## NEW TRAFFIC SEPARATION SCHEMES

1 The Maritime Safety Committee, at its ninety-ninth session (16 to 25 May 2018), adopted, in accordance with the Procedure for the adoption and amendment of traffic separation schemes, routeing measures other than traffic separation schemes, including designation and substitution of archipelagic sea lanes, and ship reporting systems (resolution A.858(20)), new traffic separation schemes and associated measures listed in the annex as follows:
. 1 "In Dangan Channel"; and
. 2 "In the vicinity of Kattegat".
2 Accordingly, the new traffic separation schemes and associated routeing measures listed in:
. 1 subparagraph 1.1 above should be implemented on 1 December 2018; and . 2 subparagraph 1.2 above should be implemented on 1 July 2020.

# ANNEX <br> NEW TRAFFIC SEPARATION SCHEMES AND ASSOCIATED MEASURES <br> "IN THE DANGAN CHANNEL" 

(Reference charts: Chinese charts 83001 and 84001, 2nd edition, 2015.
Note: These charts are based on World Geodetic System 1984 datum (WGS 84).)

## Description of the traffic separation schemes

## Dangan Channel East

(a) A separation zone, 0.5 nautical mile wide, is bounded by a line connecting the following geographical positions:
(1) $22^{\circ} 07^{\prime} .42 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(3) $22^{\circ} 07^{\prime} .21 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(2) $22^{\circ} 07^{\prime} .71 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(4) $22^{\circ} 06^{\prime} .92 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(b) $\quad \mathrm{A}$ separation line connects the following geographical positions:
(5) $22^{\circ} 08^{\prime} .02 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(6) $22^{\circ} 08^{\prime} .31 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(c) A separation line connects the following geographical positions:
(7) $22^{\circ} 06^{\prime} .60 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(8) $22^{\circ} 06^{\prime} .31 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(d) A 0.6 nautical mile wide traffic lane for westbound traffic is established between the separation zone in paragraph (a) and the separation line in paragraph (b). The main traffic direction is $273^{\circ}(\mathrm{T})$.
(e) A 0.6 nautical mile wide traffic lane for eastbound traffic is established between the separation zone in paragraph (a) and the separation line in paragraph (c). The main traffic direction is $093^{\circ}(\mathrm{T})$.

## Dangan Channel West

(f) A separation zone, 0.5 nautical mile wide, is bounded by a line connecting the following geographical positions:
(9) $22^{\circ} 07^{\prime} .90 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(11) $22^{\circ} 07^{\prime} .70 \mathrm{~N}, 114^{\circ} 06^{\prime} .45 \mathrm{E}$
(10) $22^{\circ} 08^{\prime} .20 \mathrm{~N}, 114^{\circ} 06^{\prime} .45 \mathrm{E}$
(12) $22^{\circ} 07^{\prime} .40 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(g) A separation line connects the following geographical positions:
(13) $22^{\circ} 08^{\prime} .51 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(14) $22^{\circ} 08^{\prime} .80 \mathrm{~N}, 114^{\circ} 06^{\prime} .45 \mathrm{E}$
(h) A separation line connects the following geographical positions:
(15) $22^{\circ} 07^{\prime} .09 \mathrm{~N}, 114^{\circ} 06^{\prime} .45 \mathrm{E}$
(16) $22^{\circ} 06^{\prime} .80 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(i) A 0.6 nautical mile wide traffic lane for westbound traffic is established between the separation zone in paragraph (f) and the separation line in paragraph ( g ). The main traffic direction is $273^{\circ}(\mathrm{T})$.
(j) A 0.6 nautical mile wide traffic lane for eastbound traffic is established between the separation zone in paragraph (f) and the separation line in paragraph (h). The main traffic direction is $093^{\circ}(\mathrm{T})$.

## Precautionary area Dangan Channel No. 1

(k) The precautionary area Dangan Channel No. 1 is bounded by a line connecting the following geographical positions:
(18) $22^{\circ} 07^{\prime} .90 \mathrm{~N}, 114^{\circ} 22^{\prime} .70 \mathrm{E}$
(4) $22^{\circ} 06^{\prime} .92 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(5) $22^{\circ} 08^{\prime} .02 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(8) $22^{\circ} 06^{\prime} .31 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(1) $22^{\circ} 07^{\prime} .42 \mathrm{~N}, 114^{\circ} 20^{\prime} .55 \mathrm{E}$
(17) $22^{\circ} 06^{\prime} .19 \mathrm{~N}, 114^{\circ} 22^{\prime} .70 \mathrm{E}$

## Precautionary area Dangan Channel No. 2

(I) The precautionary area Dangan Channel No. 2 is bounded by a line connecting the following geographical positions:
(6) $22^{\circ} 08^{\prime} .31 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(12) $22^{\circ} 07^{\prime} .40 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(19) $22^{\circ} 08^{\prime} .91 \mathrm{~N}, 114^{\circ} 14^{\prime} .16 \mathrm{E}$
(16) $22^{\circ} 06^{\prime} .80 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(20) $22^{\circ} 08^{\prime} .91 \mathrm{~N}, 114^{\circ} 12^{\prime} .04 \mathrm{E}$
(7) $22^{\circ} 06^{\prime} .60 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(13) $22^{\circ} 08^{\prime} .51 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(3) $22^{\circ} 07^{\prime} .21 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(9) $22^{\circ} 07^{\prime} .90 \mathrm{~N}, 114^{\circ} 11^{\prime} .77 \mathrm{E}$
(2) $22^{\circ} 07^{\prime} .71 \mathrm{~N}, 114^{\circ} 15^{\prime} .31 \mathrm{E}$
(m) The light vessel in precautionary area No. 2 is located at the following geographical position:
(21) $22^{\circ} 07^{\prime} .61 \mathrm{~N}, 114^{\circ} 13^{\prime} .54 \mathrm{E}$

Note: Recommended directions of traffic flow ${ }^{1}$ in precautionary area Dangan Channel No. 2 are established.

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## "IN THE VICINITY OF KATTEGAT"

(Reference chart: Danish paper chart No. 100, edition 10, October 2017; Swedish paper chart No. 92, edition 12, March 2015, issued by Hydrographic Offices of Denmark and Sweden.

Note: These charts are based on World Geodetic System 1984 Datum (WGS 84).)

## Description of the traffic separation scheme "Skagen West"

(a) A separation zone is bounded by a line connecting the following geographical positions:
(1) $57^{\circ} 50^{\prime} .47 \mathrm{~N}, 010^{\circ} 33^{\prime} .32 \mathrm{E}$
(3) $57^{\circ} 49^{\prime} .50 \mathrm{~N}, 010^{\circ} 36^{\prime} .66 \mathrm{E}$
(2) $57^{\circ} 50^{\prime} .47 \mathrm{~N}, 010^{\circ} 37^{\prime} .06 \mathrm{E}$
(4) $57^{\circ} 49^{\prime} .50 \mathrm{~N}, 010^{\circ} 32^{\prime} .92 \mathrm{E}$
(b) A separation zone is bounded by a line connecting the following geographical positions:
(5) $57^{\circ} 47^{\prime} .84 \mathrm{~N}, 010^{\circ} 32^{\prime} .24 \mathrm{E}$
(7) $57^{\circ} 47^{\prime} .45 \mathrm{~N}, 010^{\circ} 35^{\prime} .82 \mathrm{E}$
(6) $57^{\circ} 47^{\prime} .84 \mathrm{~N}, 010^{\circ} 35^{\prime} .98 \mathrm{E}$
(8) $57^{\circ} 47^{\prime} .45 \mathrm{~N}, 010^{\circ} 32^{\prime} .08 \mathrm{E}$
(c) A traffic lane for eastbound traffic is established between the separation zones described in paragraphs (a) and (b).
(d) A traffic lane for westbound traffic is established between the separation zone described in paragraph (a) and a line connecting the following geographical positions:
(9) $57^{\circ} 52^{\prime} .13 \mathrm{~N}, 010^{\circ} 34^{\prime} .00 \mathrm{E}$
(10) $57^{\circ} 52^{\prime} .13 \mathrm{~N}, 010^{\circ} 37^{\prime} .74 \mathrm{E}$

## Description of the traffic separation scheme "Skagen East"

(e) A separation zone is bounded by a line connecting the following geographical positions:
(11) $57^{\circ} 48^{\prime} .39 \mathrm{~N}, 010^{\circ} 53^{\prime} .49 \mathrm{E}$
(13) $57^{\circ} 46^{\prime} .58 \mathrm{~N}, 010^{\circ} 55^{\prime} .35 \mathrm{E}$
(12) $57^{\circ} 46^{\prime} .93 \mathrm{~N}, 010^{\circ} 56^{\prime} .03 \mathrm{E}$
(14) $57^{\circ} 48^{\prime} .05 \mathrm{~N}, 010^{\circ} 52^{\prime} .81 \mathrm{E}$
(f) A separation zone is bounded by a line connecting the following geographical positions:
(15) $57^{\circ} 46^{\prime} .70 \mathrm{~N}, 010^{\circ} 50^{\prime} .06 \mathrm{E}$
(18) $57^{\circ} 46^{\prime} .40 \mathrm{~N}, 010^{\circ} 49^{\prime} .30 \mathrm{E}$
(16) $57^{\circ} 45^{\prime} .23 \mathrm{~N}, 010^{\circ} 52^{\prime} .61 \mathrm{E}$
(19) $57^{\circ} 46^{\prime} .72 \mathrm{~N}, 010^{\circ} 49^{\prime} .34 \mathrm{E}$
(17) $57^{\circ} 44^{\prime} .89 \mathrm{~N}, 010^{\circ} 51^{\prime} .93 \mathrm{E}$
(g) A traffic lane for eastbound traffic is established between the separation zones described in paragraphs (e) and (f).
(h) A traffic lane for westbound traffic is established between the separation zone described in paragraph (e) and a line connecting the following geographical positions:
(20) $57^{\circ} 49^{\prime} .75 \mathrm{~N}, 010^{\circ} 56^{\prime} .23 \mathrm{E}$
(21) $57^{\circ} 48^{\prime} .29 \mathrm{~N}, 010^{\circ} 58^{\prime} .77 \mathrm{E}$

## Description of the inshore traffic zone "at Skagen"

(i) The area bounded by a line connecting the following geographical positions is designated as an inshore traffic zone:
(27) $57^{\circ} 44^{\prime} .06 \mathrm{~N}, 010^{\circ} 32^{\prime} .08 \mathrm{E}$
(23) $57^{\circ} 47^{\prime} .64 \mathrm{~N}, 010^{\circ} 44^{\prime} .10 \mathrm{E}$
(8) $57^{\circ} 47^{\prime} .45 \mathrm{~N}, 010^{\circ} 32^{\prime} .08 \mathrm{E}$
(24) $57^{\circ} 46^{\prime} .83 \mathrm{~N}, 010^{\circ} 45^{\prime} .50 \mathrm{E}$
(7) $57^{\circ} 47^{\prime} .45 \mathrm{~N}, 010^{\circ} 35^{\prime} .82 \mathrm{E}$
(25) $57^{\circ} 42^{\prime} .24 \mathrm{~N}, 010^{\circ} 44^{\prime} .92 \mathrm{E}$
(22) $57^{\circ} 47^{\prime} .66 \mathrm{~N}, 010^{\circ} 35^{\prime} .90 \mathrm{E}$
(26) $57^{\circ} 42^{\prime} .23 \mathrm{~N}, 010^{\circ} 33^{\prime} .11 \mathrm{E}$

## Description of the precautionary area "off Skagen"

(j) A precautionary area is established by a line connecting the following geographical positions:
(10) $57^{\circ} 52^{\prime} .13 \mathrm{~N}, 010^{\circ} 37^{\prime} .74 \mathrm{E}$
(24) $57^{\circ} 46^{\prime} .83 \mathrm{~N}, 010^{\circ} 45^{\prime} .50 \mathrm{E}$
(28) $57^{\circ} 52^{\prime} .13 \mathrm{~N}, 010^{\circ} 52^{\prime} .07 \mathrm{E}$
(23) $57^{\circ} 47^{\prime} .64 \mathrm{~N}, 010^{\circ} 44^{\prime} .10 \mathrm{E}$
(20) $57^{\circ} 49^{\prime} .75 \mathrm{~N}, 010^{\circ} 56^{\prime} .23 \mathrm{E}$
(22) $57^{\circ} 47^{\prime} .66 \mathrm{~N}, 010^{\circ} 35^{\prime} .90 \mathrm{E}$
(15) $57^{\circ} 46^{\prime} .70 \mathrm{~N}, 010^{\circ} 50^{\prime} .06 \mathrm{E}$

## Description of the traffic separation scheme "Fladen"

(k) A separation zone is bounded by a line connecting the following geographical positions:
(29) $57^{\circ} 14^{\prime} .68 \mathrm{~N}, 011^{\circ} 51^{\prime} .37 \mathrm{E}$
(32) $57^{\circ} 13^{\prime} .05 \mathrm{~N}, 011^{\circ} 53^{\prime} .11 \mathrm{E}$
(30) $57^{\circ} 13^{\prime} .81 \mathrm{~N}, 011^{\circ} 52^{\prime} .85 \mathrm{E}$
(33) $57^{\circ} 13^{\prime} .66 \mathrm{~N}, 011^{\circ} 52^{\prime} .56 \mathrm{E}$
(31) $57^{\circ} 13^{\prime} .12 \mathrm{~N}, 011^{\circ} 53^{\prime} .49 \mathrm{E}$
(34) $57^{\circ} 14^{\prime} .53 \mathrm{~N}, 011^{\circ} 51^{\prime} .08 \mathrm{E}$
(I) A traffic lane for southbound traffic is established between the separation zone described in paragraph ( $k$ ) and a line connecting the following geographical positions:
(35) $57^{\circ} 13^{\prime} .80 \mathrm{~N}, 011^{\circ} 49^{\prime} .62 \mathrm{E}$
(37) $57^{\circ} 12^{\prime} .72 \mathrm{~N}, 011^{\circ} 51^{\prime} .22 \mathrm{E}$
(36) $57^{\circ} 12^{\prime} .93 \mathrm{~N}, 011^{\circ} 51^{\prime} .10 \mathrm{E}$
(m) A traffic lane for northbound traffic is established between the separation zone described in paragraph $(k)$ and a line connecting the following geographical positions:
(38) $57^{\circ} 15^{\prime} .41 \mathrm{~N}, 011^{\circ} 52^{\prime} .83 \mathrm{E}$
(40) $57^{\circ} 13^{\prime} .47 \mathrm{~N}, 011^{\circ} 55^{\prime} .37 \mathrm{E}$
(39) $57^{\circ} 14^{\prime} .54 \mathrm{~N}, 011^{\circ} 54^{\prime} .31 \mathrm{E}$

## Description of the traffic separation scheme "Lilla Middelgrund"

(n) A separation zone is bounded by a line connecting the following geographical positions:
(41) $56^{\circ} 56^{\prime} .40 \mathrm{~N}, 012^{\circ} 04^{\prime} .49 \mathrm{E}$
(43) $56^{\circ} 55^{\prime} .04 \mathrm{~N}, 012^{\circ} 03^{\prime} .99 \mathrm{E}$
(42) $56^{\circ} 55^{\prime} .27 \mathrm{~N}, 012^{\circ} 05^{\prime} .20 \mathrm{E}$
(44) $56^{\circ} 56^{\prime} .17 \mathrm{~N}, 012^{\circ} 03^{\prime} .28 \mathrm{E}$
(o) A traffic lane for southbound traffic is established between the separation zone described in paragraph ( $n$ ) and a line connecting the following geographical positions:
(45) $56^{\circ} 55^{\prime} .73 \mathrm{~N}, 012^{\circ} 01^{\prime} .01 \mathrm{E}$
(46) $56^{\circ} 54^{\prime} .61 \mathrm{~N}, 012^{\circ} 01^{\prime} .72 \mathrm{E}$
(p) A traffic lane for northbound traffic is established between the separation zone described in paragraph ( $n$ ) and a line connecting the following geographical positions:
(47) $56^{\circ} 56^{\prime} .83 \mathrm{~N}, 012^{\circ} 06^{\prime} .77 \mathrm{E}$
(48) $56^{\circ} 55^{\prime} .71 \mathrm{~N}, 012^{\circ} 07^{\prime} .45 \mathrm{E}$

## Description of the traffic separation scheme "Entrance to the Sound"

(q) $\quad \mathrm{A}$ separation zone is bounded by a line connecting the following geographical positions:
(49) $56^{\circ} 10^{\prime} .92 \mathrm{~N}, 012^{\circ} 24^{\prime} .95 \mathrm{E}$
(51) $56^{\circ} 09^{\prime} .19 \mathrm{~N}, 012^{\circ} 27^{\prime} .23 \mathrm{E}$
(50) $56^{\circ} 09^{\prime} .33 \mathrm{~N}, 012^{\circ} 27^{\prime} .46 \mathrm{E}$
(52) $56^{\circ} 10^{\prime} .16 \mathrm{~N}, 012^{\circ} 25^{\prime} .23 \mathrm{E}$
(r) A separation zone is bounded by a line connecting the following geographical positions:
(53) $56^{\circ} 09^{\prime} .93 \mathrm{~N}, 012^{\circ} 23^{\prime} .20 \mathrm{E}$
(55) $56^{\circ} 08^{\prime} .40 \mathrm{~N}, 012^{\circ} 25^{\prime} .86 \mathrm{E}$
(54) $56^{\circ} 08^{\prime} .54 \mathrm{~N}, 012^{\circ} 26^{\prime} .11 \mathrm{E}$
(56) $56^{\circ} 09^{\prime} .78 \mathrm{~N}, 012^{\circ} 22^{\prime} .94 \mathrm{E}$
(s) A separation zone is bounded by a line connecting the following geographical positions:
(57) $56^{\circ} 11^{\prime} .38 \mathrm{~N}, 012^{\circ} 27^{\prime} .73 \mathrm{E}$
(60) $56^{\circ} 09^{\prime} .99 \mathrm{~N}, 012^{\circ} 28^{\prime} .58 \mathrm{E}$
(58) $56^{\circ} 10^{\prime} .61 \mathrm{~N}, 012^{\circ} 28^{\prime} .09 \mathrm{E}$
(61) $56^{\circ} 10^{\prime} .50 \mathrm{~N}, 012^{\circ} 27^{\prime} .77 \mathrm{E}$
(59) $56^{\circ} 10^{\prime} .13 \mathrm{~N}, 012^{\circ} 28^{\prime} .82 \mathrm{E}$
(62) $56^{\circ} 11^{\prime} .32 \mathrm{~N}, 012^{\circ} 27^{\prime} .39 \mathrm{E}$
( t ) A traffic lane for southbound traffic is established between the separation zones described in paragraphs (q) and (r).
(u) A traffic lane for northbound traffic is established between the separation zones described in paragraphs (q) and (s).

## Description of the inshore traffic zone "Entrance to the Sound West"

(v) The area bounded by a line connecting the following geographical positions is designated as an inshore traffic zone:
(63) $56^{\circ} 07^{\prime} .71 \mathrm{~N}, 012^{\circ} 16^{\prime} .76 \mathrm{E}$
(55) $56^{\circ} 08^{\prime} .40 \mathrm{~N}, 012^{\circ} 25^{\prime} .86 \mathrm{E}$
(56) $56^{\circ} 09^{\prime} .78 \mathrm{~N}, 012^{\circ} 22^{\prime} .94 \mathrm{E}$
(64) $56^{\circ} 06^{\prime} .38 \mathrm{~N}, 012^{\circ} 22^{\prime} .38 \mathrm{E}$

## Description of the inshore traffic zone "Entrance to the Sound East"

(w) The area bounded by a line connecting the following geographical positions is designated as an inshore traffic zone:
(66) $56^{\circ} 11^{\prime} .67 \mathrm{~N}, 012^{\circ} 33^{\prime} .26 \mathrm{E}$
(57) $56^{\circ} 11^{\prime} .38 \mathrm{~N}, 012^{\circ} 27^{\prime} .73 \mathrm{E}$
(59) $56^{\circ} 10^{\prime} .13 \mathrm{~N}, 012^{\circ} 28^{\prime} .82 \mathrm{E}$
(65) $56^{\circ} 13^{\prime} .67 \mathrm{~N}, 012^{\circ} 32^{\prime} .29 \mathrm{E}$
(58) $56^{\circ} 10^{\prime} .61 \mathrm{~N}, 012^{\circ} 28^{\prime} .09 \mathrm{E}$


[^0]:    1 See SN.1/Circ.336, paragraph 1.2 and annex 2.

