in B above, indicating the date and time followed by the destination (for ships crossing the Strait)
Route information	L	A 4-digit group giving time of passing due south of the LAVEZZI lighthouse (for ships passing through the Strait)
Cargo	P	Nature of the cargo (for ships carrying oil, gas or bulk chemicals)

Message identifier	MAREP	(BONIFACIO)
Limited ability to navigate	Q	Nature and gravity of manoeuvring limitations, if any, to which the ship is restricted (for ships with restricted ability to manoeuvre)
Additional	X	Any other information which may be useful





ASSEMBLY - 18th session  
Agenda item 11

RESOLUTION A.767(18)  
adopted on 4 November 1993

AMENDED TRAFFIC SEPARATION SCHEME  
"OFF FINISTERRE"

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECALLING ALSO resolution A.376(X) by which the Assembly, recognizing the need for an expeditious adoption procedure for the adoption of traffic separation schemes for the purposes of the International Regulations for Preventing Collisions at Sea, 1972, resolved that the function of adopting traffic separation schemes shall be performed by the Maritime Safety Committee,

NOTING the urgent need to implement the traffic separation scheme "Off Finisterre" to improve safety of navigation in the area concerned and the invitation of the Maritime Safety Committee at its sixty-second session to confirm the new location of the traffic separation scheme "Off Finisterre" on the basis of the recommendations of the Sub-Committee on Safety of Navigation,

HAVING CONSIDERED the recommendation of the Sub-Committee on Safety of Navigation at its thirty-ninth session,

1. ADOPTS AND CONFIRMS the new location of the traffic separation scheme "Off Finisterre" proposed by Spain and described in the Annex to the present resolution for implementation at 0000 hours UTC on 4 May 1994;
2. INVITES the Maritime Safety Committee to revise and update as necessary and adopt amendments to the traffic separation scheme "Off Finisterre", in accordance with resolution A.376(X).

## ANNEX

OFF FINISTERRE (Amended scheme)

(Reference chart: Instituto Hidrográfico de la Marina, Cadiz, Spain, No.41, 1978 edition.

Note: This chart is based on European Datum (Potsdam))

Description of the traffic separation scheme

(a) A separation zone is bounded by a line connecting the following geographical positions:

- |                           |                           |
|---------------------------|---------------------------|
| (1) 42°52'.9 N, 9°44'.0 W | (4) 43°21'.5 N, 9°37'.7 W |
| (2) 43°10'.5 N, 9°44'.0 W | (5) 43°11'.0 N, 9°45'.2 W |
| (3) 43°21'.0 N, 9°36'.4 W | (6) 42°52'.9 N, 9°45'.2 W |

(b) A separation zone is bounded by a line connecting the following geographical positions:

- |                           |                            |
|---------------------------|----------------------------|
| (7) 42°52'.9 N, 9°49'.4 W | (10) 43°25'.0 N, 9°47'.0 W |
| (8) 43°12'.2 N, 9°49'.4 W | (11) 43°13'.7 N, 9°54'.8 W |
| (9) 43°23'.0 N, 9°41'.9 W | (12) 42°52'.9 N, 9°54'.8 W |

(c) A traffic lane for northbound traffic is established between the separation zones described in paragraphs (a) and (b).

(d) A traffic lane for southbound traffic is established between the separation zones described in paragraph (b) and a line connecting the following geographical positions:

- |                            |                             |
|----------------------------|-----------------------------|
| (13) 42°52'.9 N, 9°59'.0 W | (15) 43°26'.4 N, 09°50'.9 W |
| (14) 43°14'.7 N, 9°59'.0 W |                             |

Inshore traffic zone

The area between the landward boundary of the traffic separation scheme and the Spanish coast and lying between a line drawn from position 43°06'.7 N, 9°13'.4 W to position (3) 43°21'.0 N, 9°36'.4 W (northern limit) and a line drawn from position 42°52'.9 N, 9°16'.2 W to position (1) 42°52'.9 N, 9°44'.0 W (southern limit) is designated as an inshore traffic zone.

INTERNATIONAL MARITIME  
ORGANIZATION



IMO

A 18/Res.768  
19 November 1993  
Original: ENGLISH

ASSEMBLY - 18th session  
Agenda item 11

RESOLUTION A.768(18)  
adopted on 4 November 1993

SHIPS' ROUTEING

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

FURTHER RECALLING resolution A.377(X) by which it established procedures for the adoption and amendment of routeing systems other than traffic separation schemes,

HAVING EXAMINED the reports of the Maritime Safety Committee on its sixtieth, sixty-first and sixty-second sessions,

CONFIRMS the adoption by the Organization of the new and amended routeing systems other than traffic separation schemes set out in the Annex to the present resolution.

W/0268a

## ANNEX

## ROUTEING SYSTEMS OTHER THAN TRAFFIC SEPARATION SCHEMES

## 1 AREAS TO BE AVOIDED

1.1 IN THE REGION OF FASHT BULDANI

(Reference charts: British Admiralty 3774, 1986 edition, 3775, 1981 edition and 2882, 1987 edition.

Note: These charts are based on Nahrwan Datum)

Description of the area to be avoided:

In order to avoid the risk of pollution due to stranding, or of damage to major subsea oil and gas pipelines in this area, which is in the close vicinity of important seagrass banks and prawn breeding grounds, all tankers, gas carriers and chemical tankers carrying noxious liquid substances regardless of size, and all other ships of more than 50,000 gross tonnage, should avoid the area bounded by a line connecting the following geographical positions:

- |                              |                              |
|------------------------------|------------------------------|
| (1) 28°13'.31 N, 48°55'.01 E | (5) 27°50'.90 N, 49°03'.50 E |
| (2) 28°18'.00 N, 49°08'.50 E | (6) 28°06'.39 N, 48°51'.78 E |
| (3) 28°08'.12 N, 49°18'.90 E | (7) 28°11'.10 N, 48°53'.21 E |
| (4) 27°53'.98 N, 49°20'.00 E |                              |

1.2 IN THE REGION OF THE SHETLAND ISLANDS (Amended area)

(Reference charts: British Admiralty 1119, 1989 edition; 1233, 1989 edition; 3292, 1986 edition.

Note: These charts are based on Ordnance Survey of Great Britain (1936) Datum)

Description of the areas to be avoided and precautionary areas(a) North of Shetland

In order to avoid the risk of oil pollution and severe damage to the environment of Shetland, ships of more than 5,000 gross tonnage carrying oil or other hazardous cargoes in bulk should avoid the area bounded by lines connecting the following geographical positions:

- |                             |               |
|-----------------------------|---------------|
| (1) 60°39'.50 N, 1°09'.30 W |               |
| (2) 61°04'.30 N, 1°09'.30 W |               |
| (3) 61°04'.30 N, 0°29'.70 W |               |
| (4) 60°38'.40 N, 0°12'.20 W |               |
| (5) 60°34'.20 N, 0°48'.00 W | (Funzie Ness) |
| (6) 60°33'.80 N, 0°53'.50 W | (Rams Ness)   |

Thence up the Eastern side of Colgrave Sound to:

- (7) 60°35'.80 N, 0°55'.40 W
- (8) 60°36'.80 N, 0°58'.00 W
- (9) 60°38'.40 N, 0°58'.80 W

Thence along the coastline to position (1)

(b) West and South of Shetland

In order to avoid the risk of oil pollution and severe damage to the environment of Shetland, ships of more than 5,000 gross tonnage carrying oil or other hazardous cargoes in bulk should avoid the area bounded by lines connecting the following geographical positions:

- (10) 60°02'.50 N, 1°10'.20 W (Helli Ness)
- (11) 59°59'.87 N, 1°09'.37 W (Perie Bard Lt)
- (12) 59°41'.00 N, 1°12'.00 W
- (13) 59°42'.70 N, 1°26'.00 W
- (14) 60°02'.00 N, 2°48'.00 W
- (15) 60°15'.00 N, 2°48'.00 W
- (16) 60°42'.50 N, 2°09'.00 W
- (17) 60°42'.50 N, 1°22'.00 W
- (18) 60°40'.00 N, 1°17'.00 W
- (19) 60°37'.30 N, 1°17'.90 W

Thence along the west coastline to position (10)

(c) Precautionary area in the northern approaches to Yell Sound

A precautionary area is established in the northern approaches to Yell Sound. The area is bounded by a line connecting the following geographical positions:

- (20) 61°04'.30 N, 1°09'.30 W
- (21) 60°39'.50 N, 1°09'.30 W
- (22) 60°40'.00 N, 1°17'.00 W
- (23) 60°42'.50 N, 1°22'.00 W
- (24) 60°42'.50 N, 2°09'.00 W

(d) Precautionary area in the south-eastern approaches to Yell Sound

A precautionary area is established in the south-eastern approaches to Yell Sound. The area is bounded by a line connecting the following geographical positions:

- (25) 60°27'.40 N, 1°02'.40 W
- (26) 60°24'.00 N, 0°02'.50 W
- (27) 60°38'.40 N, 0°12'.20 W
- (28) 60°34'.20 N, 0°48'.00 W
- (29) 60°33'.80 N, 0°53'.50 W

Thence up the eastern side of Colgrave Sound to:

- (30) 60°35'.80 N, 0°55'.40 W
- (31) 60°36'.80 N, 0°58'.00 W

(e) Precautionary area in the approaches to Lerwick

A precautionary area is established in the approaches to Lerwick. The area is bounded by a line connecting the following geographical positions:

- (25) 60°27'.40 N, 1°02'.40 W
- (26) 60°24'.00 N, 0°02'.50 W
- (12) 59°41'.00 N, 1°12'.00 W
- (11) 59°59'.87 N, 1°09'.37 W (Perie Bard)

1.3 IN THE REGION OF THE ORKNEY ISLANDS (New area)

(Reference charts: British Admiralty 1954, 1988 edition; 1942, 1988 edition)

Note: These charts are based on Ordnance Survey of Great Britain (1936) Datum)

Description of the area to be avoided

In order to avoid the risk of oil pollution and severe damage to the environment of Orkney, ships of more than 5,000 gross tonnage carrying oil or other hazardous cargoes in bulk should avoid the area bounded by lines connecting the following geographical positions:

- (1) 58°46'.73 N, 3°17'.69 W (Tor Ness)
- (2) 58°55'.00 N, 3°50'.00 W
- (3) 59°17'.00 N, 3°50'.00 W
- (4) 59°28'.00 N, 3°15'.00 W
- (5) 59°28'.00 W, 2°19'.00 W
- (6) 59°24'.00 N, 2°09'.00 W
- (7) 59°05'.00 N, 2°09'.00 W
- (8) 58°50'.00 N, 2°35'.00 W
- (9) 58°44'.15 N, 2°54'.90 W (Old Head)
- (10) 58°55'.97 N, 3°21'.11 W (Braebuster Point)
- (11) 58°57'.84 N, 3°21'.11 W (Breck Ness)

1.4 IN THE REGION OF THE FAIR ISLE (New area)

(Reference charts: British Admiralty 1119, 1989 edition)

Note: This chart is based on Ordnance Survey of Great Britain (1936) Datum)

In order to avoid the risk of oil pollution and severe damage to the environment of Fair Isle, ships of more than 5,000 gross tonnage carrying oil or other hazardous cargoes in bulk should avoid the area contained within a circle of radius six and one half (6.5) miles centred upon geographical position 59°32'.00 N 1°38'.00 W.

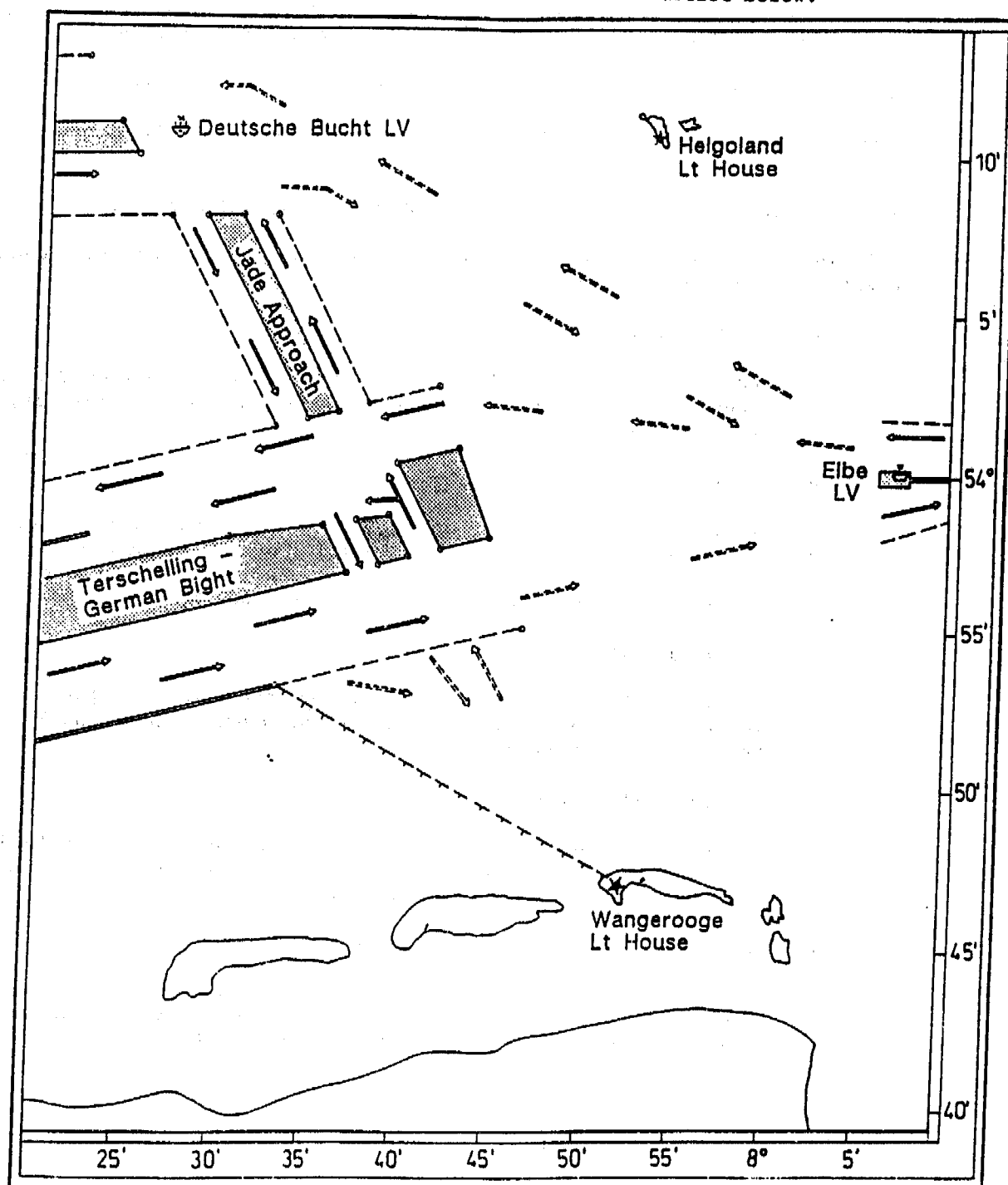
Note: See Part E - recommended routes in the Fair Isle Channel

## 2 OTHER ROUTEING MEASURES

### 2.1 RECOMMENDED DIRECTIONS OF TRAFFIC FLOW IN THE GERMAN BIGHT

**Note:** See the following traffic separation schemes in the German Bight: "Terschelling-German Bight", "Jade Approach", "Elbe Approach" and "German Bight-Western Approach" (Part B).

Recommended directions of traffic flow are established between the traffic separation scheme "Elbe Approach" and the eastern ends of the traffic separation schemes "Terschelling-German Bight" and "German Bight Western Approach", as shown in the chartlet below.



RECOMMENDED DIRECTIONS OF TRAFFIC FLOW IN THE GERMAN BIGHT

## 2.2 RECOMMENDED ROUTES IN THE FAIR ISLE CHANNEL

Recommended directions of traffic flow are established in the Fair Isle Strait as follows:

- (a) a single recommended route to the North of Fair Isle for use by West-bound traffic; and
- (b) separate recommended routes to the South West of Fair Isle with east bound traffic taking a route North East of North Ronaldsay, and with west bound traffic taking a route to the South West of Fair Isle.

These routes are recommended for use by all ships transiting the area.

Note: See chartlet attached to the areas to be avoided for Shetland, Fair Isle and Orkney Islands.

## 3 RECOMMENDATIONS ON NAVIGATION AROUND THE UNITED KINGDOM COAST

3.1 The following recommendations are made for specific locations around the coast of the United Kingdom:

### .1 In the Pentland Firth

Laden tankers not bound to or from Flotta and Scapa Flow should not transit the Firth against the tide or in restricted visibility or other adverse weather.

### .2 Off the Isles of Scilly

Laden tankers over 10,000 gross tonnage using the traffic separation scheme between Land's End and the Isles of Scilly should keep at least 3 miles to seaward of Wolf Rock, and should not use the scheme in restricted visibility or other adverse weather.

### .3 In the Minches

Except due to stress of weather or any other case of "force majeure", all laden tankers over 10,000 gross tonnage should not pass through the Minches.

### .4 In the North Channel

The present requirements and recommendation as set out in "Ships Routeing" continue to apply. In addition, no laden tanker should use the narrow passage through Rathin Sound.

### .5 Off Smalls and Grassholme Channel

Laden tankers over 10,000 gross tonnage should not use the channel between Grassholme Island and Skomer Island unless moving between the anchorage in St. Bride's Bay and Milford Haven.



.6 In the Needles Channel

Due to tidal problems and apparent movement of the sand banks in this channel, laden tankers over 10,000 gross tonnage should avoid this channel.

.7 In the English Channel and Dover Strait

All ships navigating in this area should have on board the latest edition of Chart 5500 "Mariners Routeing Guide English Channel and Southern North Sea" or other equivalent guides.

.8 In the Firth of Forth

Laden tankers should avoid the area between Bass Rock and the coast.

3.2 Reporting requirements

The following recommendations are associated with the areas set out in paragraph 2.3.1.

Ships intending to use the following routes, when at least 1 hour from the Estimated Time of Arrival (ETA) of entering the route, and on final departure, should report to Coastguard as described below.

<u>Route</u>	<u>Ship Condition</u>	<u>Report to Coastguard</u>	<u>Report On/ VHF Channel</u>
Fair Isle	laden	Shetland	16
Pentland Firth	laden	Pentland	16
The Minches	laden or in ballast	Stornoway	16
Isles of Scilly	laden	Falmouth	16
Dover Strait TSS	<u>ALL SHIPS</u>	Dover or Cap Griz Nez	69
Casquets TSS	<u>ALL SHIPS</u>	Joburg	69

3.3 Format of reports

The reporting should be in accordance with IMO resolution A.648(16) adopted on 19 October 1989 and should include the following:

<u>ALFA</u>	Name and call sign of the ship
<u>BRAVO</u>	Day of month (two figures) and time in hours and minutes (UT(GMT) in four figures)
<u>CHARLIE</u>	Latitude (4 figures + N or S) and Longitude (5 figures + E or W)

<u>DELTA</u>	True bearing (first 3 figures) and distance in nautical miles from identified landmark
<u>ECHO</u>	True course in degrees (3 figures)
<u>FOXTROT</u>	Speed in knots and decimal of knots (3 figures)
<u>GOLF</u>	Last port of call
<u>INDIA</u>	Destination
<u>MIKE</u>	VHF Channels monitored
<u>OSCAR</u>	Deepest draught in metres and centimetres
<u>PAPA</u>	Type and quantity (tonnes) of cargo
<u>QUEBEC</u>	Brief details of damage/deficiency/other limitations.

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ASSEMBLY  
23rd session  
Agenda item 17

A 23/Res.957  
26 February 2004  
Original: ENGLISH

**Resolution A.957(23)**

**Adopted on 5 December 2003  
(Agenda item 17)**

**AMENDED TRAFFIC SEPARATION SCHEME “OFF FINISTERRE”**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.858(20) by which the Assembly, recognizing the need for an expeditious adoption and amendment procedure for traffic separation schemes, routing measures other than traffic separation schemes, including the designation and substitution of archipelagic sea lanes, and ship reporting systems, resolved that all the aforementioned functions should be performed by the Maritime Safety Committee on behalf of the Organization,

RECALLING FURTHER resolution A.767(18) by which it adopted amendments to the traffic separation scheme “Off Finisterre”,

NOTING the urgent need to implement the amendments to the traffic separation scheme “Off Finisterre” proposed by the Government of Spain in order to enhance maritime safety, safety of navigation and protection of the marine environment in the area concerned, and the invitation by the Maritime Safety Committee at its seventy-seventh session to the Assembly to adopt the proposed amendments, subject to the Sub-Committee on Safety of Navigation being satisfied that all the pertinent criteria had been met,

HAVING CONSIDERED the report of the Maritime Safety Committee on its seventy-seventh session and the recommendation of the Sub-Committee on Safety of Navigation at its forty-ninth session,

1. ADOPTS the amendments to the traffic separation scheme “Off Finisterre” set out in the Annex to the present resolution, for implementation at 0000 hours UTC on 1 June 2004, on which date resolution A.767(18) will be revoked;

2. REQUESTS the Secretariat to issue, as soon as possible, a COLREG.2 circular containing the aforementioned traffic separation scheme in its new form, incorporating the initial scheme as amended.

# ANNEX

## AMENDED TRAFFIC SEPARATION SCHEME “OFF FINISTERRE”

### New traffic lanes for ships carrying dangerous or pollutant cargoes in bulk in the traffic separation scheme "Off Finisterre"

Amended traffic separation scheme “Off Finisterre”:

(a) A separation zone is bounded by a line connecting the following geographical positions:

(1)	42° 52'.90 N	009° 44'.00 W	(4)	43° 21'.50 N	009° 37'.70 W
(2)	43° 10'.50 N	009° 44'.00 W	(5)	43° 11'.00 N	009° 45'.20 W
(3)	43° 21'.00 N	009° 36'.40 W	(6)	42° 52'.90 N	009° 45'.70 W

(b) A separation zone is bounded by a line connecting the following geographical positions:

(7)	42° 52'.90 N	009° 49'.40 W	(10)	43° 25'.00 N	009° 47'.00 W
(8)	43° 12'.20 N	009° 49'.40 W	(11)	43° 13'.70 N	009° 54'.80 W
(9)	43° 23'.00 N	009° 41'.90 W	(12)	42° 52'.90 N	009° 54'.80 W

(c) A traffic lane for northbound traffic is established between the separation zones described in paragraphs (a) and (b).

(d) A traffic lane for northbound traffic is established between the separation zones described in paragraphs (b) and (e).

(e) A separation zone at the outside limit of the existing scheme, bounded by lines connecting the following geographical positions:

(13)	42°52'.90 N	009°59'.00 W
(14)	43°14'.70 N	009°59'.00 W
(15)	43°26'.40 N	009°50'.90 W
(16)	43°28'.20 N	009°56'.00 W
(17)	43°16'.45 N	010°04'.25 W
(18)	42°52'.90 N	010°04'.25 W

(f) A traffic separation zone bounded by lines connecting the following geographical positions:

(19)	42°52'.90 N	010°08'.30 W
(20)	43°17'.40 N	010°08'.30 W
(21)	43°29'.30 N	010°00'.00 W
(22)	43°30'.00 N	010°01'.20 W
(23)	43°17'.75 N	010°09'.75 W
(24)	42°52'.90 N	010°09'.75 W

(g) A traffic lane for southbound traffic is established between the separation zones described in paragraphs (e) and (f).

(h) A traffic lane for southbound traffic is established between the traffic separation zone described in paragraph (f) and a line connecting the following geographical positions:

- |      |             |              |
|------|-------------|--------------|
| (25) | 42°52'.90 N | 010°13'.70 W |
| (26) | 43°19'.00 N | 010°13'.70 W |
| (27) | 43°31'.40 N | 010°05'.15 W |

### **Inshore traffic zone**

The area between the landward boundary of the traffic separation scheme and the Spanish coast and lying between a line drawn from position 43° 06'.70 N, 009° 13'.40 W to position (3) 43° 21'.00 N, 009° 36'.40 W (northern limit) and a line drawn from position 42° 52'.90 N, 009° 16'.20 W to position (1) 42° 52'.90 N, 009° 44'.00 W (southern limit) is designated as an inshore traffic zone.

### **Notes:**

- 1 The traffic lane described in paragraph (c) should be used by northbound ships not carrying dangerous cargoes in bulk.
- 2 The traffic lane described in paragraph (d) should be used by northbound ships carrying dangerous cargoes in bulk<sup>1</sup>.
- 3 The traffic lane described in paragraph (g) should be used by southbound ships not carrying dangerous cargoes in bulk.
- 4 The traffic lane described in paragraph (h) should be used by southbound ships carrying dangerous cargoes in bulk.

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<sup>1</sup> Dangerous cargoes in bulk refers to the IMDG Code and Annexes I and II of MARPOL.



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ASSEMBLY  
24th session  
Agenda item 9

A 24/Res.976  
27 January 2006  
Original: ENGLISH

**Resolution A.976(24)**

**Adopted on 1 December 2005  
(Agenda item 9)**

**SHIPS' ROUTEING – ESTABLISHMENT OF AN AREA TO BE AVOIDED IN THE  
GALAPAGOS ARCHIPELAGO**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.858(20) by which the Assembly, recognizing the need for an expeditious adoption and amendment procedure for traffic separation schemes, routeing measures other than traffic separation schemes, including the designation and substitution of archipelagic sea lanes, and ship reporting systems, resolved that all the aforementioned functions shall be performed by the Maritime Safety Committee on behalf of the Organization,

RECALLING FURTHER that the Galapagos Archipelago and its surrounding waters have been declared a national and world heritage site, recognized worldwide for its scientific and cultural importance,

NOTING the urgent necessity and importance of implementing the new Area to be Avoided in the Galapagos Archipelago proposed by the Government of Ecuador in order to enhance maritime safety, safety of navigation and protection of the marine environment in the area concerned, and the invitation by the Maritime Safety Committee at its eightieth session to the Assembly to adopt the proposed new Area to be Avoided, subject to the Sub-Committee on Safety of Navigation being satisfied that all the pertinent criteria had been met,

NOTING ALSO the urgent need to safeguard the unique ecological system in the Galapagos Archipelago,

TAKING INTO ACCOUNT the Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas adopted by resolution A.927(22),

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HAVING NOTED the designation by the Marine Environment Protection Committee, by resolution MEPC.135(53), of the Galapagos Archipelago as a Particularly Sensitive Sea Area (PSSA) including the establishment of an Associated Protective Measure (APM),

HAVING CONSIDERED the report of the Maritime Safety Committee at its eightieth session and the recommendations of the Sub-Committee on Safety of Navigation at its fifty-first session,

1. ADOPTS the new Area to be Avoided in the Galapagos Archipelago, as set out in the annex to the present resolution, for implementation at 0000 hours UTC on 1 July 2006;
2. DECIDES that the ships' routing system adopted in operative paragraph 1 should be considered as the Associated Protective Measure (APM) for the Galapagos Archipelago;
3. REQUESTS the Secretariat to issue, as soon as possible, an SN circular containing the aforementioned Area to be Avoided.



ANNEX

**ESTABLISHMENT OF AN AREA TO BE AVOIDED IN  
THE GALAPAGOS ARCHIPELAGO**

(Reference chart: I.O.A.20 (2nd edition, 1992))

**Note:** This chart is based on World Geodetic System 1984 Datum (WGS-84))

**Description of the Area to be Avoided**

All ships and barges carrying cargoes of oil or potentially hazardous material and all ships of 500 gross tonnage and above in transit should avoid the area bounded by a line connecting the following geographical positions:

(1)	02° 29'.82 N	092° 21'.42 W
(2)	01° 25'.93 N	089° 03'.54 W
(3)	00° 00'.70 S	088° 05'.75 W
(4)	00° 11'.90 S	088° 00'.95 W
(5)	00° 34'.90 S	087° 54'.57 W
(6)	01° 02'.21 S	087° 52'.95 W
(7)	02° 35'.07 S	088° 48'.30 W
(8)	02° 46'.20 S	089° 29'.69 W
(9)	02° 41'.99 S	090° 42'.21 W
(10)	02° 05'.20 S	092° 17'.68 W
(11)	01° 32'.02 S	092° 43'.92 W
(12)	01° 48'.67 N	092° 40'.51 W



ASSEMBLY  
24th session  
Agenda item 9

A 24/Res.977  
27 January 2006  
Original: ENGLISH

**Resolution A.977(24)**

**Adopted on 1 December 2005  
(Agenda item 9)**

**SHIPS' ROUTEING**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO resolution A.858(20) by which the Assembly, recognizing the need for an expeditious adoption and amendment procedure for traffic separation schemes, routing measures other than traffic separation schemes, including the designation and substitution of archipelagic sea lanes, and ship reporting systems, resolved that all the aforementioned functions shall be performed by the Maritime Safety Committee on behalf of the Organization,

NOTING the urgent need to implement the traffic separation schemes In Bornholmsgat and North of Rügen and amendments to the traffic separation schemes Off Gotland Island and South of Gedser; a recommended deep-water route in the eastern Baltic Sea, and new areas to be avoided at Hoburgs Bank and Norra Midsjöbanken proposed by the Governments of Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden in order to enhance maritime safety, safety of navigation and protection of the marine environment in the area concerned, and the invitation by the Maritime Safety Committee at its eightieth session to the Assembly to adopt the routeing systems, subject to the Sub-Committee on Safety of Navigation being satisfied that all the pertinent criteria had been met,

TAKING INTO ACCOUNT the Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas adopted by resolution A.927(22),

HAVING NOTED the designation by the Marine Environment Protection Committee, by resolution MEPC.136(53), of the Baltic Sea Area as a Particularly Sensitive Sea Area (PSSA) including the establishment of Associated Protective Measures (APMs),

HAVING CONSIDERED the report of the Maritime Safety Committee at its eightieth session and the recommendations of the Sub-Committee on Safety of Navigation at its fifty-first session,

1. ADOPTS the proposed traffic separation schemes “In Bornholmsgat” and “North of Rügen” and amendments to the traffic separation schemes “Off Gotland Island” and “South of Gedser”, set out in annex 1 to the present resolution;
2. ADOPTS ALSO the new recommended deep-water route in the eastern Baltic Sea and the new areas to be avoided at Hoburgs Bank and Norra Midsjöbanken, set out in annex 2 to the present resolution;
3. DECIDES that the routeing systems so adopted will be implemented at 0000 hours UTC on 1 July 2006;
4. DECIDES FURTHER that the ships’ routeing systems adopted in operative paragraphs 1 and 2 should be considered as the Associated Protective Measures (APMs) for the Baltic Sea Area;
5. REQUESTS the Secretariat to issue, as soon as possible, the relevant COLREG.2 and SN circulars containing the aforementioned routeing systems.

ANNEX 1

**NEW AND AMENDED TRAFFIC SEPARATION SCHEMES AND ASSOCIATED  
ROUTEING MEASURES IN SW BALTIC SEA**

**NEW TRAFFIC SEPARATION SCHEME “IN BORNHOLMSGAT”**

(Reference chart: German Chart No: 40 (6<sup>th</sup> Edition, 1998)

**Note:** This chart is based on World Geodetic System 1984 Datum (WGS-84))

The new traffic separation scheme (TSS) “In Bornholmsgat” consists of:

- Two traffic lanes 2.7 miles wide in three parts;
- One intermediate traffic separation zone 0.8 miles wide in three parts;
- Two associated inshore traffic zones;
- One precautionary area between the three parts.

The direction of navigation is:

- TSS, main part between Sweden and Bornholm: 038° (T) northeastbound course and 218° (T) southwestbound course; and
- TSS, south-west part: 071° (T) and 038° (T) northeastbound courses and 218° (T) and 251° (T) southwestbound courses; and
- TSS, west part: 093° (T) eastbound course and 273° (T) westbound course.

**Description of the new traffic separation scheme “In Bornholmsgat”**

**Main part:**

(a) A separation zone is bounded by a line connecting the following geographical positions:

- |     |              |               |
|-----|--------------|---------------|
| (1) | 55° 24'.58 N | 014° 37'.35 E |
| (2) | 55° 25'.25 N | 014° 36'.48 E |
| (3) | 55° 12'.53 N | 014° 18'.95 E |
| (4) | 55° 12'.03 N | 014° 20'.04 E |

(b) A traffic lane for eastbound traffic between the separation zone and a line connecting the following geographical positions:

- |     |              |               |
|-----|--------------|---------------|
| (5) | 55° 22'.34 N | 014° 40'.28 E |
| (6) | 55° 10'.37 N | 014° 23'.76 E |

(c) A traffic lane for westbound traffic between the separation zone and a line connecting the following geographical positions:

- |     |              |               |
|-----|--------------|---------------|
| (7) | 55° 27'.55 N | 014° 33'.62 E |
| (8) | 55° 14'.19 N | 014° 15'.22 E |

**South-west part:**

- (d) A separation zone bounded by a line connecting the following geographical positions:

(9)	55° 06'.06 N	014° 11'.90 E
(10)	55° 06'.56 N	014° 10'.80 E
(11)	55° 02'.99 N	014° 05'.97 E
(12)	55° 02'.30 N	014° 02'.42 E
(13)	55° 01'.54 N	014° 02'.88 E
(14)	55° 02'.32 N	014° 06'.81 E

- (e) A traffic lane for eastbound traffic between the separation zone and a line connecting the following geographical positions:

(15)	55° 04'.40 N	014° 15'.60 E
(16)	55° 00'.02 N	014° 09'.65 E
(17)	54° 58'.99 N	014° 04'.40 E

- (f) A traffic lane for westbound traffic between the separation zone and a line connecting the following geographical positions:

(18)	55° 08'.22 N	014° 07'.09 E
(19)	55° 05'.29 N	014° 03'.11 E
(20)	55° 04'.85 N	014° 00'.89 E

**West part:**

- (g) A separation zone bounded by a line connecting the following geographical positions:

(21)	55° 10'.97 N	014° 05'.67 E
(22)	55° 11'.76 N	014° 05'.74 E
(23)	55° 11'.93 N	014° 00'.00 E
(24)	55° 11'.13 N	014° 00'.00 E

- (h) A traffic lane for eastbound traffic between the separation zone and a line connecting the following geographical positions:

(25)	55° 08'.22 N	014° 07'.09 E
(26)	55° 08'.43 N	014° 00'.00 E

- (i) A traffic lane for westbound traffic between the separation zone and a line connecting the following geographical positions:

(27)	55° 14'.46 N	014° 05'.99 E
(28)	55° 14'.63 N	014° 00'.00 E

### Precautionary area

(j) A precautionary area is established by a line connecting the following geographical positions:

(29)	55° 10'.37 N	014° 23'.76 E
(30)	55° 14'.19 N	014° 15'.22 E
(31)	55° 14'.46 N	014° 05'.99 E
(32)	55° 10'.97 N	014° 05'.67 E
(33)	55° 08'.22 N	014° 07'.09 E
(34)	55° 04'.40 N	014° 15'.60 E

### Inshore traffic zone – Sweden

(k) The limits of the inshore traffic zone along the Swedish coastline lie between the following geographical positions:

(35)	55° 23'.18 N	014° 27'.57 E
(36)	55° 28'.41 N	014° 17'.04 E
(37)	55° 23'.20 N	014° 11'.58 E
(38)	55° 14'.19 N	014° 15'.22 E

### Inshore traffic zone – Denmark (Bornholm)

(l) The limits of the inshore traffic zone along the Danish coastline lie between the following geographical positions:

(39)	55° 17'.88 N	014° 46'.42 E
(40)	55° 22'.34 N	014° 40'.28 E
(41)	55° 13'.76 N	014° 28'.42 E
(42)	55° 11'.35 N	014° 42'.14 E

### NEW TRAFFIC SEPARATION SCHEME “NORTH OF RÜGEN”

(Reference chart: German Chart No: 40 (6<sup>th</sup> Edition, 1998)

**Note:** This chart is based on World Geodetic System 1984 Datum (WGS-84))

The new traffic separation scheme (TSS) “North of Rügen” consists of:

- Two traffic lanes 2 miles wide; and
- One intermediate traffic separation zone 1 mile wide

The direction of navigation is:

- TSS south lane: 071° (T) eastbound course towards Bornholmsgat
- TSS north lane: 251° (T) westbound course towards Kadettrennen

### Description of the new traffic separation scheme “North of Rügen”

(a) North traffic separation line connecting the following geographical positions:

(1)	54° 54'.43 N	13° 11'.33 E
(2)	54° 52'.80 N	13° 03'.12 E

(b) A separation zone is bounded by a line connecting the following geographical positions:

- |     |              |              |
|-----|--------------|--------------|
| (3) | 54° 51'.59 N | 13° 13'.03 E |
| (4) | 54° 52'.54 N | 13° 12'.47 E |
| (5) | 54° 50'.91 N | 13° 04'.25 E |
| (6) | 54° 49'.96 N | 13° 04'.82 E |

(c) South traffic separation line connecting the following geographical positions:

- |     |              |              |
|-----|--------------|--------------|
| (7) | 54° 49'.70 N | 13° 14'.16 E |
| (8) | 54° 48'.07 N | 13° 05'.95 E |

(d) A traffic lane for westbound traffic is situated between the separation zone and the North traffic separation line.

(e) A traffic lane for eastbound traffic is situated between the separation zone and the South traffic separation line.

## **AMENDMENT TO THE TRAFFIC SEPARATION SCHEME “OFF GOTLAND ISLAND”**

### **RULE CONCERNING MAXIMUM DRAUGHT**

The following note should be added to the traffic separation scheme “Off Gotland Island”:

#### ***Note:***

The maximum draught in the traffic separation scheme is 12 metres. All ships bound to or from the northeastern Baltic Sea with a draught of more than 12 metres are recommended to use the deep-water route “Off Gotland Island”.

## **AMENDMENT TO THE TRAFFIC SEPARATION SCHEME “SOUTH OF GEDSER”: NEW INSHORE TRAFFIC ZONE**

(Reference chart: German Chart No: 163 (11<sup>th</sup> Edition, 2003)

***Note:*** This chart is based on World Geodetic System 1984 Datum (WGS-84))

The new inshore traffic zone is situated between the TSS “South of Gedser” and the German coast.

### **Description of the new inshore traffic zone “South of Gedser”**

The limits of the inshore traffic zone along the German coastline lie between the following geographical positions:

- |     |              |              |
|-----|--------------|--------------|
| (1) | 54° 28'.41 N | 12° 29'.94 E |
| (2) | 54° 30'.76 N | 12° 17'.53 E |
| (3) | 54° 27'.16 N | 12° 15'.13 E |
| (4) | 54° 23'.33 N | 12° 09'.70 E |
| (5) | 54° 12'.88 N | 12° 09'.70 E |

## ANNEX 2

### DEEP-WATER ROUTE OFF GOTLAND ISLAND

(Reference charts: Swedish Chart Nos.7 and 8 (2001))

**Note:** These charts are based on World Geodetic System 1984 Datum (WGS-84))

#### Description of the deep-water route

A deep-water route is established between the existing TSS “Off Köpu Peninsula” and the proposed TSS “In Bornholmsgat”, and south of Hoburgs Bank and Norra Midsjöbanken situated south of the island of Gotland, and is bounded by a line connecting the following geographical positions:

(1)	59° 05'.85 N	021° 27'.88 E
(2)	58° 59'.78 N	021° 42'.94 E
(3)	58° 12'.54 N	020° 22'.54 E
(4)	57° 58'.27 N	020° 24'.41 E
(5)	57° 22'.16 N	019° 41'.73 E
(6)	57° 18'.89 N	019° 52'.95 E
(7)	56° 22'.64 N	018° 42'.82 E
(8)	56° 17'.23 N	018° 51'.80 E
(9)	56° 00'.30 N	017° 40'.04 E
(10)	55° 53'.85 N	017° 43'.75 E
(11)	55° 39'.32 N	015° 11'.61 E
(12)	55° 35'.18 N	015° 29'.98 E
(13)	55° 27'.55 N	014° 33'.62 E
(14)	55° 22'.34 N	014° 40'.28 E

#### Notes:

- 1 The depths in the deep-water route, bounded by the line connecting positions (3) - (12) and approximately 6 miles wide, are confirmed by detailed hydrographic surveys in accordance with IHO standard S-44 in the Swedish area of responsibility. The depths are nowhere less than 25 metres.
- 2 The areas bounded by the line connecting positions (1) – (4) and (11) - (14) are not yet surveyed in accordance with IHO standard S-44. The survey will be carried out not later than 2008.
- 3 All ships passing east and south of the island of Gotland bound to or from the northeastern part of the Baltic Sea, with a draught exceeding 12 metres, are recommended to use the deep-water route.



**AREAS TO BE AVOIDED IN THE SOUTHERN BALTIC SEA SOUTH OF THE ISLAND OF GOTLAND**

(Reference chart: Swedish chart No.8 (2001))

**Note:** This chart is based on World Geodetic System 1984 Datum (WGS-84))

**Description of the areas to be avoided**

For environmental protection of these sensitive areas, all ships with a gross tonnage of 500 or more should avoid them.

**(a) Hoburgs Bank**

The area bounded by a line connecting the following geographical positions will be designated as an area to be avoided:

(1)	56° 49'.52 N	018° 38'.77 E
(2)	56° 40'.23 N	018° 45'.08 E
(3)	56° 24'.06 N	018° 36'.20 E
(4)	56° 22'.77 N	018° 08'.43 E
(5)	56° 34'.96 N	018° 06'.20 E

**(b) Norra Midsjöbanken**

The area bounded by a line connecting the following geographical positions will be designated as an area to be avoided:

(1)	56° 07'.87 N	017° 38'.41 E
(2)	56° 02'.17 N	017° 13'.17 E
(3)	56° 10'.10 N	017° 13'.68 E
(4)	56° 15'.02 N	017° 25'.61 E

**Note:** All vessels with a gross tonnage of 500 or more should avoid these areas.

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