

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^a, 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 Lightbuoys 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.