

CHAPTER 18

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CHAPTER 18

SERVICES FOR SEA TRANSPORT

18.1 Introduction

18.1.1 This market covers all services for commercial shipping for ships at sea, shipping and ferry companies, ports and harbour authorities, the relevant governmental organizations including the Coastguard (HMCG) and the Marine Safety (MSA) Agencies of the DTp. It includes also, the travelling public where services are specifically directed at them as sea travellers but not leisure sailing, yachting marinas, etc. which are covered in chapter 13. The sea-fishing industry is now also considered part of this sector. Certain services for the sea-fishing industry are discussed in this chapter including those provided through HMCG. The Marinecall premium-rate telephone service is discussed in chapter 13.

18.1.2 A major part of the provision of services for sea transport generally lies within the area of the Public Meteorological Service (Annex A to chapter 1). This includes gale and storm warnings, forecasts for coastal sea areas and the North Atlantic. These services are provided under the United Kingdom commitment to the International Convention for Safety Of Life At Sea (SOLAS) 1974, which include a provision for the supply of observations from the ships of the United Kingdom VOF which form a crucial part of the global database, upon which all numerical forecasting and the services derived from it depend, as do marine climatological services. Funding for these services is provided by the MSA.

18.1.3 The major responsibility for the provision of forecast and warning services, including the free elements outlined above, rests with CFO at Bracknell. The shipping forecaster prepares daily several routine bulletins and issues gale and storm warnings as necessary. A Master Mariner from S&B (Ship Routeing Department) is normally on duty in CFO or on call. A small Sea Ice Unit is also collocated in CFO. The Storm Tide Warning Service provides warnings of significant reductions of tidal levels in the southern North Sea and Strait of Dover.

18.1.4 The primary area of responsibility for CFO covers the North Atlantic between 35° N and 71° N, and from 40° W to the continental coast of Europe. To facilitate routine issues, the coastal sea areas are defined as shown in Annex A; and specific areas of the North Atlantic with key geographical locations acceptable for use in the bulletins are shown in Annex B. Certain non-routine services (e.g. METROUTE) extend to seas outside the primary area of responsibility.

18.1.5 Gale warnings for the coastal sea areas are originated by CFO; procedures are detailed in section 18.2.

18.1.6 Routine bulletins for shipping are also prepared by CFO. Coastal sea area bulletins are issued four times per day as described in section 18.3. North Atlantic Bulletins are issued twice daily and are described in section 18.4.

18.1.7 Special routine bulletins are also prepared for shipping in inshore waters of the United Kingdom within 12 miles of the coast. Responsibility for issue is shared between CFO and M Met O Belfast and procedures are detailed in section 18.5.

18.1.8 Weather charts for use at sea are broadcast by radio facsimile; brief details are given in section 18.6.

18.1.9 To supplement the above routine broadcasts, throughout the 24 hours, CFO will answer enquiries by telephone or radio-telephone (R/T) seeking meteorological information in relation to commercial shipping within its primary area of responsibility (paragraph 18.1.4) and also in the Mediterranean. Enquiries should be directed to the shipping forecaster in CFO by telephone or telex 849801 (WEABKA G). No charge is made for the latest available forecast, but a normal R/T link or other transmission charge is levied by BTI. Any requests received at PS offices from commercial ships at sea, or shipping companies seeking actual weather reports or extracts from the coastal sea area bulletins should be met locally if the information is readily available. Requests for special forecasts should be referred to CFO.

18.1.10 The services described in paragraphs 18.1.5 and 18.1.6 are designed to meet the general needs of the shipping and fishing industries, chiefly through the broadcasting of routine bulletins. Additional requirements can be met by means of special repayment services which are available by prior arrangement. See also sections 18.7 (ship routeing), 18.8 (tanker lightening) and 18.9 (North Sea fishing fleet forecasts).

18.1.11 The services provided by Port Meteorological Officers, the supply of charts for port authorities and outward-bound ships, and arrangements for the supply of forecasts in connection with cargo handling and other operations in and near ports are all dealt with in section 18.10.

18.1.12 All climatological enquiries concerning marine matters including those from this sector should be referred to the Marine Advisory Service of the Marine Consultancy Group (S&B).

18.1.13 An Office brochure entitled *Weather Services for Shipping* has been prepared to describe marine meteorological services from the user's point of view. This is updated regularly and copies may be obtained free from Met O(OM) and Port Meteorological Offices.

18.1.14 In order that bulletins described in paragraphs 18.1.6 and 18.1.7 are concise for broadcasting by radio, the forecasts, warnings and weather reports are given in a standard format and the words 'wind', 'weather', 'visibility', 'hours' and 'millibars' are omitted from the text.

18.1.15 Visibility in coastal reports and associated marine forecasts. Visibilities quoted in coastal reports will be expressed in units of nautical miles (or metres for visibilities of less than one nautical mile). In forecasting terminology, 'fog' will imply a visibility of less than 1000 metres, 'poor' will imply a visual range of between 1000 metres and 2 nautical miles, 'moderate' is defined as 2 to 5 nautical miles and 'good' as above 5 nautical miles.

18.2 Gale warnings

18.2.1 Criteria for issue Whenever mean winds are expected of the strength and on time-scales below in any of the sea areas shown in Annex A, warnings should be issued as follows:

a. Speed

Warning criteria (knots)

	<u>Mean</u>	<u>Gusts</u>
Gale Force 8	34-40	43-51
Severe Gale Force 9	41-47	52-60
Storm Force 10	48-55	61-68
Violent Storm Force 11	56-63	69 or more
Hurricane Force 12	64 or more	

Note that the highest force on the Beaufort scale is hurricane Force 12. The word 'hurricane' must always be used in conjunction with the word 'force' unless a true tropical cyclone is involved. The words 'gale force' etc. are always included before the numerical value of the force.

b. Timing Warnings are issued on the following time-scale:

- (1) Imminent Gales etc. expected within 6 hours of the time of issue.
- (2) Soon Gales etc. expected between 6 and 12 hours of the time of issue.
- (3) Later Gales etc. expected 12 hours or more after time of issue (normally 'later' does not extend beyond 24 hours unless confidence warrants it).

c. Continuous A gale warning is self-cancelling unless it is specifically reissued within 24 hours of the time of issue, or cancelled.

d. Amendment A gale warning should be amended if any of the following criteria apply:

- (1) The direction changes (or is expected to) by 45° or more.
- (2) The force changes by 1 or more (increase or decrease).
- (3) The time of expectation is different from that originally predicted, e.g. 'soon' rather than 'later'.

e. Cancellation Cancellations should be issued whenever winds have decreased to below limits or winds are not now expected, but if the winds are likely to increase to the limits on the scale of 'soon' or 'later' then the cancellation requires an addition that this is expected.

18.2.2 Format The date and time of issue **must** be included in all texts. The terms 'imminent', 'soon' or 'later' must be included in the text of **all** warnings.

For example:

Gale warning issued Thursday 8 January, 0150 GMT Lundy: Southerly gale Force 8 imminent. Shannon, Fastnet: Southerly gale Force 8 veering and increasing to south-westerly severe gale Force 9 soon. Southeast Iceland: Southerly gale Force 8 later.'

18.2.3 Gale warnings for coastal sea areas CFO will issue gale warnings as necessary for any of the coastal sea areas shown on the map at Annex A. These will be sent direct to BTI coastal radio stations and to the BBC for broadcast as described in paragraphs 18.2.6 and 18.2.7. All warnings issued are broadcast to outstations on MCC A and are also put on the Prestel database by Videotex staff.

18.2.4 Storm warnings for the North Atlantic CFO also originates storm (but not gale) warnings for the North Atlantic shown in Annex B; these are sent to Portisheadradio for broadcast by wireless-telegraphy (W/T) (see also section 18.4).

18.2.5 Responsibilities of outstations Forecasts issued by, or with the approval of, M Met Os for site-specific or clearly defined limited-area customer activities need not incorporate CFO gale warnings if it is clear that the warning does not apply to that part of the sea area. This applies only when well-defined wind variations are expected across the sea area; decisions must NOT be based on differences of meteorological interpretation. In these cases the text of the warning should be communicated to the recipient with an indication that it does not apply to his locality. For more general forecasts for shipping the CFO gale warnings are MANDATORY.

18.2.6 Broadcast by coastal radio stations Gale warnings are broadcast by W/T and R/T from BTI and Irish coastal radio stations as indicated in Annex C to this chapter. The R/T transmissions are broadcast first at conversation speed, then repeated at dictation speed. The warnings are also included in bulletins for shipping (see section 18.3).

18.2.7 Broadcast by BBC Radio Gale warnings for all the coastal sea areas, including Trafalgar, are broadcast on BBC Radio 4 at the first programme junction after receipt; if this junction does not coincide with a news bulletin. The warning is also repeated after the next news bulletin. Gale warning summaries are also included in all bulletins for shipping (see section 18.3).

18.3 Coastal sea area bulletins

18.3.1 General arrangements These bulletins are often referred to as 'BBC shipping forecasts'. Shipping forecasts are prepared in CFO four times daily for the sea areas shown in Annex A. All of these forecasts are broadcast on BBC Radio 4 (see paragraph 18.3.3), but two of them are also broadcast by BTI coastal radio stations (see paragraph 18.3.4). Forecasts are also transmitted on MCCA as soon as possible after issue. The period of all bulletins is 24 hours from the time of broadcast by the BBC. The transmission time is 5 minutes and the maximum length of a bulletin is 350 words (excluding coastal station reports), but the 0030 LCT broadcast which includes sea area Trafalgar can be extended beyond this limit (by agreement with the BBC an extra 1 minute of transmission time is permissible).

18.3.2 Contents of bulletins The contents follow each other in strict order: standard preamble, gale warning summary, general synopsis, sea area forecasts and coastal station reports. These are discussed in the following paragraphs.

18.3.2.1 Standard preamble This consists of the statement 'and now the Shipping Forecast issued by the Meteorological Office at' followed by the time and date of issue.

18.3.2.2 Gale warning summary This includes all gale warnings in force at the time of broadcast and lists the sea areas concerned in strict order. If there are no gale warnings in force, this section is omitted. In stormy situations many sea areas will have warnings in operation; in these cases the list is replaced by the statement 'there are warnings of gales in all sea areas except ...' (a maximum of 4 names is permitted).

18.3.2.3 General synopsis This is a statement of the positions and central pressures of depressions and anticyclones, and when possible also gives the location of troughs, on the last major 6-hourly analysis which have, or will have, a bearing on the weather over the sea areas during the next 24 hours. Expected 24-hour movements should be given when relevant. Positions should be given by reference to the sea areas themselves or to well-known geographical locations of relevance to mariners, e.g. Scillies.

18.3.2.4 Sea area forecasts Following the preamble 'and now the area forecasts for the next 24 hours', forecasts for the sea areas are given in a fixed order (determined by the Marine Branch in consultation with the main commercial users):

Viking, North Utsire, South Utsire, Forties, Cromarty, Forth, Tyne, Dogger, Fisher, German Bight, Humber, Thames, Dover, Wight, Portland, Plymouth, Biscay, (Trafalgar)*, Finisterre, Sole, Lundy, Fastnet, Irish Sea, Shannon, Rockall, Malin, Hebrides, (Minches)*, Bailey, Fair Isle, Faeroes, South-east Iceland.

* Not always included, see paragraph 18.3.2.7.

Adjoining areas may be grouped together but no other grouping is permitted. The elements of the forecast comprise wind, weather, visibility and superstructure icing and given in that order:

- a. Wind The wind direction (8-point compass) is followed by the appropriate Beaufort Force (with the appropriate qualifying terms of gale for winds of Force 8 or more). The words 'wind' or 'Force' are not used except in the case of Force 12 where 'Force' should always follow the word 'hurricane' unless a true tropical storm is involved. The forecast must agree with gale warnings in operation. The terms 'imminent', 'soon' and 'later' may be used (see paragraph 18.2.1 for definition).
- b. Weather Weather likely to create danger must be mentioned using a maximum of 5 words. The word 'fair' may be used. The word 'weather' is omitted.
- c. Visibility Visibility is expressed qualitatively with a maximum of 5 words: the word 'visibility' is not used. The terms which are permitted are the following:

Good	Over 5 n mile
Moderate	2 to 5 n mile
Poor	1000 m to 2 n mile
Fog	Below 1000 m

Fog can cause difficulty, as it might be applicable to both weather and visibility. The cardinal rule is to avoid repetition.

- d. Superstructure icing The criteria used by CFO to forecast such icing was changed at the start of the 1988/89 winter in consultation with (OM) in order to provide more realistic forecasts. Icing is dangerous since it may result in loss of stability and lead to ship capsizing. The forecasting of superstructure icing must be considered in any sea area whenever air temperatures are expected to be below 0 °C and sea surface temperatures $\leq +7$ °C (see *Journal of Climate and Applied Meteorology*, 1986, Vol. 25, pp. 1793-1806). The terms used are light, moderate or severe. 'Nil' is not used.

18.3.2.5 Coastal station reports These are prepared by the Data Monitoring and Quality Control (DMQC) unit in ITO. The most recent reports are given for stations in the following order:

Tiree, Stornoway, Sumburgh, Fife Ness, Bridlington, Dover, Greenwich Light Vessel Automatic, Jersey, Channel Light Vessel automatic, Scilly Automatic, Valentia, Ronaldsway, Malin Head.

This order also is fixed by Met O(OM) in consultation with the industry. The broadcast of these reports by BBC Radio 4 will be curtailed if the main part of the coastal sea area bulletin is too long.

18.3.2.6 The elements are given in fixed order:

- a. Wind The direction (32-point compass) is followed by the Beaufort Force (the word 'Force' and descriptive terms are not used).
- b. Present weather This includes the intensity and continuity of the element.
- c. Visibility This is expressed in nautical miles or metres (the word 'nautical' is not used).

- d. Pressure The value to the nearest millibar is given (the word 'millibar' is not given).
- e. Barometric characteristic This is given using the descriptive terms of the pressure tendency code. When the characteristic is 2, 3, 7 or 8 the amount of the tendency may be used to qualify the characteristic as follows:

Slowly	0.1–1.5 mb
Rising/falling	1.6–6.0 mb
Quickly	3.6–6.0 mb
Very rapidly	More than 6.0 mb

18.3.2.7 Additional information in certain bulletins Trafalgar is included in all 0033 LCT issues but in no others.

18.3.3 Broadcast of coastal sea area bulletins by BBC Radio 4

The bulletins are broadcast daily at 0033*, 0555, 1355 and 1750 LCT the year round. *There is a plan by the BBC to retime this at 0045 from 3 October 1995.

18.3.4 Broadcast of coastal sea area bulletins by BTI coastal radio station

A selection of the coastal sea area forecasts is broadcast by wireless telegraphy (W/T) and R/T transmissions twice daily from coastal radio stations as listed in Annex C. R/T transmissions are made first at conversation speed, then repeated at dictation speed. The times of W/T and R/T broadcast are as shown:

0555 BBC broadcast during period 0703–0848 GMT
1750 BBC broadcast during period 1903–2048 GMT

and in view of the time delay of broadcast by the coastal radio station the shipping forecaster in CFO may include amendments in the light of more recent information.

18.3.5 Broadcast of coastal sea area bulletins by NAVTEX The coastal radio stations Cullercoatsradio, Nitonradio and Portpatrickradio, have an additional international responsibility for broadcasting to shipping by NAVTEX (a navigational telex service broadcast for safety messages at a frequency of 518 kHz), weather and navigational warnings and information for many of the coastal sea areas. For further details see Annex D to this chapter.

18.4 North Atlantic weather bulletin and storm warning service

18.4.1 General arrangements North Atlantic weather bulletins for shipping covering the areas shown in Annex B to this chapter are broadcast twice daily at 0930 and 2130 GMT by W/T from the British Telecom radio station at Portishead. The bulletins which include a storm warning service are in four parts as follows:

- Part 1 Storm warnings.
- Part 2 General synopsis of weather conditions.
- Part 3 Area forecasts.

The bulletins provide forecasts for 24 hours ahead from the time of issue. Positions may be written either in degrees of latitude and longitude or with reference to a well-known geographical location (see Annex B). Note that in these bulletins the words 'stop' and 'comma' are used in place of these symbols and that 'GMT' is used instead of 'Z'.

18.4.1.1 Part 1 — Storm warnings Storm warnings for the North Atlantic Bulletin are issued whenever winds of storm Force 10 or more are expected during the next 24 hours in any of the areas shown in Annex B. The words 'storm Force', 'violent Force' or 'hurricane Force' are used to preface the force numbers; note that the word 'hurricane' is only used in association with a true tropical cyclone. When there are no storms expected, the phrase 'no storms' is the correct entry for Part 1.

18.4.1.2 Storm warnings may be issued separately from Part 1 and at any time, but the broadcast of them by Portishead coastal radio station is limited to the following times:

0130, 0530, 0730, 1130, 1330 and 1730 GMT.

18.4.1.3 Format Storm warning messages should contain information, in the following order, on the position, central pressure, movement and development of the disturbance causing the storm as well as information on the extent and intensity of the storm force winds.

18.4.1.4 Amendments of storm warnings These are permitted and are made by issuing a new warning for broadcast at a time listed in paragraph 18.4.1.2. If the amended warning is markedly different from the earlier warning then it is desirable to introduce the amended warning with the phrase 'Latest information now indicates that at ...'.

18.4.1.5 Cancellation of storm warnings Cancellation of storm warnings for the North Atlantic Bulletin area is not possible (except of course for the coastal sea areas of Biscay, Trafalgar, Finisterre and Sole).

18.4.2 Part 2 — General synopsis The general synopsis is a brief statement of the major pressure systems expected to affect conditions within the bulletin area during the 24 hours following the last major analysis time, i.e. 0000 or 1200 GMT. The feature associated with a storm warning is repeated as the first item. Information is included on positions, central pressures and developments. Positions are often related to well-known geographical locations since they are less likely to be seriously garbled by W/T interference than are latitude/longitude positions. Weather-ship stations should no longer be referred to.

18.4.3 Part 3 — Area forecasts Forecasts cover the period up to 24 hours ahead from the time of issue and are written for the following areas which are fixed in the order:

Biscay, Trafalgar, Finisterre, Sole, East Northern Section, West Northern Section, East Central Section, West Central Section, East Southern Section, West Southern Section, Norwegian Sea and Denmark Strait.

Areas are grouped when convenient providing the fixed order is maintained.

18.4.3.1 Format and content The area forecasts include in strict order the expected wind direction and force, weather, visibility and superstructure icing but the words 'wind', 'weather' and 'visibility' are omitted. The same terminology for wind, weather, visibility and icing is used as described for the coastal sea area forecast bulletin described in paragraph 18.3.2.4.

18.4.3.2 Norwegian Sea and Denmark Strait forecasts include only wind, and when air temperatures are below 0 °C, the air temperature and associated superstructure icing. Temperatures are preceded by the word 'temperature' and then 'MS' (to denote negative). Ranges of temperature of up to 3 °C are permitted. Icing is given on the scale, light, moderate or severe (see *Journal of Climate and Applied Meteorology*, 1986, Vol. 25, pp. 1793–1806).

18.5 Forecasts for inshore waters

18.5.1 For inshore waters of the United Kingdom (i.e. England, Wales, Scotland and Northern Ireland) up to 12 miles from the coast, forecasts of wind, weather and visibility are broadcast by BBC Radio 4. There are two broadcasts which are both prepared by CFO:

BBC Radio 4 — There are plans (September 1995) to retime this broadcast at 0050 LCT from 3 October 1995 with the rescheduling of the Shipping Forecast (see para. 18.3.3.).

BBC Radio 3 — There are plans by the BBC to remove this broadcast from their schedules due to changes in Radio 3 from 9 October 1995.

The forecasts are transmitted also on MCCB for offices concerned with the issue of strong winds for small-boat users. The forecasts cover the period up to 1800 LCT tomorrow. A maximum of 300 words is permitted.

18.5.2 The elements of the forecast follow the procedures detailed in paragraph 18.3.2.4 for the coastal sea areas. Forecasts are divided into stretches of inshore waters by reference to well-known points and headlands, e.g. from Berwick-on-Tweed to Flamborough Head. Forecasts provide information for areas starting clockwise from Berwick-on-Tweed, incorporating the coast of Northern Ireland from Lough Foyle to Carlingford Lough after Mull of Galloway.

18.5.3 The night-time bulletin prepared by CFO is completed by inclusion of reports from the following coastal stations in this order:

Boulmer, Bridlington, Walton-on-the-Naze, St. Catherine's Point, Scilly Automatic, Mumbles, Valley, Liverpool (Crosby), Ronaldsway, Killough, Larne, Machrihanish, Greenock, Benbecula automatic, Stornoway, Lerwick, Wick automatic, Aberdeen and Leuchars.

Reports are compiled by DMQC staff in ITO in the same style as those described in section 18.3 and sent to CFO for checking, except for the stations Ronaldsway to Corsewall Point which are prepared by M Met O Belfast and incorporated by ITO after the CFO check. The reports are then sent to the BBC by ITO. No coastal stations list is broadcast with the daytime forecasts.

18.6 Radio facsimile broadcasts

18.6.1 A number of weather charts originated by CFO are transmitted by radio facsimile for use by ships at sea. In addition to the normal surface pressure charts, sea-ice and sea surface temperature charts, wave and swell charts, are broadcast. Details of these broadcasts are contained in the publication *Admiralty List of Radio Signals*, Volume 3. Similar radio facsimile broadcasts of weather information are originated by many countries under WMO arrangements; details of transmissions may be obtained from ITO or found in *Admiralty List of Radio Signals*, Volume 3.

18.7 Ship-routeing and other repayment services for shipping provided by Bracknell

18.7.1 A ship-routeing service (METROUTE) is available from Bracknell for shipping, including vessels or structures under tow. The object of the service is to enable vessels or tows to reach their destination by the most economic route commensurate with the avoidance of damage to the ship, cargo or structure under tow. The service comes under the control of (CP) which provides a Master Mariner on duty in CFO or on call throughout the 24 hours. METROUTE brochures are available from (OM), the MSM Sea Transport (S&B) and Port Meteorological Offices.

18.7.2 Applications for this service should be made in writing to the Marine Superintendent at Headquarters or to telex 849801, fax or by telephone to the METROUTE duty officer located in CFO. On receipt of an application, METROUTE will contact the enquirer as soon as possible to discuss general arrangements for his ship or towing operations, to obtain technical details and to agree telecommunications to be used for the service. The charge will be notified at the same time.

18.7.3 Regular advisory messages will be sent by the duty officer to the Masters of all ships taking the service in the light of wind and wave forecasts provided by CFO staff and sea-ice information from the Sea Ice Unit in CFO.

18.7.4 Special forecasts for shipping where the need is not covered by routine broadcast information may be obtained on repayment on application to the METROUTE team by letter, to telex 849801 or by telephone or fax. Charges will be made according to the amount of information required.

18.8 Tanker lightening and other repayment services for shipping provided by Aberdeen WC

18.8.1 Very large oil tankers (more than 200,000 tons) sometimes offload some of their cargo at sea into smaller tankers (70,000 tons or so). The tanker lightening operations take place at sheltered rendezvous positions, chosen partly according to the final destination of the large tanker and partly in the light of current weather. A popular rendezvous is in Lyme Bay.

18.8.2 Special forecasts for these operations are normally provided by AWC to whom any requests received at other PS offices should be referred. The major tanker operators have agreed a standard forecast format to meet their requirements, with emphasis on wind, wave and swell. Standing arrangements for telecommunications, and for charges at agreed rates have been made. An operational service can then be activated by means of an R/T call from the Master of the tanker.

18.8.3 Notwithstanding the comprehensive nature of METROUTE and shipping forecasts available at Bracknell, customers requiring weather services in support of tows for the offshore industry over the European continental shelf and Mediterranean basin which need detailed wind, wave and swell forecasts (but not a full METROUTE service) may elect to take a repayment service from AWC instead (see section 15.4). In these cases, the METROUTE officer at Bracknell will give professional advice on marine aspects as necessary.

18.9 North Sea fishing fleet forecasts issued by Aberdeen WC

18.9.1 Three-day forecasts are provided by Aberdeen, Norwich and Cardiff WCs normally from October to March to give guidance for fishing vessels in the northern and southern North Sea (Aberdeen WC and Norwich WC), and the south-western approaches (Cardiff WC). The forecast is issued by 1900 LCT; the elements are as follows:

- a. Period This covers three days ahead from the time of issue. The date, month and year are not included in the message, e.g. a forecast issued on Thursday 1 October simply reads 'Friday' then the elements, 'Saturday' and elements and finally 'Sunday' and elements. Day 1 must conform with the CFO coastal sea area forecast issued late in the afternoon each day.
- b. Areas
Aberdeen WC: Viking, Forties, Fisher, Fair Isle.
Norwich WC: Tyne, Dogger, German Bight, Humber, Thames.
Cardiff WC: Plymouth, Fastnet, Shannon, Sole and Finisterre.
- c. Elements There are normally only two elements required which are wind, and superstructure icing.
 - (1) Wind Winds are given using the 8-point compass for direction (written in full) and the Beaufort Force for strength; the words 'wind' and 'force' need not be included, e.g. south-east 6 locally gale 8 is adequate.
 - (2) Icing If moderate or severe icing is expected then the forecast includes this with the word 'icing' introducing the degree. 'Nil' or 'light icing' entries are not required.
- d. Dissemination The forecast is despatched by telex by:
Aberdeen WC to Aberdeen Coastguard MRCC.
Norwich WC to Yarmouth Coastguard MRCC
Cardiff WC to Falmouth Coastguard MRCC
- e. Amendments Significant changes from earlier predictions are included.

18.9.2 This service is negotiated by (S&B) and centrally billed.

18.10 Port services

18.10.1 Port Meteorological Officers of the (OM) Branch are established at the following British ports: Middlesbrough, Hull, London, Southampton, Cardiff, Liverpool and Glasgow. Names, addresses and telephone numbers are given in the Office brochure entitled *Weather Services for Shipping*. Liaison is maintained with all port authorities, shipping companies, etc. and directly with shipping in port, and especially with members or potential members of the VOF.

18.10.2 Port Meteorological Officers maintain stocks of meteorological instruments for supply to the VOF, and will check barometers, etc. Enquiries concerning marine climatology are referred to the Marine Advisory Service (CP), and those concerning forecasts to AWC, METROUTE or to a nearby S&B office.

18.10.3 Weather charts (Shipping Maps) covering the coastal sea areas and the eastern North Atlantic to 35° W between 40° N and 67° N are available at a few British ports. These consist of an analysed chart for the previous midnight, a forecast chart for the following midnight, a statement of the general synoptic situation, a summary of gale warnings in force at the time of issue, a selection of coastal sea area forecasts and a forecast for the locality concerned. These Shipping Maps may be provided free by the local S&B offices, sometimes by docfax. The Port Meteorological Officer is normally responsible for distribution.

18.11 Repayment services from WCs

18.11.1 WCs and other S&B offices will provide forecasts for port areas on request to shipping in port, port authorities, shipping companies, cargo handling companies, etc. Requests for telex copies of shipping bulletins will also be supplied on request when possible. The above services are normally provided on a repayment basis. Port Meteorological Officers will give advice on any liaison problems that arise, in particular when Masters of ships are involved. Offices may also provide forecasting services on repayment for local marine customers such as ferries,

supply vessels and trawlers. Such services should only be provided if the experience and back-up available ensure a high standard of service.

18.12 Services to HM Coastguard

18.12.1 HMCG operations are based on a network of MRCCs and Marine Rescue Sub-Centres (MRSC) based on the coasts as indicated in the list at Annex E. Headquarters of HMCG are collocated with the MSA at Spring Place, 151 Commercial Rd, Southampton. All services to HMCG are co-ordinated centrally through (S&B), who are responsible for negotiation of charges and the raising of invoices. All requests from 'the Coast' received at outstations should be referred to (S&B).

18.12.2 Services to HMCG are designed to assist them in their role of ensuring the safety of coastal activities, as far as is possible. In fulfilling this role they pass on much of the information received in the form of broadcasts on VHF etc. or in answer to enquiries from ships at sea. These services include:

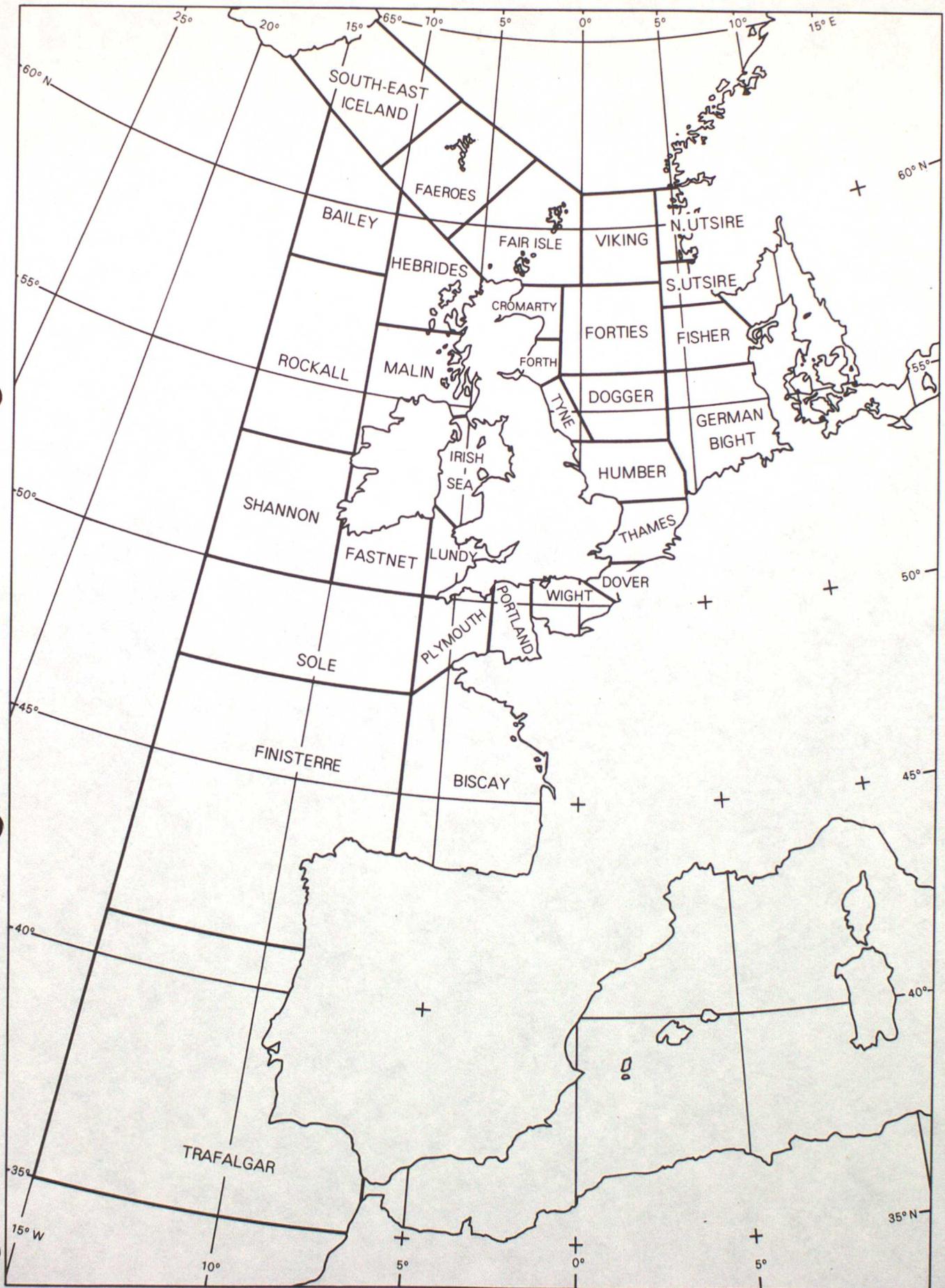
- a. A special year-round Strong Wind Warning Service for the areas of the UK coastline which is detailed in Annex F.
- b. Copies of CFO analyses and prognoses (see chapter 5) transmitted from Southampton WC to the MRCCs.
- c. Regional inshore waters forecasts for Shetland MRSC from Sella Ness.
- d. Copies of CFO coastal sea area shipping forecasts (2 per day) to Aberdeen MRCC from Aberdeen WC.
- e. Northern North Sea — three-day forecasts for sea areas Viking, Forties, Fisher and Fair Isle — prepared by Aberdeen WC.
Southern North Sea — three-day forecasts for sea areas Tyne, Dogger, German Bight, Humber and Thames — prepared by Norwich WC.
South-western approaches — three-day forecast for sea areas Plymouth, Fastnet, Shannon, Sole, Finisterre — prepared by Cardiff WC.
- f. Copies of all Marinecall forecasts (see chapter 13) transmitted to Swansea MRCC by the responsible Weather Centre.

All services are provided the year round except e. which is for the winter half of the year only. HMCG also receive gale warnings and shipping forecasts by NAVTEX (see Annex D).

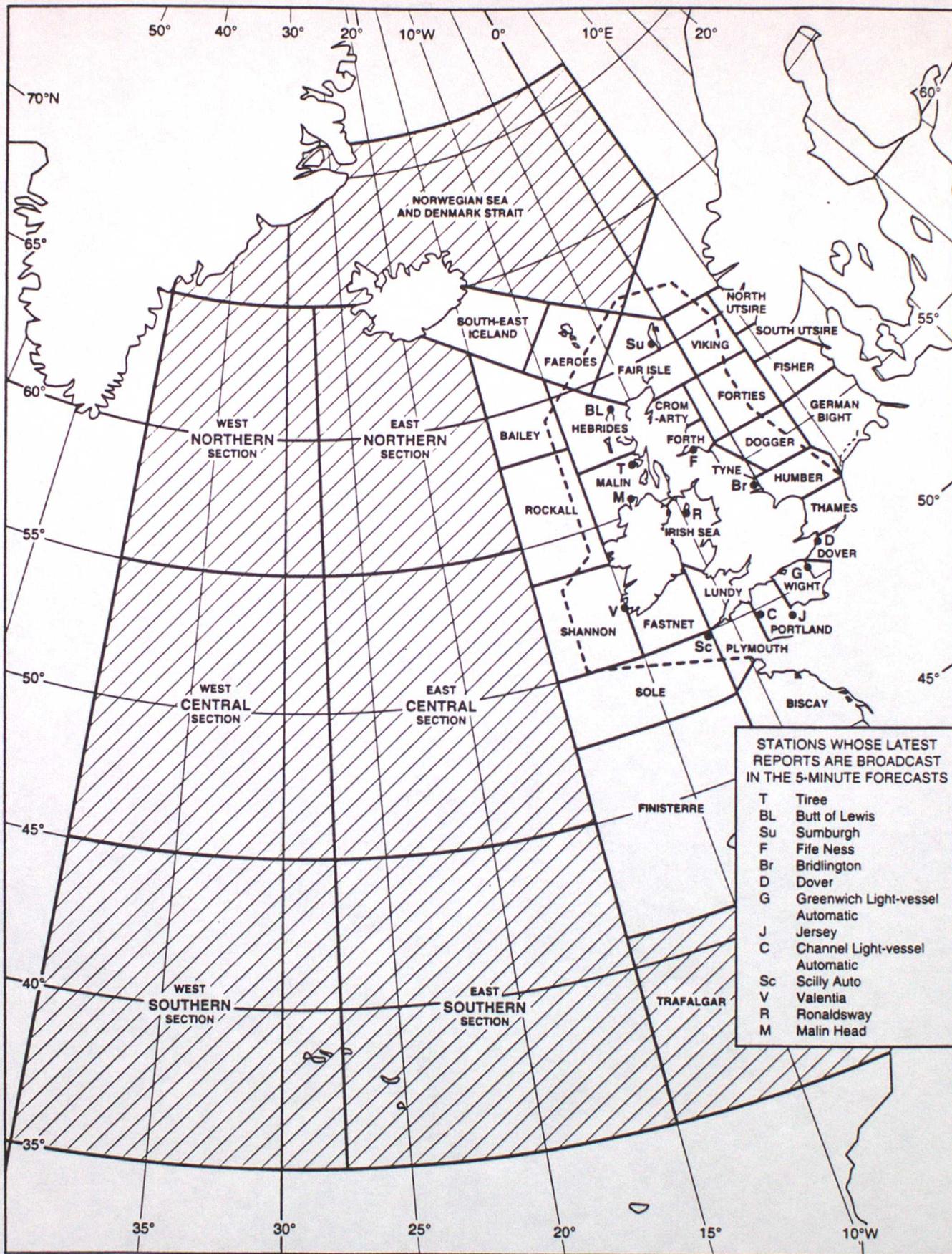
18.13 Services to BBC/IBA local radio The Strong Wind Warning Service for HMCG is provided for those parts of the UK coastline covered by local radio. Details are to be found in Annex F.

18.14 Navigation warnings The Storm Tide Warning Service provides warnings of significant reductions of tidal levels in the Southern North Sea and Dover Strait due to negative surges. The warnings are sent to MOD(N) at Taunton for broadcast as navigation warnings by the coastal radio stations. These warnings are provided as part of the Public Meteorological Service with funding by the MSA of the DTp. Warnings are also sent to some port authorities.

COASTAL SEA AREAS USED IN BBC SHIPPING FORECASTS



NORTH ATLANTIC WEATHER BULLETIN AREAS (HATCHED)



Boundaries of sea areas, as used in weather forecasts transmitted by the BBC and British Telecom International coastal radio stations as from 1 July 1994
 The dashed line encloses GMDSS sea area A2 for the United Kingdom and Northern Ireland

BROADCAST OF GALE WARNINGS BY BTI AND IRISH COASTAL RADIO STATIONS

18C.1 All transmission times given below are in UTC. Gale warnings are transmitted by W/T and R/T following the next silence period after receipt from the Met. Office.

W/T gale warnings are repeated from Land's End at 0848, 1248, 1648 and 2048, from Cullercoats, Portpatrick and Wick at 0830, 1230, 1630 and 2030 and from Valentia at 0818, 1218, 1618 and 2018.

R/T gale warnings are repeated from Land's End, Cullercoats, Portpatrick, Wick and Valentia at 0303, 0903, 1503 and 2103 and from Jersey at 0307, 0907, 1507, and 2107.

Gale warnings remain in force unless amended or cancelled, but if the gale persists for more than 24 hours the warning will be reissued.

Following an initial R/T announcement on VHF channel 16, simultaneous transmissions are made on VHF where applicable.

All BT coastal radio stations offer a Weather Repetition Service (repeat of latest forecasts on hand). The service via Portishead Radio is the plain-language section of the North Atlantic Weather Bulletin.

Silence periods. W/T silence periods are from H+15 to H+18 and H+45 to H+48: R/T silence periods are from H+00 to H+03 and H+30 to H+33.

Following further automation of BT broadcasting stations, simultaneous broadcasts are made in two groups from stations in two corresponding regions, Northern and Southern; stations shown below in italics are contained in both regions.

NORTHERN REGION

Areas: Viking, North Utsire, South Utsire, Forties Cromarty, Forth, *Tyne, Dogger, Fisher, German Bight, Humber, Thames, Lundy, Irish Sea*, Rockall, Malin, Hebrides, Bailey Fair Isle, Faeroes and South-east Iceland.

W/T transmissions: 0830 and 2030.

<i>Station</i>	<i>Call sign</i>	<i>Frequency (kHz)</i>
Wick	GKR	510.5
Cullercoats	GCC	510.5
Portpatrick	GPK	510.5

R/T transmissions: 0703 and 1903

<i>Station</i>	<i>Frequency (kHz)</i>	<i>Channel VHF</i>	<i>Station</i>	<i>Frequency (kHz)</i>	<i>Channel VHF</i>
Wick	1764		Anglesey		26
Collafirth		24	Cardigan Bay		03
Shetland	1770	27	Morecambe Bay		04
Orkney		26	Portpatrick	1883	27
Cromarty		28	Clyde		26
Stonehaven	2691	26	Islay		25
Buchan		25	Oban		07
Forth		24	Hebrides	1866	26
Cullercoats	2719	26	Skye		24
Whitby		25	Lewis		05

SOUTHERN REGION

Areas: *Tyne, Dogger, German Bight, Humber, Thames, Wight, Portland, Plymouth, Biscay, Finisterre, Sole, Lundy, Fastnet, Irish Sea, Shannon.*

W/T transmissions; 0848 and 2048

Station	Call sign	Frequency (kHz)
Land's End	GLD	448

R/T transmissions: 0733 and 1933

Station	Frequency (kHz)	Channel VHF	Station	Frequency (kHz)	Channel VHF
Humber	1869	26	Weymouth Bay		05
Grimsby		27	Land's End	2670	27
Bacton		07	Land's End		64*
N. Foreland†	1707	26	Start Point		26
Orfordness		62	Pendennis		62
Thames		02	Ilfracombe		05
Hastings		07	Celtic		24
Niton	1641	28			

Other stations — W/T

Station	Call sign	Frequency (kHz)	Times	Forecast areas
Valentia	EJK	515	0830, 2030	Fastnet, Shannon

Other stations — R/T

Station	Frequency (kHz)	Channel VHF	Times	Forecast areas
Jersey	1659	25 } 82 }	0645, 0745 } 1245, 1845 } 2245 }	Channel Islands south of 50° N east of 3° W
Valentia	1752		0833, 2033	Fastnet, Shannon
		24	0103 etc.‡	Fastnet, Shannon
Malin Head		23	0103 etc.‡	Irish Coastal waters up to 30 n. mile offshore and the Irish Sea

* For vessels in the area of the Scilly Isles.

† Fog warnings in the River Thames: a summary of conditions, when the visibility on the Thames seaward of London falls below half a mile, is broadcast at the end of the next silence period after receipt, and repeated every two hours until amended or cancelled, from North Foreland, Orfordness, Thames and Hastings.

‡ At 0103 and every 3 hours to 2203, clock times.

FORECASTS FOR NAVTEX RADIO STATIONS

18D.1 Broadcasts of the 24-hour forecast weather bulletins and gale warnings, by the NAVTEX stations Cullercoatsradio, Nitonradio and Portpatrickradio are made as set out below.

18D.1.1 Cullercoatsradio Shipping forecasts are broadcast twice daily at 0848 and 2048 GMT for the following sea areas in the order:

Viking, North Utsire, South Utsire, Forties, Cromarty, Forth, Tyne, Dogger, Fisher, German Bight, Humber, Thames, Dover, Wight, Fair Isle and Faeroes.

18D.1.2 Nitonradio Shipping forecasts are broadcast twice daily at 0818 and 2018 GMT for the following sea areas in the order:

Thames, Dover, Wight, Portland, Plymouth, Biscay, Finisterre, Sole, Lundy, Fastnet, Irish Sea, Shannon and Malin.

18D.1.3 Portpatrickradio Shipping forecasts are broadcast twice daily at 0930 and 2130 GMT for the following sea areas in the order:

Lundy, Fastnet, Irish Sea, Shannon, Rockall, Malin, Hebrides, Bailey, Fair Isle, Faeroes and South-east Iceland.

COASTGUARD STATIONS AND TELEX NUMBERS

18E.1 These are listed below:

<u>STATION</u>	<u>TELEX NO. + ANSWER-BACK</u>
Aberdeen MRCC	73123 ABDNCG G
Belfast MRSC	747833 BFSTCG G
Bridlington MRSC	527351 HMBRCG G
Brixham MRSC	42981 BRXMCG G
Clyde MRCC	777006 CLYDCG G
Dover MRCC	966694 DOVRCG G
Falmouth MRCC	45560 FALMCG G
Forth MRSC	72440 FRTHCG G
Holyhead MRSC	61124 HLYDCG G
Liverpool MRSC	629448 LVPLCG G
Milford Haven MRSC	48293 MHNCG G
Oban MRSC	779672 OBANCG G
Pentland MRSC	75211 PENTCG G
Portland MRSC	417138 PTLDCG G
Shetland MRSC	75141 SHETCG G
Solent MRSC	869194 SLNTEG G
Stornoway MRSC	75157 STWYCG G
Swansea MRCC	48202 SWANCG G
Thames MRSC	98314 THMSCG G
Tyne-Tees MRSC	53389 TYNECG G
Yarmouth MRCC	97400 YMTHCG G

STRONG WIND WARNING SERVICE

18F.1 Introduction

18F.1.1 A small craft warning service was set up in 1981 with the support of BBC and Independent local radio stations. It was introduced in order to provide warnings along many stretches of coastline of the United Kingdom during the summer months from Good Friday to 31 October each year.

18F.1.2 This service was adapted in 1984, on repayment terms, for Her Majesty's Coastguard (HMCG) who required a warning service for the whole of the United Kingdom coastline all year round. This second service became known as the Strong Wind Warning Service (SWWS).

18F.1.3 These two services have been amalgamated into a single streamlined and comprehensive service commensurate with the need to support safety at sea in the most cost-effective way. The service is known as Strong Wind Warning Service, and forms part of the Public Meteorological Service with funding from HMCG.

18F.2 Strong Wind Warning Service

18F.2.1 The 24-hours a day, and year-round service commenced at 0001 UTC on 1 November 1989. It covers the whole of the UK coastline for waters up to 5 nautical miles offshore at low tide. These waters are divided into 15 'areas'. The service is provided to HMCG on a repayment basis, with warnings issued by telex.

18F.2.2 As a secondary arrangement the service is offered to BBC and Independent local radio stations (warnings sent by telex). All local radio stations whose transmissions cover any part of the 15 areas should be encouraged strongly to take the relevant warnings applicable to that stretch of coastline to provide for comprehensive and reliable delivery. Broadcast times of the warnings are determined as being the first programme junction following receipt, with a repeat in the hour following the next news bulletin.

18F.2.3 Appendix A gives details of the 15 stretches of coastal waters used to describe the UK coastline, together with the participating Weather Centres and HMCG recipients.

18F.3 Procedures

18F.3.1 The SWWS procedures are as follows:

- a. Warnings will have the standard preamble of "Here is a strong wind warning for coastal waters up to 5 nautical miles offshore...".
- b. Warnings will be issued whenever winds of Force 6 or more are expected over coastal waters up to 5 nautical miles offshore. They will cover a period up to 12 hours and, whenever possible, should be issued at least 6 hours in advance of the onset of the strong winds. The stretch of coastline for which the warning applies will be described as precisely as possible using coastal landmarks, e.g. ports, coastal towns and other well-known geographical features.

Example: 'Here is a strong wind warning for coastal waters up to 5 nautical miles offshore from Banff to Rattray Head, issued on Wednesday 23 August 1999 at 0505 GMT: South-westerly winds will reach Force 6 this afternoon and are expected to become westerly Force 7 to gale Force 8 this evening'.

- c. Wind directions will be given using the 8-point compass.
- d. Time of issue will be given in Greenwich Mean Time. Timings given in the content of the warning will be expressed in general terms, e.g. 'early afternoon', 'towards midday'.
- e. If winds are not expected to reach Force 6 over coastal waters as defined above, but there is a sea area gale warning in operation, then a SWWS warning is to be issued (to HMCG but NOT to local radio stations) as in the example given below:

Example: 'Here is a strong wind warning for coastal waters up to 5 nautical miles offshore from Lyme Regis to Prawle Point, issued on Wednesday 23 August 1999 at 1205 GMT; There are warnings of north-westerly gales seawards of the coastal strip although winds up to 5 nautical miles offshore are not expected to reach Force 6.'

The direction of winds in the gale warning should be given. It should be noted that this is not an alternative way of routing gale warnings to HMCG.

- f. If CFO does not have a gale warning in operation for a particular sea area and it is considered at a Weather Centre that a coastal gale is likely, then CFO must be consulted through the normal channels and the matter resolved.
- g. Warnings are self-cancelling after the nominal validity period has elapsed unless they are amended, re-issued or cancelled during the period of validity.
- h. Warnings are to be cancelled or amended when any of the following criteria occur (the words 'cancelled' or 'amended' should be included in the text as appropriate):

- (1) Cancellations are issued when it becomes clear that winds will not reach Force 6 in the warning period, other than for warnings issued under the terms of paragraph 18F.3.1(e). A standard format should be used as follows:

The strong wind warning issued at ...(time/date) ...for coastal waters up to 5 nautical miles offshore from ...to ...is cancelled.

- (2) If the strong winds are delayed by 3 hours or more than original forecast then a cancellation is made and combined with a new warning as a single message. A standard format should be used as follows:

The strong wind warning issued at ...(time/date) ...for coastal waters up to 5 nautical miles offshore from ...to ... is cancelled, but a new warning for these waters has been issued at ...(time/date) ...; text of the new warning then follows.

- (3) Amendments are issued if the direction is in error by more than 1 point on the 8-point compass. A standard format should be used as follows:

The strong wind warning issued at ...(time/date) ...for coastal waters up to 5 nautical miles offshore from ...to ... has been amended by the following warning issued at ...(time/date) ...; text of new warning then follows.

- (4) Amendments are issued when the wind strength is in error by more than 1 Force (this may occur when a Force 6 should have been more correctly a Force 8 or more, and vice versa). A standard format is used as in (3) above.

18F.3.2 Weather Centre Managers should liaise closely with the participating HMCG units and appropriate local radio stations in their area of responsibility. In particular where several warnings are issued during silent hours of the radio stations, the issuing Weather Centre should ensure that the radio station is in receipt of the most up-to-date warning message for broadcast.

18F.4 Charging arrangements

18F.4.1 Invoices for HMCG will be raised centrally by the Business Unit Manager of the Marine Weather Group.

Issuing Office

HMCG recipient/Telex No
and answer-back

SWWS Coast waters

Aberdeen WC

Pentland 75211 PENTCG G
Shetland 75141 SHETCG G
Aberdeen 73123 ABDNCG G
Forth 72440 FRTHCG G

Cape Wrath–Berwick upon Tweed including
Orkney and Shetland

Newcastle WC

Tyne-Tees 53389 TYNECG G

Berwick upon Tweed–Whitby

Leeds WC

Bridlington 527351 HMBRCG G

Whitby–Cleethorpes

Leeds WC

Bridlington 527351 HMBRCG G
Yarmouth 97400 YMTHCG G

Cleethorpes–The Wash

Norwich WC

Yarmouth 97400 YMTHCG G
Thames 98314 THMSCG G
Dover 96273 DOVRCG G

The Wash–North Foreland

Southampton WC

Solent 869194 SLNTCG G
Portland 417138 PTLDCG G
Brixham 42981 BRXMCG G
Thames 98314 THMSCG G
Dover 96273 DOVRCG G

North Foreland–Lyme Regis

Cardiff WC

Portland 417138 PTLDCG G
Brixham 42981 BRXMCG G
Falmouth 45560 FALMCG G
Swansea 48202 SWANCG G

Lyme Regis–Hartland Point including
Isles of Scilly

Cardiff WC

Swansea 48202 SWANCG G

Hartland Point–Severn Bridge

Cardiff WC

Swansea 48202 SWANCG G
Milford Haven 48293 MHVNCG G

Severn Bridge–St David's Head

Cardiff WC

Milford Haven 48293 MHVNCG G
Holyhead 61124 HLYDCG G

St David's Head–Colwyn Bay

Manchester WC

Liverpool 629448 LVPLCG G

Colwyn Bay–Morecambe Bay

Manchester WC

Liverpool 629448 LVPLCG G

Morecambe Bay–Solway Firth

Glasgow WC

Liverpool 629448 LVPLCG G
Clyde 777006 CLYDCG G
Oban 779672 OBANCG G
Stornoway 75157 STWYCG G
Belfast 747833 BFSTCG G

Solway Firth–Cape Wrath including
Western Isles

Belfast Intl
A/P

Belfast 747833 BFSTCG G

Lough Foyle–Carlingford Lough

