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FIXED TRAFFIC LINK ACROSS THE GREAT BELT

The Maritime Safety Committee (MSC 59/33, paragraph 10.14), at its fifty-ninth session (13 to 24 May 1991), invited Member Governments to ensure that their shipowners, shipmasters and others concerned with ships which pass through the Great Belt are aware of the construction of a fixed traffic link across the Great Belt and the availability of relevant information being promulgated by the Danish Maritime Authority and to encourage them to comply with all recommendations related to safety of navigation in the Great Belt as annexed.

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W/1493x/EWP

ANNEX

## CONSTRUCTION OF A FIXED TRAFFIC LINK ACROSS THE GREAT BELT

Note by Denmark

1 The Government of Denmark has decided to construct a fixed traffic link across the Great Belt between the islands of Fyn and Sjælland (See Annex 1). This paper sets out the detailed planning and precautions to be taken to ensure safety of navigation in connection with the construction work in the Great Belt, which is divided into the Eastern Channel and the Western Channel by the island of Sprogø. The offshore construction work will continue until 1996, when the traffic link is expected to be finished.

2 DESCRIPTION OF THE FIXED TRAFFIC LINK

2.1 The first phase of the Great Belt Link comprises a railway link over the Western Channel on a 6.6 kilometres low-level bridge and two tunnels - 8 kilometres long - below the seabed under the Eastern Channel. The railway link is expected to be completed in 1993.

2.2 The second phase of the Link comprises a motorway parallel to the railway on the bridge across the Western Channel continuing across the Eastern Channel on a suspension bridge, which will be approximately 6.7 kilometres long. The elevated bridge is expected to be completed at the end of 1996.

3 THE WESTERN CHANNEL

3.1 Construction of the Low-Level Bridge

The low-level bridge across the Western Channel will have a vertical clearance for passage of 18 metres above mean sea level in the navigation spans at the centre of the bridge.

The navigation spans will have a width of 104 metres. The offshore construction work commenced in July 1990. A construction area will be established along and on each side of the bridge line and will be marked by yellow conical and cylindrical buoys.

### 3.2 Navigation

3.2.1 During the construction period two navigation lanes will lead through the construction area, one for N and one for S bound traffic. The navigation lanes will be marked with green and red light buoys. Each of the lanes will have a width of 104 metres.

3.2.2 Passage through the lanes is by Order of 8 June 1990 restricted to ships below 1,000 tons deadweight.

3.2.3 Ships of 1,000 tons deadweight and upwards shall use the appropriate lanes in the traffic separation scheme "Between Korsoer and Sprogø" in the Eastern Channel between Sjælland and the island of Sprogø.

3.2.4 Annex 2 to this paper outlines the construction area, positioning of navigation lanes etc.

## 4 EASTERN CHANNEL

### 4.1 Traffic Separation Scheme "Between Korsoer and Sprogø"

The bridge line crosses the traffic separation scheme "Between Korsoer and Sprogø". The scheme will at a later stage be amended in order to achieve a more right-angled passage for marine traffic. The Government of Denmark intends to submit a proposal concerning this amendment of the traffic separation scheme to a later session of the Sub-Committee on Safety of Navigation.

### 4.2 Construction

The construction of the suspension bridge will begin in 1991. Its main span will be 1,624 metres and the vertical clearance for passage will be 65 metres above mean sea level. The pylones will be placed outside the lanes of the traffic separation scheme. A construction area 500 metres wide will be established on each side of the bridge line. The area will be marked by yellow conical and cylindrical buoys.

### 4.3 Navigation

4.3.1 During periods when construction takes place within the traffic lanes in the traffic separation scheme "Between Korsoer and Sprogø", two traffic lanes, one for N and one for S bound traffic, will be established. The traffic lanes will be

marked with green and red light buoys. Each of the lanes will have a width of at least 375 metres. The minimum free water depth in the N bound lane will be 17 metres and in the S bound lane 19 metres.

4.3.2 For erection of the pilot rope for the suspension cable it could be necessary to prohibit navigation through the traffic separation scheme in the Eastern Channel for a maximum period of 6 hours. The period, which will be kept to an absolute minimum, will be duly announced through Notices to Mariners and Navigational Warnings.

4.3.3 In the vicinity of the construction area ships shall navigate with caution and with due regard to the vessels and barges employed in the construction work.

4.3.4 Ships which are not employed in the construction work are not allowed to pass through the construction area outside the buoyed navigation lanes. Crossing traffic in the lanes is prohibited within a distance of 500 metres from the bridge line.

4.3.5 All ships crossing the buoyed navigation lanes shall endeavour to navigate in such a way that risk of collision with ships using the navigation lanes does not arise. If, however, risk of collision does arise, the Steering and Sailing rules (Part B) of the International Regulations for Preventing Collisions at Sea, 1972, must be applied.

4.3.6 The attention is drawn to the fact that a heavy ferry traffic is crossing the Eastern Channel South of the traffic separation scheme.

4.3.7 Annex 3 to this paper outlines the construction area, positioning of navigation lanes etc.

## 5 PROMULGATION OF INFORMATION TO MARINERS

### 5.1 Information Service and Reporting

5.1.1 With the object of assisting ships during their passage of the construction areas a new Radio Information Service, GREAT BELT INFORMATION SERVICE (GBI), will be established. The new system enters into force during the construction period and will cover the Eastern as well as the Western Channel. The date of entering into force will be promulgated by the Danish Notices to Mariners. Participation in the reporting system will be mandatory for ships passing through the Western Channel and voluntary - but strongly recommended - for ships passing through the Eastern Channel.

5.1.2 It is the intention of the Government of Denmark to establish a Vessel Traffic Service in the area. The service will be based upon and operated in accordance with IMO Resolution A.578(14) Guidelines for Vessel Traffic Services.

5.1.3 Annex 4 to this paper outlines the Draft Rules for the Radio Information System.

## 5.2 Broadcast

Information about specific situations concerning safety of navigation in the Eastern and Western Channels will be broadcasted by the GBI on VHF, Channel 10, following an announcement on Channel 16. All ships passing through the channels should monitor the broadcasts.

## 5.3 Reporting System FERRYLEADER to be Replaced

The existing FERRYLEADER reporting system, which forms part of the SHIPPOS radio reporting system mentioned in Resolution A.620 (15), will be incorporated in the new Radio Information Service (GBI).

## 5.4 Navigational Warnings

In case of relocation of the navigation lanes during the construction period, or if other tasks of special importance to navigation through the area arise, information will be announced well in advance before the relocation or the tasks are carried out. During the preceding days of the relocation the information will additionally be sent daily in the coastal navigational warnings transmitted by the Danish Radio and the coastal radio stations and by NAVTEX.

## 5.5 Notices to Mariners

Orders for each of the two bridges in the Great Belt will be issued by the Danish Maritime Authorities. Beside provisions on restrictions in navigation, the orders will contain information about construction areas, commencement and termination of the different tasks or phases of the construction work, aids to navigation, reporting system etc. The orders, which will be translated into English, will be promulgated by the Danish Notices to Mariners.

## 6 GUARD SHIPS

During periods of construction work within the traffic lanes in the traffic separation scheme in the Eastern Channel, guardships will be positioned North and South of the traffic separation scheme. The guardships will be marked with the word

"GUARD" in white along each side and measures will be taken to illuminate the hull at night. The ships will be fitted with various forms of communications equipment including loud-hailer, searchlight and signal rocket facilities. They will in close co-ordination with the GBI be able to advise ships passing through the buoyed navigation lanes.

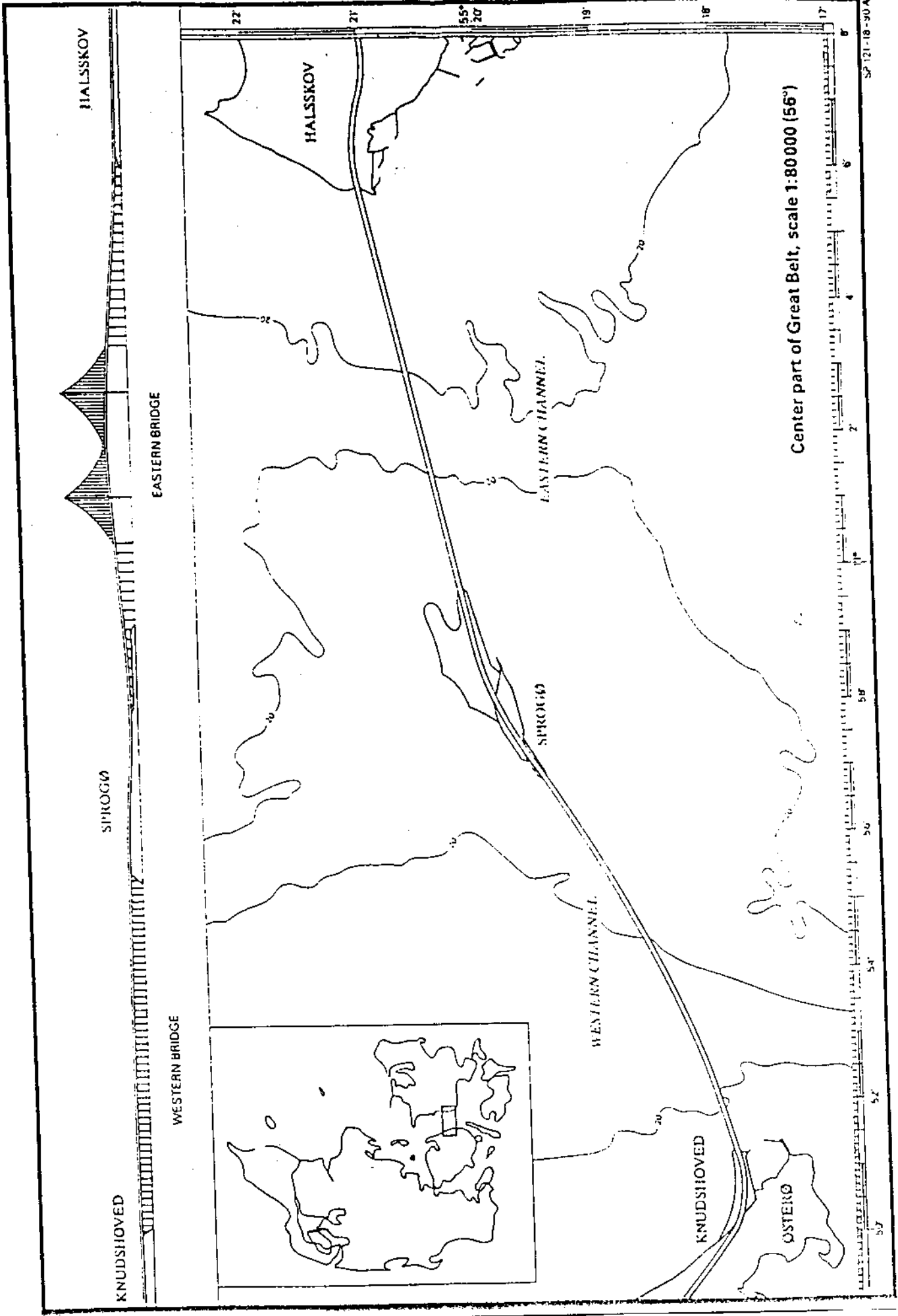
7 IMO RESOLUTION A. 620 (15) ON NAVIGATION THROUGH THE ENTRANCES TO THE BALTIC SEA

7.1 Pilots

The mariners' attention is drawn to IMO Resolution A. 620 (15) which recommends the use of pilotage services for ships with a draught of 13 metres or more when passing through the Entrances to the Baltic Sea. The Great Belt forms part of these Entrances. The Danish Government strongly recommends that also ships with a draught of less than 13 metres make use of the pilotage services available in the area during the construction period.

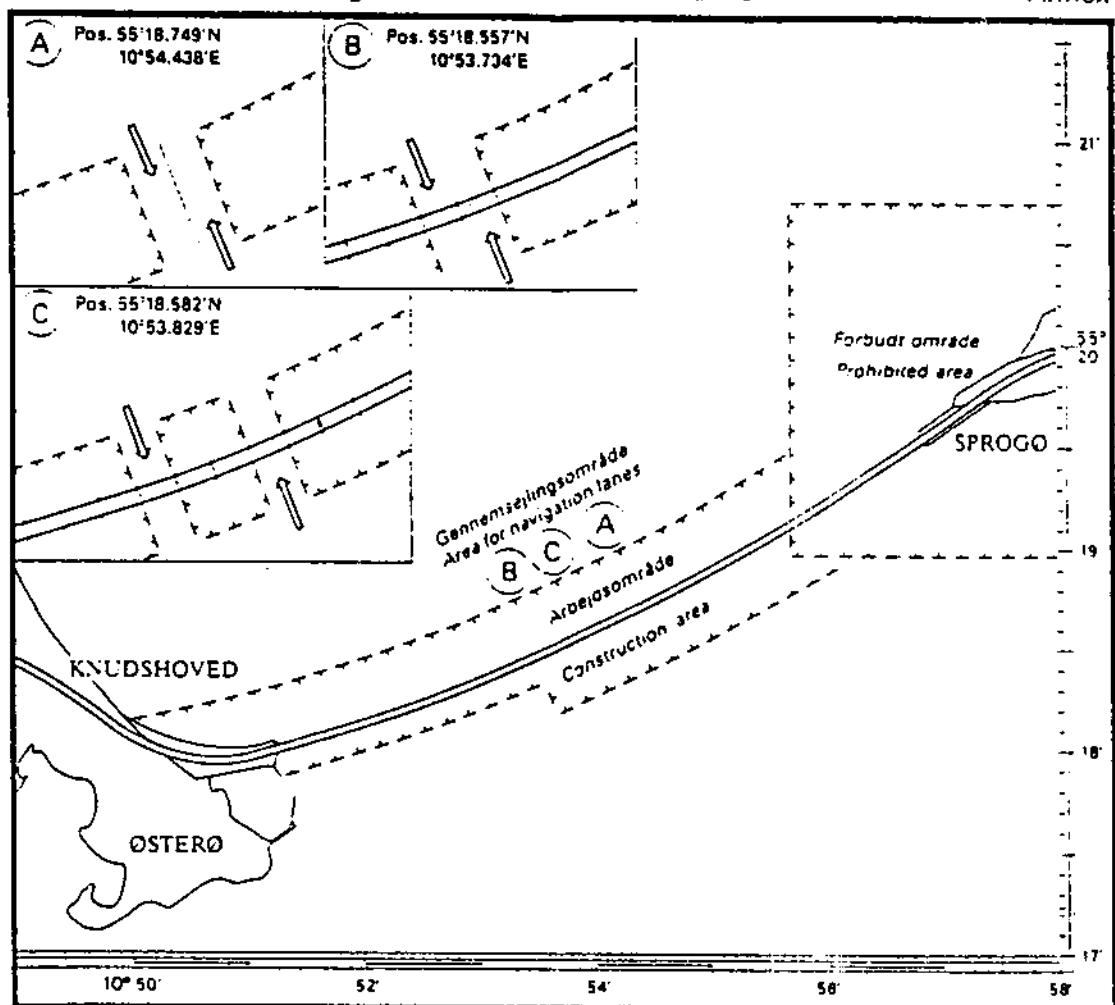
7.2 SHIPPOS

Resolution A. 620 (15) further recommends that ships over 40,000 tons deadweight when passing through the Entrances to the Baltic Sea participate in the radio reporting system (the SHIPPOS-system) operated by the Government of Denmark. SHIPPOS will co-operate with the GREAT BELT INFORMATION SERVICE and exchange information to the benefit of the mariner.



Arbejdsområde og gennemsejling i Vesterrenden  
Construction area and navigation lanes in Western Channel

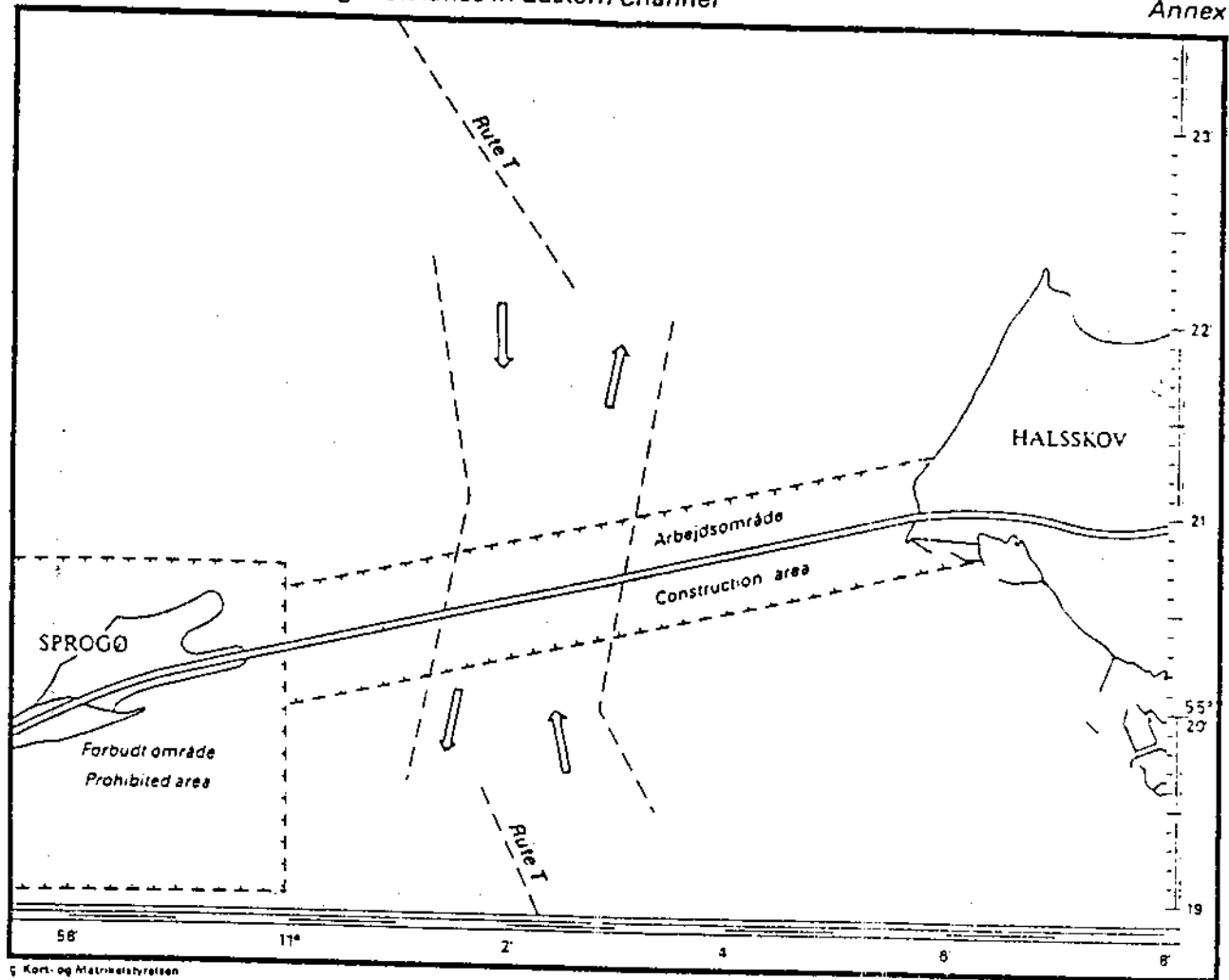
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Arbejdsområde og gennemsejling i Østerrenden  
Construction area and navigation lanes in Eastern Channel

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**DRAFT**

Annex 4

15 June 1990

**RADIO INFORMATION SERVICE  
FOR SHIPS PASSING  
THE EASTERN AND THE WESTERN BRIDGE  
IN THE GREAT BELT**

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**INTRODUCTION**

A Radio Information Service has been introduced in the central area of the Great Belt in the Entrances to the Baltic Sea with the purpose of assisting ships passing through the area where two bridges will form parts of a fixed traffic link between the islands of Sjælland and Fyn.

**DESCRIPTION OF THE BRIDGES**

The Eastern Bridge will be a suspension bridge across the traffic separation scheme "Between Korsoer and Sprogø" in the Eastern Channel of the Great Belt. In the center span of 1,624 metres, the free vertical clearance over a width of at least 750 metres will be 65 metres above mean sea level.

The Western Bridge will be a low-level bridge across the Western Channel of the Great Belt. In the two navigation spans at the centre of the bridge the vertical clearance over a width of 70 metres will be 18 metres above mean sea level and the width of the N and S bound navigation lanes will be 104 metres.

Only ships below 1,000 tons deadweight are allowed to pass through the Western Bridge. Ships of 1,000 tons deadweight and upwards shall use the appropriate lanes in the traffic separation scheme "Between Korsoer and Sprogø" in the Eastern Channel.

**RULES FOR REPORTING**

In order to assist ships during their passage of the bridge areas in the Great Belt a radio information service, THE GREAT BELT INFORMATION SERVICE (GBI), has been established. The reporting procedure is as follows:

**Contents of the Report**

- Ship's name and call sign
- Position
- Course (N or S bound)
- Speed
- Pilot on board
- Route information (name of bridge to be passed)
- Deficiencies, and
- Deadweight tonnage/air draft in metres.

### Drafting of the Report

All reports shall be drafted according to the format shown in Appendix 1.

### Transmission of the Report

The call to GBI shall be made on the VHF, Channel 16, using the call sign "GREAT BELT INFORMATION" when passing:

South bound	-	Latitude 55°35'N
North bound	-	A line connecting Stignæs - Omø N. - Hov - Lundeborg

Ships leaving a harbour within the above mentioned area intending to pass one of the bridges shall immediately after departure report to GBI.

The report shall be sent on Channel 10 or any other available channel assigned by GBI.

### Reporting at the Western Bridge

Reporting is mandatory for ships of 20 gross tonnage or more when passing the Western Bridge.

Ships, which cannot operate VHF, shall send the report to GBI two hours before passing the bridge area. The report, headed by the system identifier "GBI", shall be sent over a Danish coast radio station. This transmission is free of charge.

### Reporting at the Eastern Bridge

Participation in the reporting system is voluntary, but ships of 1,000 tons deadweight and upwards are requested to participate by identifying themselves to GBI, so that they can be assisted if needed. Information about the present situation in the bridge areas, e.g. about buoyage, lights, other ships within the specific area, speed and direction of wind and current can be received on Channel 10 or any other available channel assigned by the GBI.

## GENERAL INFORMATION

### Broadcast

Information about specific situations concerning safety of navigation in the Eastern and Western Channels will be broadcasted by the GBI on VHF, Channel 10, following an announce-

ment on Channel 16. All ships passing through the channels should monitor the broadcasts.

Reporting System FERRYLEADER to be discontinued

The existing FERRYLEADER reporting system, by which the ferries between Sjælland and Fyn receive information from large ships about their intention to pass the ferry route South of Sprogø, will be replaced by the new Radio Information Service (GBI). However, in order to maintain the flow of information to the ferries during the construction period, the GBI will, when receiving information about large ships approaching the area, relay this information to the ferries crossing the transit route, Route T, South of the traffic separation scheme. The ferries will then endeavour to navigate in such a way that risk of collision with large ships navigating in the transit route does not arise. If, however, risk of collision does arise, the Steering and Sailing rules (Part B) of the International Regulations for Preventing Collisions at Sea, 1972, must be applied.

The reports shall be drafted according to the following format:

Designator	Function	Information Required
	System Identifier	GBI
A	Ship	Name and call sign
D	Position	True bearing (3 digit group) and distance (2 digit group) given in nautical miles from an identifiable point (state name)
E	Course	N- or S-bound
F	Speed in knots	A 2 digit group
J	Pilot	State whether a pilot is on board (e.g. PILOT EMBARKED)
L	Route information	State which channel the ship intends to pass (Eastern or Western Channel)
Q	Deficiencies	Brief details of defects or deficiencies.
U	Tonnage/air draft	State ship's deadweight tonnage and air draft (in metres)