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COMMUNICATION FROM THE COMMISSION

**A COMMON POLICY ON SAFE SEAS**

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## "A COMMON POLICY ON SAFE SEAS"

### EXECUTIVE SUMMARY

I. The Community is to a large extent dependent on reliable, cost effective and safe shipping services. Its maritime transport policy must therefore ensure that such services are undertaken at a minimum level of risk for all directly or indirectly concerned and for the marine environment.

II. This Communication looks at the main factors which continue to determine accidents at sea with a view to identifying crucial areas which call for specific urgent measures at the international, Community, national, regional or local level, as appropriate.

The main lines of the proposed action programme for enhancing safety in maritime transport have already been included in the Commission's White Paper on "The future development of the Common Transport Policy" adopted by the Commission on 8 December 1992.

The detailed action programme proposed here is fully in accord with the subsidiarity principle. It is clear, as is shown by the data and facts in this Communication, that in the absence of this programme, adequate common standards will not be developed in full or on time, and will not be observed in practice. Moreover, required traffic rules and infrastructure will either continue to be lacking in certain areas of the Community or have low effectiveness.

The different initiatives will be based on the same principle and will therefore respect the role of other authorities: international, national, regional and local.

III. Calls for intensified and urgent action have come on several occasions from the European Parliament, which has complained about a lack of Community initiatives in this field, and more recently from the Council. In particular, the extraordinary Council on Environment and Transport, at its meeting of 25 January 1993, urged the Community and Member States to take a number of steps to improve maritime safety and prevention of pollution of the sea. Also the European industries, gathered in the Maritime Forum, have recognised the need and have proposed measures to enhance safety.

All these bodies have invited the Commission to present its Communication without delay. The Council in particular indicated its intention to have a preliminary exchange of views at its meetings in March 1993 and to have a full debate in June.

- IV. The approach proposed in the present Communication seeks the enhancement of safety and prevention of pollution at sea through the elimination of substandard operators, vessels and crews from Community waters, irrespective of the flag of the ships. The main problem - given the universal regulatory approach in shipping stems from the striking variation in the level of safety performance between fleets, including Member States' fleets. This is, to a large extent, due to the different levels at which States, including Member States, are implementing and enforcing the internationally agreed standards. Individual action by Member States has not produced adequate results in the past and is unlikely to do so in the future. The Community, thanks to its political and legislative machinery, is uniquely placed both to ensure that Member States apply standards to ships flying their flags in a more uniform and rigorous manner and to enforce, with common methods and rigor, respect of the same standards on vessels of all flags when operating in EC waters.

The action programme is based upon a coherent package of measures including:

- i) measures to establish a convergent implementation of existing international rules in the Community;
- ii) measures to ensure a tighter and more effective control of ships by the State of the ports. They include uniform enforcement by coastal States of the international rules to vessels of all flags when they are operating in Community waters;
- iii) measures to promote coherent and harmonised development of navigational aids and traffic surveillance infrastructure, bringing maritime safety into the electronic age, with specific attention being given to traffic measures in environmentally sensitive areas;
- iv) measures to support international organisations enabling them to strengthen their primary role in international standard-setting.

Equally important are measures to improve training and qualification of crew so as to address the problem of human error, which remains the main cause of accidents. An intensive and re-orientated research programme could also contribute to the overall goal of enhancing maritime safety.

Part I of this Communication demonstrates the necessity and main features of a Common Policy on Safe Seas. The action programme in Part II describes those specific measures required to achieve the above mentioned objectives. A list of the single initiatives is given in the Annex 1.

In conformity with the principle of subsidiarity, all actions proposed will respect the criteria recently defined by the Commission, in particular the criteria of necessity and the criteria of proportionality.

## **PART I**

### **NECESSITY AND MAIN FEATURES OF A COMMON POLICY ON SAFE SEAS**

#### **1. THE IMPORTANCE OF SHIPPING TO THE COMMUNITY**

1. For centuries maritime shipping has been of great economic and political importance for Europe. Today this is more true than ever. The Community is to a large extent dependent on reliable, cost effective and safe shipping services. They carry 90% of its total external trade with the rest of the world, whereas within the Community maritime transport takes care of 35% of total goods transport between Member States.

2. In the global approach to the construction of a Community framework for sustainable mobility, maritime transport will play a more and more important role. In order to permit the internal market to produce the expected effects of economic growth and integration and at the same time to contribute to reducing bottle-necks and congestion in the land transport system, short sea shipping will have to be further developed. The liberalisation of the maritime cabotage is already one important step in this direction. Further initiatives will be taken by the Commission.

3. The development of the Community's economy on the basis of the single market, now becoming a reality, will also operate as a stimulus to its external trade which will necessarily be reflected by an increase in maritime transport and shipping activities.

4. The maritime transport policy of the European Community must therefore secure competitive transport services and ensure that such services take place at a minimal level of risk for crews, passengers, cargo and vessels, for the marine environment and coastal activities. As far as the latter is concerned, this policy must also take into account the Community's environment policy, in particular as articulated by the 5<sup>th</sup> Action Programme of Policy and Action in relation to the Environment and Sustainable Development.<sup>1</sup>

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1 COM(92) 23 final.

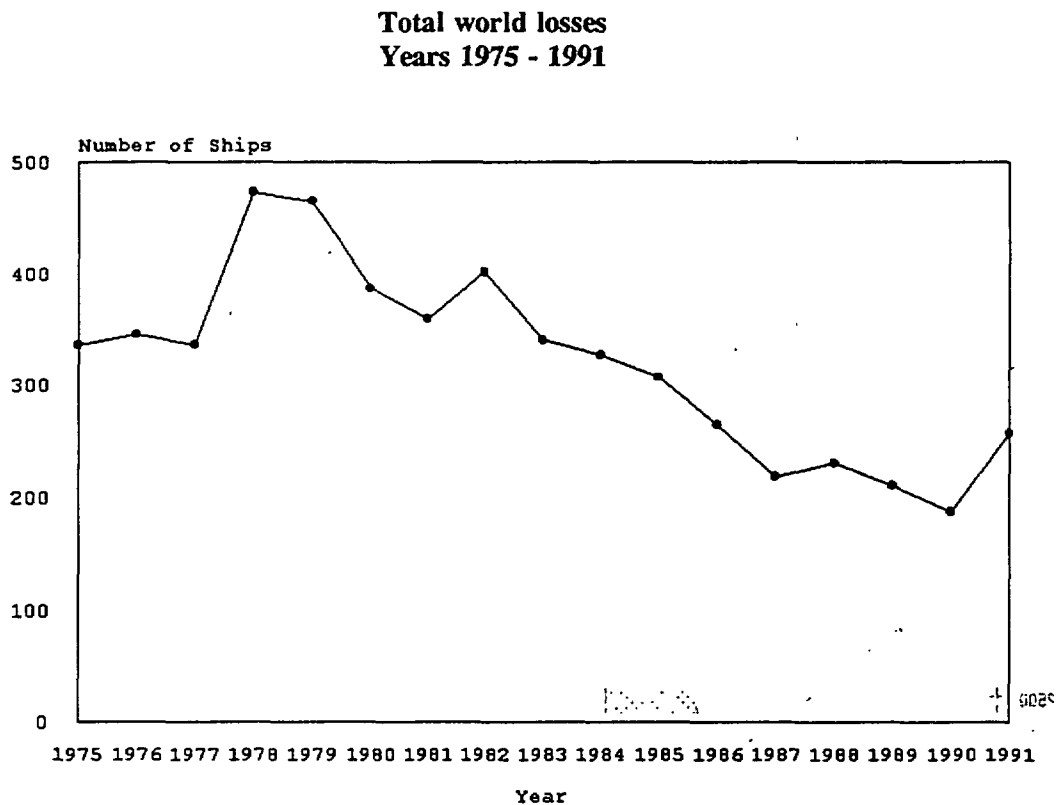
## 2. THE NEED FOR ACTION ON SAFETY

5. As the internal market in transport services is being completed, shipping disasters in European waters or involving European vessels, deficiencies and ship detention reports by port States and a rise in the number of work-related accidents on board ships show that the level of risk in shipping activities is still very high.

### General trend in casualties

6. The statistics speak for themselves (figures 1, 1 bis and 2). The decade of 1975-1991 shows a world wide average of total losses of 380 ships per annum (1.6 million gross tonnes). Since 1986 the rate has fluctuated at around an average of 230 ships per annum (1.1 million gross tonnes), with a peak of 258 total losses and an accompanying high level of loss of life (1204) in 1991. Figure 1 bis shows the distribution of casualties per zone in European waters for the period 1987-1991.

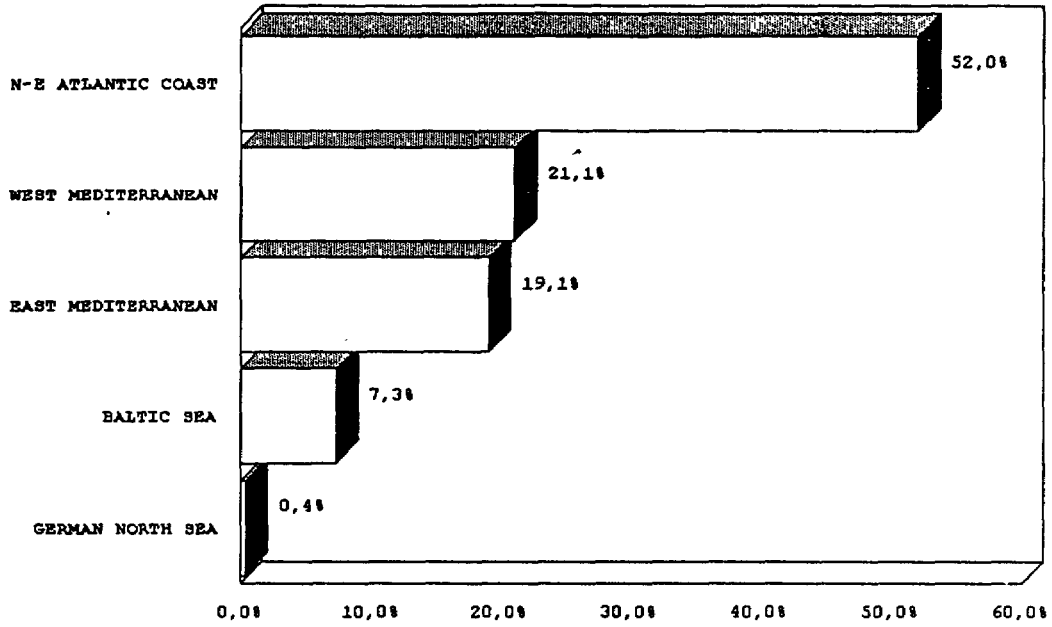
Figure 1



Source: Lloyd's Casualty Return, 1991

Figure 1bis

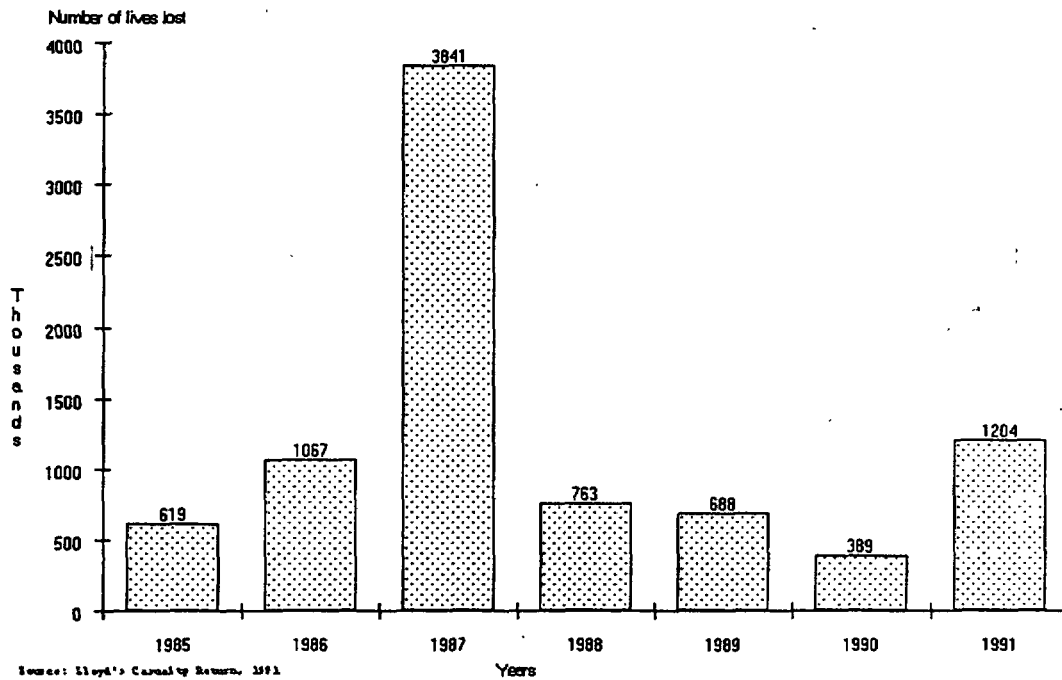
**Distribution of Casualties number  
per zone in European water  
Years 1987 - 1991**



Source: Lloyd's Casualty Return

Figure 2

**Live Lost  
Trend Years 1985 - 1991**



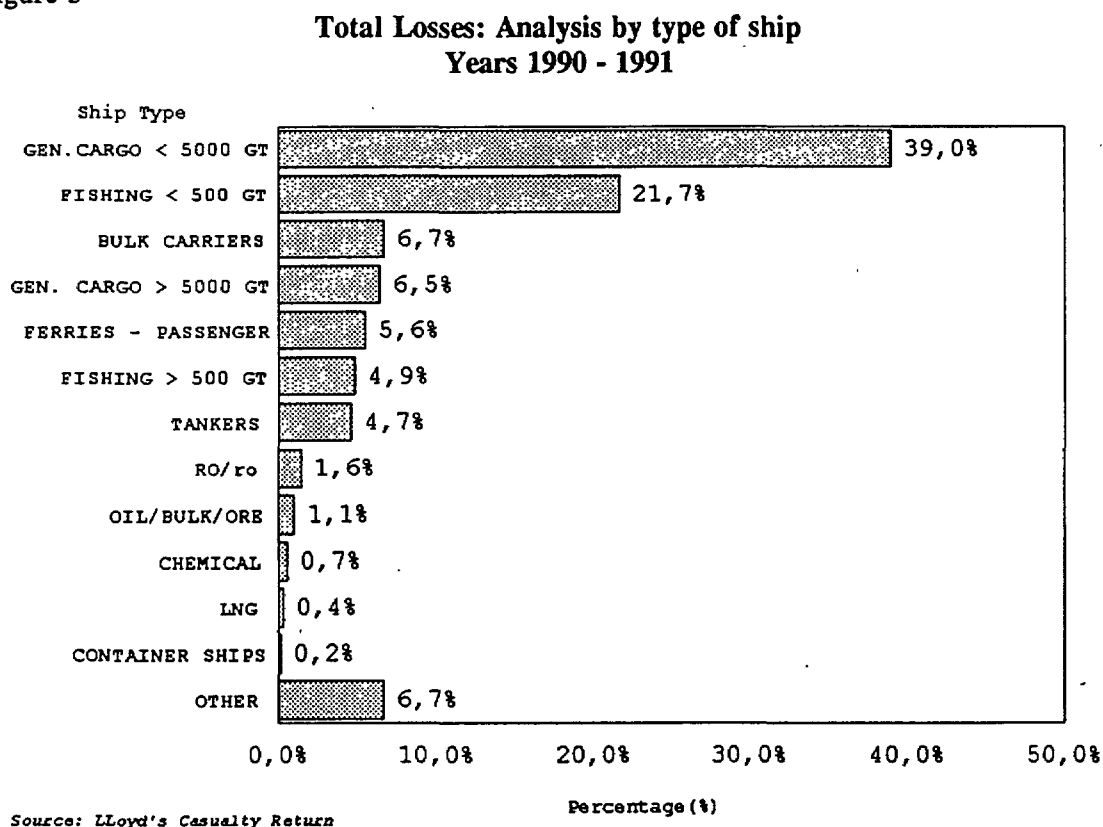
Source: Lloyd's Casualty Return, 1992



### Casualties by type of ship

7. Analysis of figure 3 below reveals that the highest percentage of total losses worldwide involve general cargo (45%), fishing vessels (27%), bulk carriers (over 7%), ferries and passengers (6%) and tankers (5%). These figures are made more alarming by the fact that 35% of all bulk carriers which sunk in the last 15 years were lost in the last 24 months alone, and that 74% of all vessels lost in 1991 were more than 15 years old (see figure 4).

Figure 3

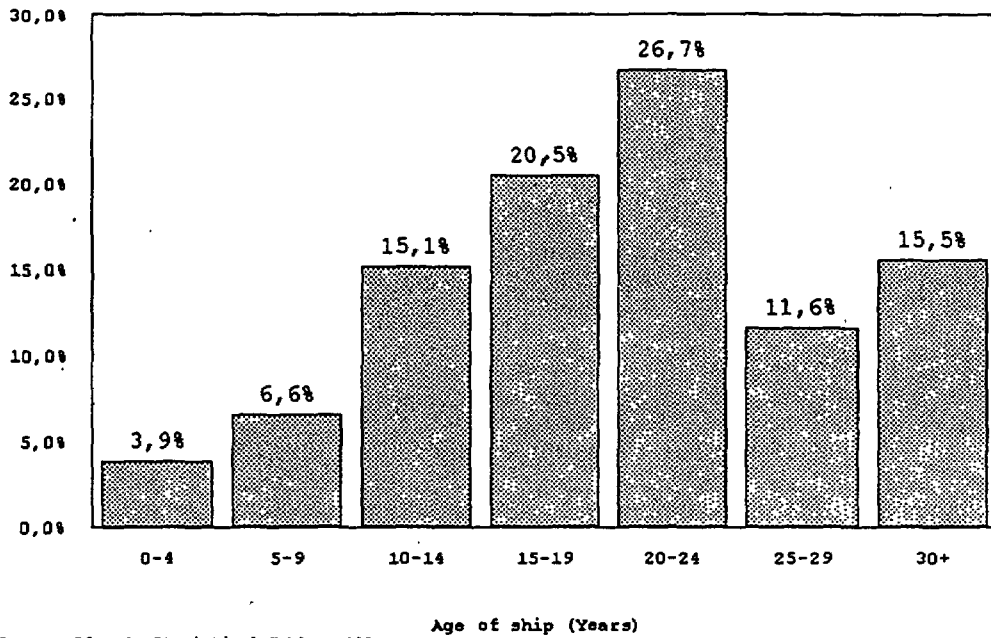


### Age: a direct correlation to casualties?

8. Figures 4 and 5 below concerning the age of ships when lost (4), and specifically vanishing bulk carriers (5), suggest a direct correlation between the age of a vessel and a reduced level of safety. This would then be a further reason of concern in itself given that the world fleet is generally ageing (figure 6), owing to a decline in the rate of investment in new vessels over a prolonged period. In 1991 36% of the world fleet was over 20 years old (figure 7). However, age itself need not be a major problem if a vessel is built, operated and maintained in accordance with international standards.

Figure 4

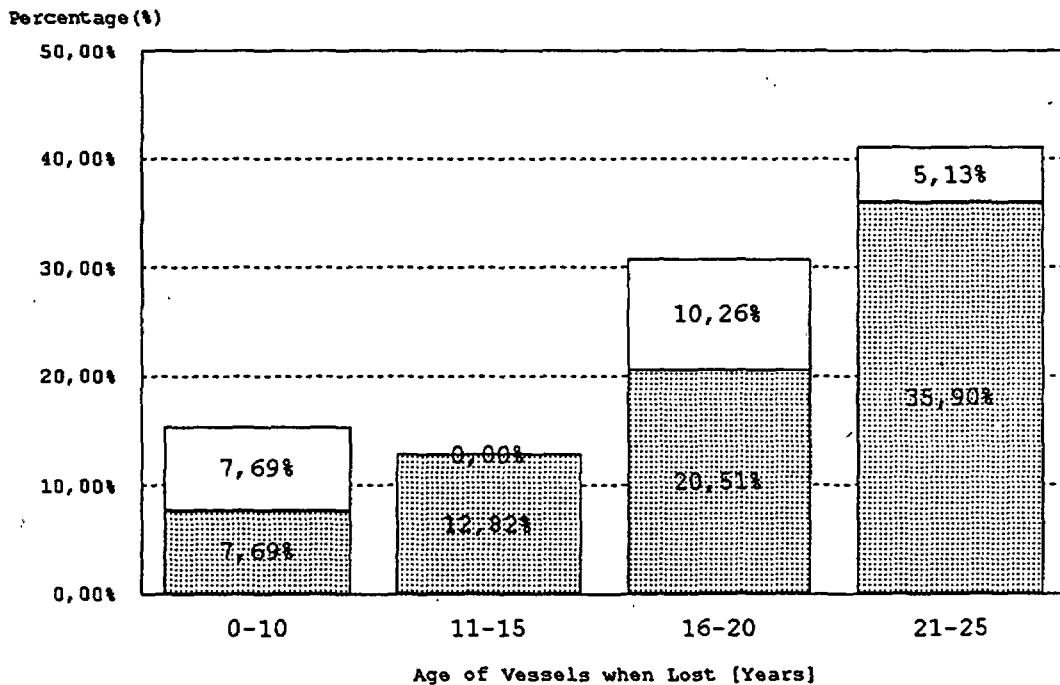
Age of total losses  
Year 1991



Source: Lloyd's Statistical Tables, 1991

Figure 5

Dry bulk cargo vessels  
Totally lost with cargo  
From January 1988 to 1991



Source: Swedish Seafarer's Union

Str. Fail/Heavy Weather Other Causes

Figure 6

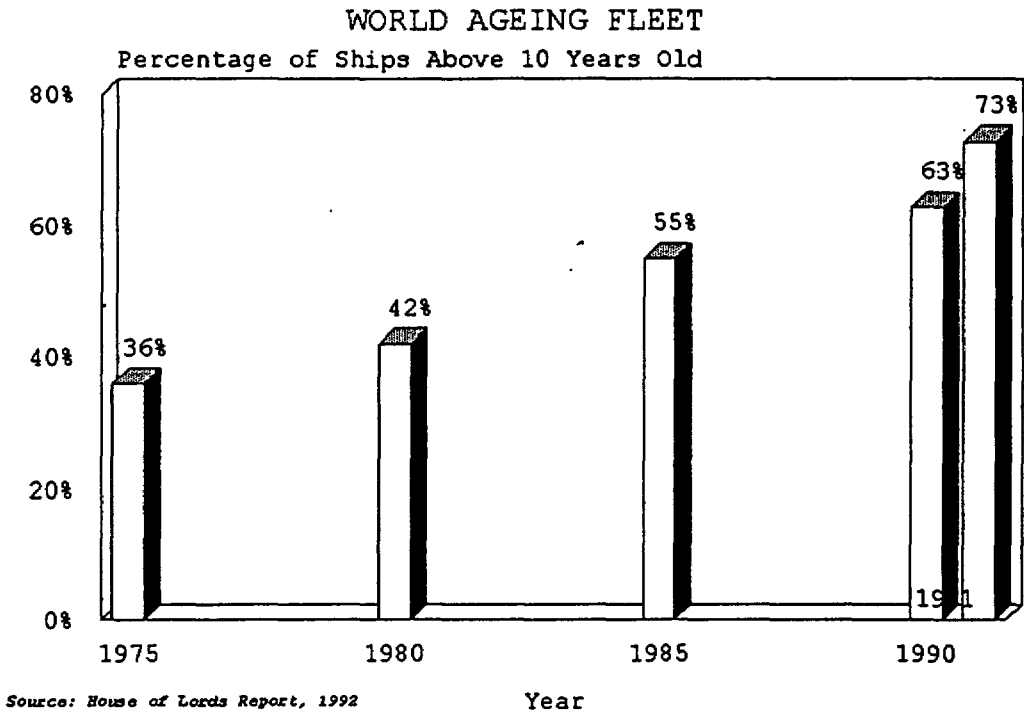
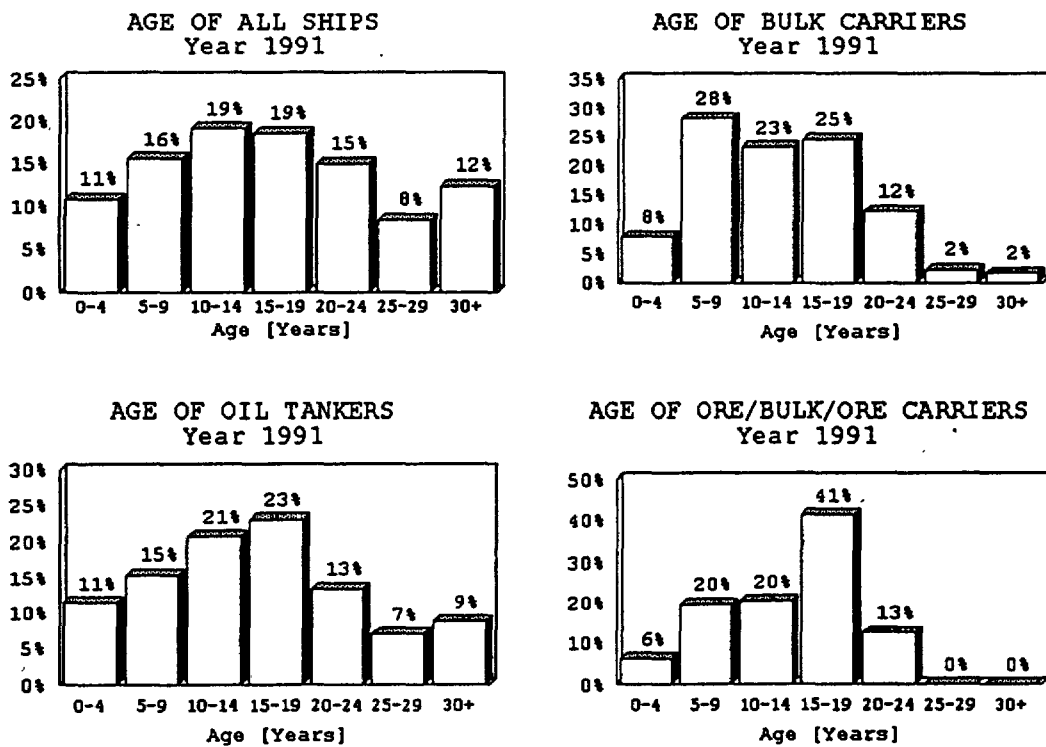


Figure 7

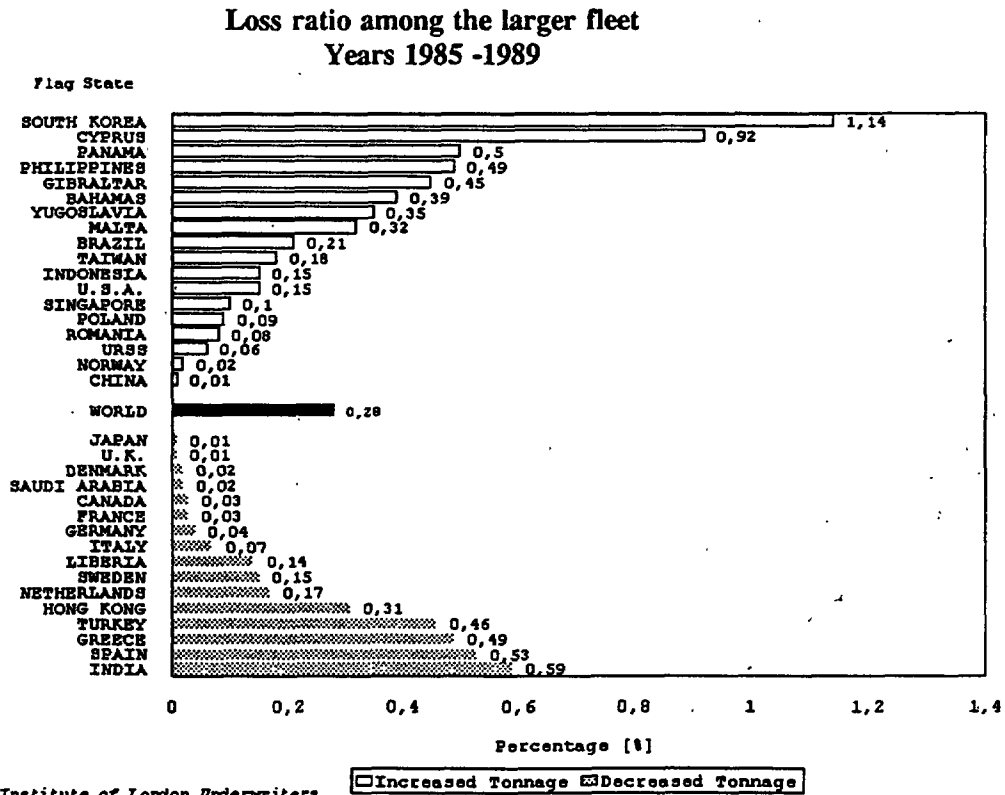


9. The low safety record of ageing vessels calls therefore into question the performance of the companies operating them, the loading/unloading techniques used and the performance of flag States in their task of ensuring compliance of their vessels with the international construction, operation and maintenance standards.

**Flag States' performances**

10. The International Maritime Organization (IMO), and in particular the 17<sup>th</sup> Assembly have drawn the attention of the shipping world to the fact that many flag States are unable to secure and maintain a proper control of the safety and environment protection standards of vessels on their respective registers or operating under their flags, thus leading to varying levels of safety performance. This fact has been further confirmed by the European Maritime Industries Forum<sup>1</sup>. This is striking, given the universal regulatory approach largely followed for the adoption of safety rules in the shipping sector, which should lead to a similar level of safety performance in all fleets adhering to international Conventions. However, statistics support the conclusions reached by IMO. They show a wide variation in the loss ratios of fleets, the worst being 100 times the best in fleets of 2 million tonnes or more, (see figures 8 and 9). Such astounding variations exist also among the fleets of the Member States where the worst level is 50 times the best. The charts show also that fleets with the worst losses are almost all expanding, one of the reasons being the flagging out.

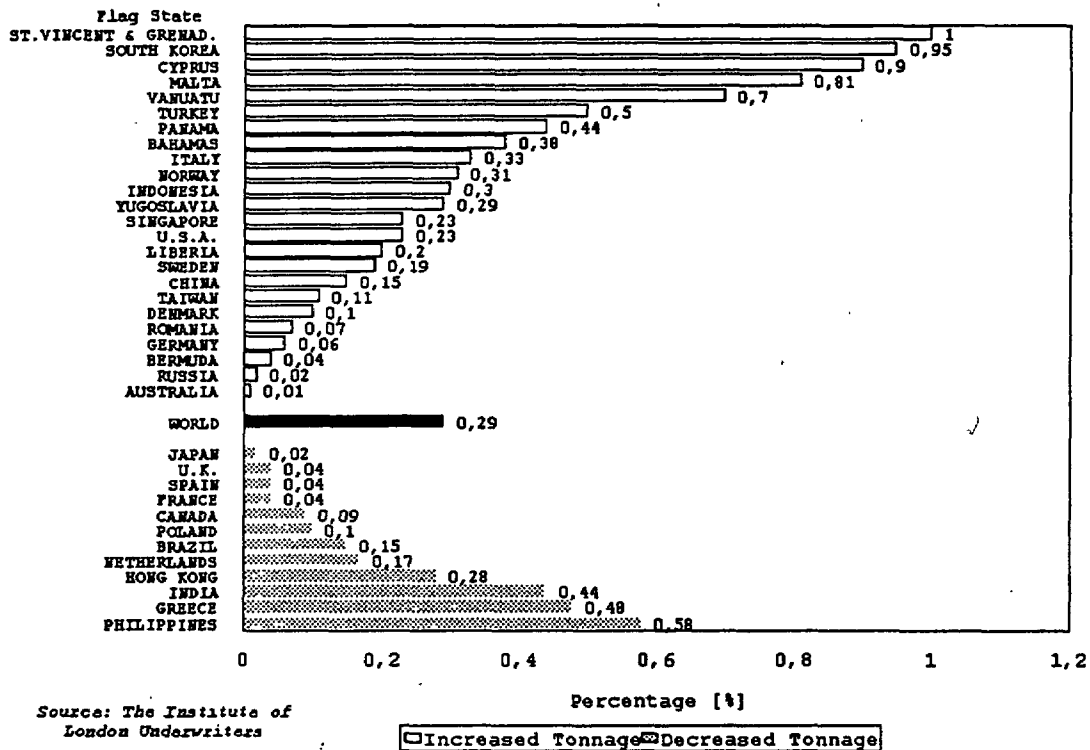
Figure 8



<sup>1</sup> Maritime Industries Forum; Final report to the Commission - October 1992.

Figure 9

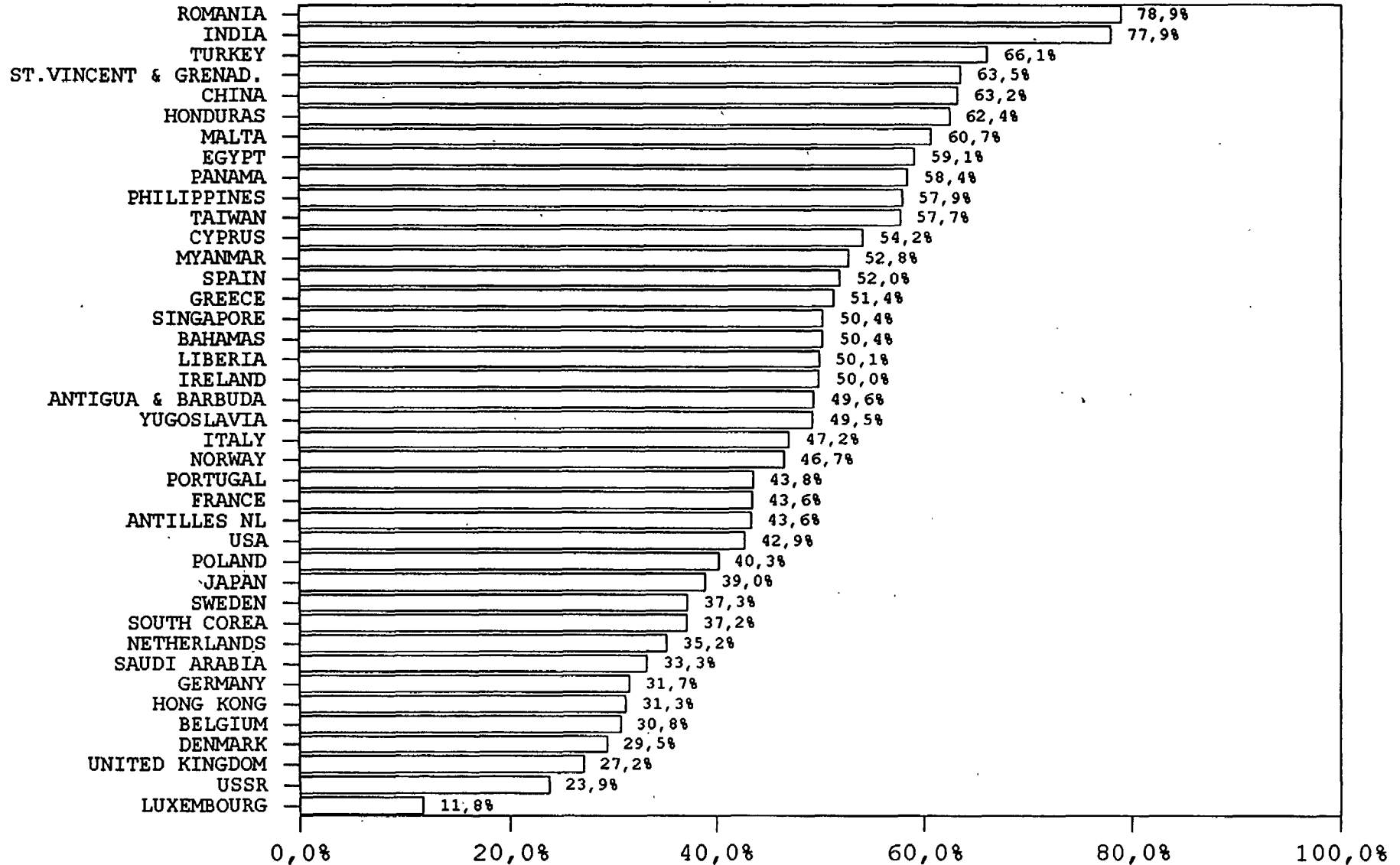
Loss ratio amount the larger fleet  
Years 1987 - 1991  
(Fleet larger than 2 mil.GRT)



11. Remarkable variations within the world fleet and also among the fleets of the Member States are further demonstrated by Port State Control statistics on deficiencies and detentions according to flag. These statistics show a ratio of deficiencies over inspections of almost 79% for the worst flag compared with 12% for the best performing flags (figure 10). EC Member States show ratios varying between 52% and 12%. In 1991 at world level a ratio of 23 to 1 was recorded between the flag with the highest detention over inspection ratio and the lowest. When EC Member States only are considered, the ratio is 7 to 1 (figure 11).

Figure 10

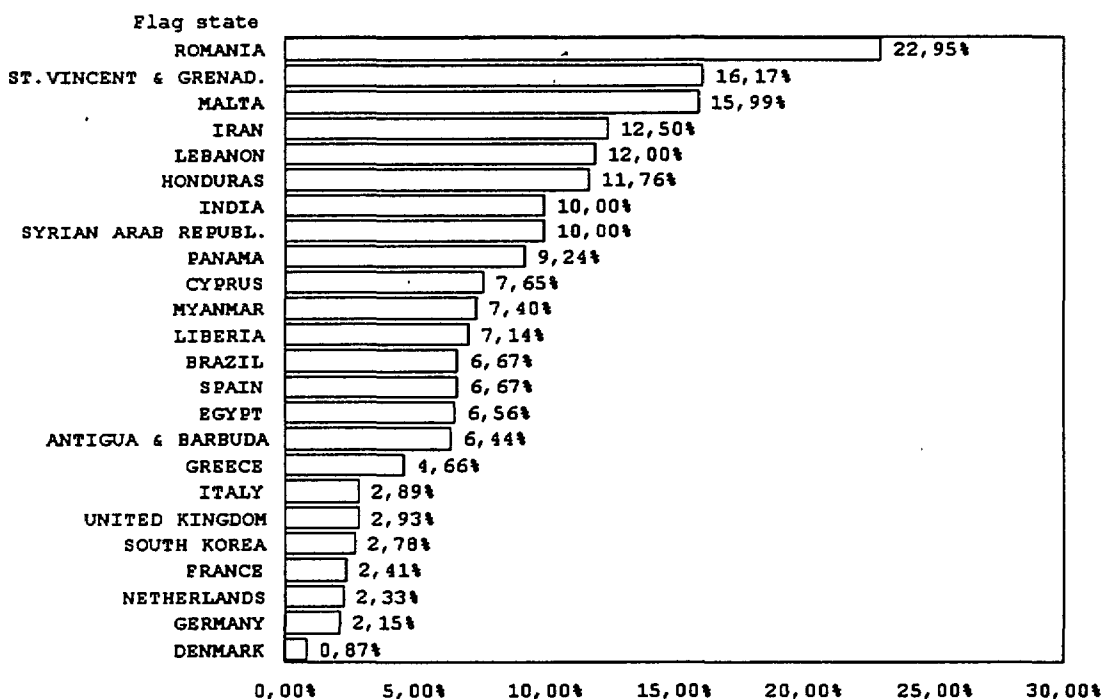
**DEFICIENCIES RATIO PER FLAG STATE**  
Year 1991



Source: PSC Report, 1991

Figure 11

### Detention ratio per flag state Year 1991



Source: PSC Report, 1991

(Cases in which more than 20 individual ships were involved)

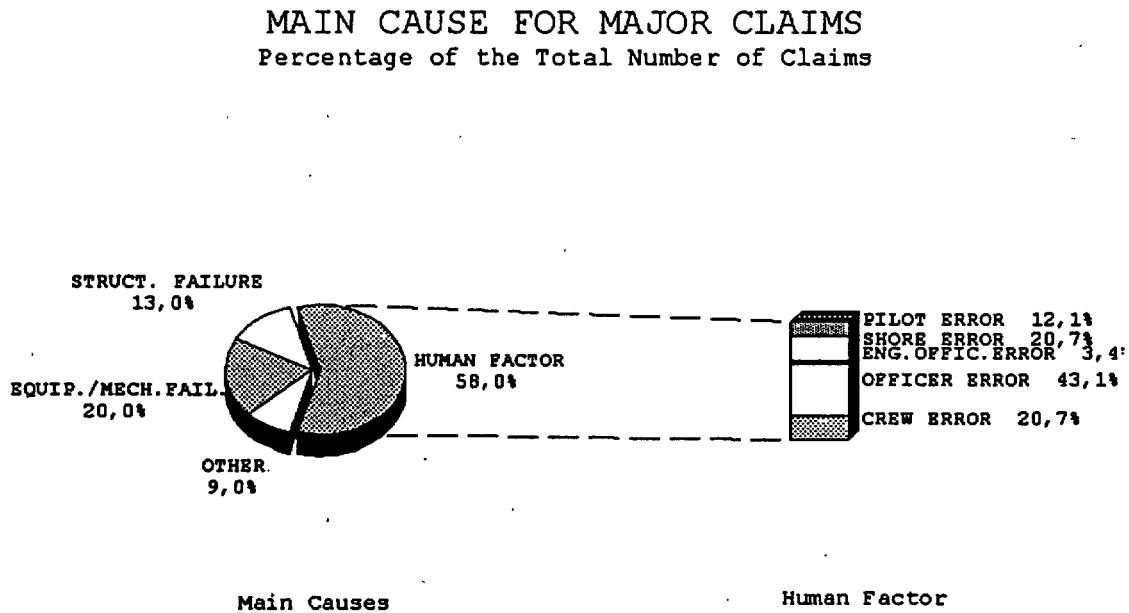
#### Main causes of casualties

12. Most observers of the maritime world agree with the view that existing international safety standards are for the most part an adequate framework and therefore the continuing high level of risk of casualties in the shipping industry is not primarily determined by the absence of adequate international rules, but rather by laxity in their application and enforcement. More precisely, two factors intervene to a large extent: first, the unsatisfactory performance of a number of shipping operators and the authorities responsible for safety in their flag States and, second, human errors (as shown by the statistics reproduced, see figures 8 to 12).

13. Variations in safety performances of flag States result from a number of factors. In particular cases gaps and weaknesses in the international Conventions, Codes or Resolutions may be a contributory factor. However, of much greater general significance are inadequate implementation and insufficient enforcement of the international standards that do exist as well as differences in their interpretation. Together these account for the main differences in the safety and environmental performance of the world fleets, including the fleets of the EC Member States.

14. Human error whether by crew, pilot or shore is a contributory cause in most cases giving rise to claims following an accident and accounts for almost 60% of all major claims and for 80% of the incidents according to Protection and Indemnity (P & I) statistics (figure 12). It is in part explained by the dwindling availability of experienced seafarers and to an important extent by insufficient safety management structures and procedures for on-board and land activities of several shipping operators. The IMO, at its 17<sup>th</sup> Assembly in November 1991, called on all members and governmental and private organisations concerned to take effective measures to respond adequately to these two fundamental problems.

Figure 12



Source: UK P&I Club, 1991

15. Further causes of accidents should not, however, be lost from sight by focusing only on the above issues. They are in particular those stemming from land-based operations, such as the indiscriminate use of modern loading techniques on vessels which are not built to withstand them, charterers who may exercise pressure on ship performance at the cost of safety, and shippers' incorrect declarations as regards the goods loaded in containers or in parcels.



16. All these variables will continue to determine the accident rates of the future, in a manner which cannot be precisely predicted. The Commission believes that what is important is that specific problem areas, such as those identified above need to become the target of specific, urgent measures if the Community wants to see, in the near future, a sharp drop in casualties and pollution by ships followed by a marked trend downwards.

#### **Public expectations**

17. Thus, public expectations concerning safety and environmental protection are rapidly increasing, as are the costs of accidents and subsequent remedial action. The level of risk that public opinion will tolerate has declined and the demand for better protection and adequate compensation in the case of loss or damage resulting from accidents is ever increasing.

18. In the last two decades public reaction has been the inspiration behind a number of important steps designed to improve the safety of shipping and navigation at sea. That public reaction was caused by the loss of hundreds of passengers' lives in a relatively small number of marine casualties which received extensive media coverage and by significant environmental damage which received similar publicity. The awareness of the public to dangers in an area of transport generally perceived as safe and environmentally acceptable has been sharply increased by such incidents.

19. The need for and the urgency of action was also emphasized by all maritime operators within the Maritime Industries Forum. Note of this goodwill has been taken in the final report which the Forum transmitted to the Commission in October 1992.

### **3. THE GLOBAL CHARACTER OF SHIPPING**

20. The worldwide dimension of the interests and activities of the economic operators concerned, including shipowner's, charterers, and the fishing industry as well as those of consumers, whether as passengers, tourists or shippers requires action on the widest possible geographical scale. This dimension applies also to maritime safety and environmental protection and has led to regulations being primarily promoted and adopted at international level, through the International Maritime Organization (IMO).

21. This global dimension should continue to determine the approach of the Community, its Member States and its maritime industries, which must take the initiatives required to ensure that the IMO can continue to realise its worldwide objectives as to the levels of standards, their effective implementation and enforcement and within timescales which meet the concerns of both flag and coastal States and their populations.

22. Adherence to this policy is dictated not only by the need for the broadest possible application of standards guaranteeing a high level of safety world-wide, but also in the interest of reducing considerably the negative effects on the competitiveness of the fleets of the Member States which result also from the cost advantages enjoyed by the operators of substandard ships and crews.

23. To a certain extent the above also applies to other international organisations such as the International Labour Organisation (ILO) and the International Association of Lighthouse Authorities (IALA).

#### 4. THE COMMUNITY'S APPROACH

##### Introductory Remarks

24. Actions to promote safety in transport are included in the white paper on a global approach on the future development of the common transport policy<sup>1</sup> as adopted by the Commission on 8 December 1992. This document outlines the general principles and the main types of initiatives of a Community programme to enhance the safety at sea and to prevent or reduce operational or accidental pollution by ships. As far as quantity of oil is concerned, accidental discharge of oil is only the smaller part of the overall pollution, even of the overall pollution caused by shipping. However, the impact on the environment as well as on certain economic sectors can be dramatic, particularly in the local communities where accidents happen. The focus of this communication is the safety aspects of relevance for the prevention of such accidents and consequential needs to protect marine and coastal environment, while only in broader terms addressing other environmental aspects from shipping.

25. The approach proposed in the present Communication stems from the White Paper to tackle the main causes of failures in safety at sea and protection of the marine environment from pollution by ships identified above and thereafter to monitor and evaluate the success or failure of the measures laid down, and take further appropriate measures if necessary.

26. The European Parliament has always been very sensitive to the public demand for greater safety at sea and protection of the sea and has repeatedly called on other Community Institutions for effective measures<sup>2</sup> and for an increased role of the coastal States to further reduce the potential threat shipping activities represent to the maritime environment, its natural resources and the industrial and leisure activities which develop along the European coastline.

27. Recently<sup>3</sup> the Council has vigorously reacted, recognising the need for intensified action at international, Community or national level as appropriate to ensure more adequate protection of fish resources and coastal areas of the Community and urging the Commission to present this Communication, including an action programme on priority measures to enhance maritime safety and pollution prevention.

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<sup>1</sup> "The Future Development of the Common Transport Policy", 8.12.92.

<sup>2</sup> Resolution O.J. N° C 129 (Genoa and Livorno)  
Resolution P.E. 163.454 of 17.12.1992 (La Coruña)  
Bertens Report A3-0144/92 of 16.9.1992  
Resolution of 21.1.1993 (Shetland Islands)

<sup>3</sup> Conclusions of the extraordinary Council on Environment and Transport on Maritime Safety and Pollution Prevention in the Community - 25.1.1993.

28. The approach seeks, first, to eliminate substandard vessels from Community Waters and from Member States' fleets by:

- i. the adoption of Community requirements on the convergent implementation by the Member States of existing international rules, mostly IMO, through non-ambiguous and mandatory rules enforced by them in their capacity as flag States;
- ii. ensuring effective enforcement by the Member States in their capacity as port and coastal States of the international rules to vessels of all flags when operating in Community waters;
- iii. promoting a modern, coherent and harmonised development of maritime infrastructure including waste management facilities, traffic surveillance and aids to navigation, such as the establishment of Vessel Traffic Systems (VTS) and the installation of such systems where necessary in the Community, particularly in environmentally sensitive areas and to support real time traffic information or regulation measures, using the advances in information technology and telecommunication in global information management systems.

Moreover shore based radiocommunication facilities to support the "Global Maritime Distress and Safety System"(GMDSS) as well as additional shipborne equipment to facilitate control, should be fully implemented, thus bringing the safety of navigation in Community waters into the electronic age;

- iv. initiating and supporting action within the IMO and other relevant organisations to ensure that appropriate international provisions are made within reasonable timescales to improve safety performance and environmental protection, taking into account best available technology.

29. Equally important measures are needed on training to address problems associated with human error. On the basis of the minimum requirements to be adopted by the Community, appropriate programmes should be put in place to produce the necessary improvements as rapidly as possible. Attention should be given to employment of highly qualified and specifically trained seafarers on board vessels and in particular those carrying hazardous cargo, the strengthening of vocational training, pilotage and communication. Training should use the best available technologies which reflect state of the art operational systems in order to ensure a high level of skills amongst crews and the optimal use of technologies to monitor and manage shipborne equipment and related land systems. Finally, relevant R&D projects need to be developed with regard to promotion of advanced technological solutions to the problems of maritime safety and environment protection.

30. The global dimension of shipping requires that priority be given to action at international level. Therefore the Commission considers appropriate for the Community to pursue the enhancement of maritime safety and prevention of pollution of the seas in the framework of existing international organisations. However, the Commission notes the limits of the present international regulatory system due, inter alia, to loopholes in the relevant Conventions; to the non binding nature of several international instruments; to standards leaving wide discretionary margins to national administrations, to the different levels of application and enforcement of such standards by the flag and port States, including Member States.

31. Appropriate action at Community level brings an added value which individual, national action, and action within the international organisations, have not so far proved capable of attaining. Hence the need, recognised by the extraordinary Council of Environment and Transport Ministers of 25 January 1993<sup>1</sup>, to set up a Community action programme in this context. As to the manner of the Community's intervention in these cases, the adoption of binding Community legislation respects the proportionality of that legislation, together with the Community's machinery for insuring its proper application, that is needed to secure more uniform implementation and enforcement in practice of internationally agreed standards and other rules. Other aspects of the proportionality principle related to the type of binding legislation proposed are considered further below.

32. The development of modern maritime infrastructure where it is needed in Community waters is a necessary part of the development of transport networks, complemented by the accompanying trans-European telecommunication network, contemplated by the Treaty on European Union. This applies both to navigational systems and port infrastructure, for example, to deal with waste management. The proportionality principle will be respected in relation to the manner of the Community intervention by reliance on the flexible network guidelines and their accompanying measures for which the Union Treaty provides.

33. Co-ordinated action within relevant international organisations on the setting of new standards is needed to ensure that these will meet Community needs while also being respected by other maritime nations. Effective action of this kind allows improvements in maritime safety to be pursued in a way which takes fully into account the global character of the industry. It is also in full conformity with the proportionality principle since, to the extent that the international machinery produces effective results, the Community need not itself legislate on the same subject matter.

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<sup>1</sup> Conclusions of the extraordinary Council Environment and Transport of 25.1.1993 on Maritime Safety and Pollution Prevention in the Community.

(i) **Convergent implementation of international rules**

34. The present international rules laid down mostly in IMO, are subscribed to by flag States responsible for 99% of world tonnage vessels. Yet there is a consistent pattern of substandard vessels operating under the flags of countries which have ratified the international Conventions. This is caused by a variety of factors.

35. Implementation of the internationally agreed standards is not uniform because some instruments are not legally binding, like many IMO Resolutions. Others allow for derogations which may be of considerable importance. The totality of vessels is not covered, for example, passenger ships plying between ports in the same States or vessels below Convention size. Some instruments are defined using such general terms that very different interpretations are possible. Thus standards for many basic items are not clearly established, as for example in rules on fire prevention, collision, stability, equipment. Where an attempt has been made (by IMO) to remedy these deficiencies, very often the new specifications are again left to voluntary application. Such voluntary status is also enacted for by many IMO Resolutions.

36. Furthermore it is left to national administrations to define the detailed safety rules. In turn they delegate this work to classification societies. Many flag registers and classification societies are ill equipped to carry out the task: they lack adequate training, experience and technical knowledge. There is also a lack of criteria in minimum standards for the activities of classification societies themselves. For ships in service, survey intervals and specifications of conditions under which a partially worn out structure or worn machinery may be considered unsafe, are not defined.

37. The Law of the Sea Convention calls on States to adopt laws and regulations on safety and pollution prevention for vessels flying their flag or of their registry. It establishes that such laws and regulations shall at least have the same effect as that of generally accepted international rules established through the competent international organisations or general diplomatic conference. The IMO has called for a uniform application of such rules.

38. The above described divergences not only have an adverse effect on safety, they can and do fragment the international market for the maritime supply industry and create competitive disadvantages due to technical barriers and different certification processes.

39. As a first step the Commission proposes action by the Community to ensure convergent implementation of IMO standards by Member States. This can be done in a number of ways, for example, by ensuring that the Community and/or, as the case may be, all Member States adhere to international Conventions, by giving legally binding effect to international rules that are not mandatory or by Community directives adopting common interpretations of rules that are framed as general principles. Where necessary, these could provide for the development of additional European technical standards, for example, on marine equipment. These and other techniques should permit present divergences in safety levels to be reduced within acceptable limits while leaving both to the IMO and to national authorities their own particular roles and responsibilities.

40. In addition, the international standards could also be extended, as required, to those vessels falling outside the scope of the international Conventions. This would ensure that the same safety level will apply throughout the Community.

41. As regards ratification of Conventions, a priority measure should be the ratification by all Member States of the 1992 Protocols to the 1969 Liability Convention and to the 1971 Fund Convention. The extraordinary Council of 25.1.93 has recommended the Member States to do so, and has urged the Community and its Member States to examine the feasibility of developing a system of penalties and civil liability for environmental pollution. This subject will be developed in a Communication on civil liability for damage to the environment which the Commission is finalising and which is intended to be the subject of extensive consultations across the Community.

42. Moreover the Commission intends to promote in all relevant international fora initiatives aimed at an extension of compensation to cover the costs of conducting, where appropriate, an ecological survey.

43. For hazardous cargoes other than oil the Hazardous and Noxious Substances Convention (HNS) seems unlikely to be concluded within a reasonable period of time. A partial and interim solution might come from a substantial increase of the amounts provided for under the Convention on Limitation of Liability for Maritime Claims, of 1 September 1976.

**(ii) Uniform enforcement of international rules**

44. The convergent implementation of international rules alone would, however, be insufficient to guarantee an adequate level of safety and environment protection in Community waters, given that a large percentage of substandard vessels operate under other than Community flags, and given that many flag States are unable to set up and maintain proper control of vessels on their registers.

45. There is therefore an increasing need for measures to be taken by both port and coastal States to ensure that international rules are complied with by all vessels under any flag. The call for action by coastal States is stressed by several articles of the Law of the Sea Convention (also signed by the Community), for example articles 192, 194, 197, 211, and 218 to 221, which provide also for control measures by the State of the port. These measures are more specifically required under Regulation I.19 of the Convention for Safety of Life at Sea (SOLAS).

46. At present, despite positive results emerging from a decade of operation of the European Memorandum of Understanding (MOU) on Port State Control, the Community is still lacking a fully effective and coherent approach to this form of intervention. There is no consistent application of safety rules; no systematic system for inspection or detention of ships; no efficient and transparent data exchange mechanism; and no uniform

legal basis for the enforcement of agreed rules. This results in many substandard vessels escaping the safety net of the rules. The lack of a common, mandatory approach frustrates also the efforts of those who try to implement the rules rigorously and enables ships, by such methods as selective use of certain ports of destination, to avoid the net for their proper control. The rigorous States pay also in loss of trade for their adherence to safety and environment protection policies, while their waters continue to be threatened by transiting substandard vessels.

47. This is a situation which should be eradicated. This cannot be achieved effectively if action is taken solely at national level, nor by relying exclusively on voluntary commitments such as those of the MOU on Port State Control, based on non uniform inspection and detention criteria.

48. Community level action is thus required to provide a sound footing on which all the Member States can operate, and depend on their neighbours and partners doing likewise. The Community approach should be based upon uniform and binding application of common criteria for intensification of controls over certain types of ships and for evaluation of deficiencies and sanctions including detention or possibility to refuse access to Community ports to ships found below internationally agreed standards and further which refused to be upgraded or repaired as required, and the rapid adoption of EDI as a transparent data exchange mechanism.

49. In addition, Community action within the framework of the MOU on Port State Control to which a number of European third countries are parties, including action within its Committee, could permit such measures to be given broader European application.

50. Furthermore, port and transit dues which have the effect of penalising modern vessels should be revised taking into account IMO Resolution A722(17) on application of tonnage measurement of ballast spaces in Segregated Ballast Tanks (SBT).

### **(iii) Development of maritime infrastructure**

51. The responses of Member States to their international obligations and calls for a high level of safety of navigation and coastal protection against pollution from ships vary considerably in Community waters. For example, a better mix of navigational aids including VTS and radio positioning, and of waste reception facilities is provided in the northern European area. Even when facilities are provided, the lack of harmonised procedures, particularly in the ship/shore interaction and in co-ordination across frontiers diminishes the effectiveness of the efforts. This is typical of VTS, developed and still developing mostly in response to local needs which leads to an incompatible and piecemeal coverage of the Community coastal areas, as well as of port reception facilities for oil and waste.



52. The financial efforts of Member States to provide the necessary infrastructure for navigational aids and waste facilities to fulfil the international obligations are unbalanced. As regards VTS, for example, some Member States benefit from the large coverage of the services provided by others without any financial effort on their part. Some Member States are unable to provide the expected services due to the very extended coastlines. The burden on those who have the benefit of navigational aids differs from Member State to Member State. Some States apply totally or partially "the user pays" principle imposing lighthouse dues or similar taxes to all ships plying to their ports, whilst others provide considerable facilities to shipping in their areas without any cost recovery from the users.

53. As for waste and oil reception facilities, their lack in several ports of the Community favours both unlawful discharges at sea and deflection of trade towards more permissive ports where use of these facilities is not available or not offered.

54. Individual States' action has failed to respond both to the need for convergent implementation of harmonised procedures for VTS, even when they are developed at international level as reference standards by the International Association of Lighthouse Authorities (IALA), and to the international commitments for waste reception facilities. Furthermore, individual States' actions cannot respond to the need for recovering from the users at least the cost of operating and maintaining safety infrastructure. One major reason is that for individual States such users are transiting traffic.

55. Without adequate common action, navigation in several areas of the Community will continue to present a higher risk, in terms of safety and pollution, than in other better covered areas, while the application of cost recovery principles will remain at best partial and unharmonised with the effect that some areas will operate at a competitive disadvantage.

56. A coherent body of initiatives at Community level to respond to these requirements ought to include a Community-wide ship reporting system which may be extended to ships in transit; development of a European radionavigation chain as part of the projected world-wide system, identification of zones of high ecological interest with regard to adopting, when required through IMO, appropriate traffic restrictions, including routeing measures and areas to be avoided; appropriate measures on emergency services, in particular towing, and co-ordination of the availability of salvage capacities; the fostering of harmonised development of VTS networks and the harmonisation of their functions and procedures in the Community. As to waste management, appropriate action is required for the creation of reception facilities to implement effectively the MARPOL provisions.

57. The Community measures should also include both the development of a commonly agreed mechanism whereby users would contribute to the costs of providing the infrastructure required for the safety of navigation and the uniform implementation of the international commitment to prevent illegal discharges at sea and into the air.

58. The phasing-out of substandard ships raises also the issue of scrapping facilities. Particular attention should therefore be given to ways and means to promote, at worldwide level, the development of technologically advanced and environmentally friendly infrastructures for this purpose.

(iv) **International rulemaking**

59. Slow progress in the international rulemaking process in IMO is primarily due to the diverse characteristics, interests and resources of flag States. In some cases, either this holds up effective action for so long that it then becomes ineffective, or final solutions, while apparently reflecting international consensus, do not bring a satisfactory answer to those States who had identified their needs. Decisions on retrofitting of existing ships are sometimes to be implemented over such a long period that it is no longer credible. These are natural limits to international rulemaking and to the effectiveness of the contributions individual Member States can make to such a process.

60. The Commission believes that, in spite of these drawbacks, safety and pollution prevention rules governing maritime activities should continue to be pursued primarily through the IMO in order to ensure the widest possible coverage for rules and standards applying to a global industry.

61. However, if the IMO is to remain the body primarily responsible for setting standards on maritime safety, it follows that the Community needs to ensure that the IMO's work develops in a way which will produce adequate solutions for ships sailing in its waters. Action is needed so that co-ordinated positions can be taken favouring the adoption of necessary new rules and the modification of old ones. More rigorous, uniform application of international rules within the Community must have as its corollary action within the IMO with a view to ensuring similar developments elsewhere in the world where Community vessels operate in competition with third country vessels. Procedures will have to be developed which will allow the Community to act effectively to this end while respecting the IMO's methods of working and the technical character of much of its activity, as well as minimising possible negative reactions to suggestions of development of regional voices within the organisation.

62. In this context, one of the areas on which the Community should concentrate its efforts is measures to reduce the risk of human error since this element has been recognised as the major cause of maritime accidents. Another area concerns the introduction of new technologies for shipborne equipment, in particular that related to the automatic transfer of data from ship to shore and vice versa.

63. The opportunity should also be taken to re-examine the present status of the Community in IMO, in the light of the completion of the internal market and the development of a global common transport policy taking due account of environmental aspects. The purpose of this action is to evaluate the need for change which may call for the Community to seek membership of the organisation.

64. A more detailed presentation and explanation of all the measures proposed within each of the four main areas of activity is contained in the second part of this Communication, the action programme.

65. The Communication and the action programme provide also the basis for the necessary dialogue with all parties concerned, and in particular with the Council, the European Parliament, the Economic and Social Committee, the Joint Committee on Maritime Transport and the maritime industries.

**PART II****THE ACTION PROGRAMME****INTRODUCTION**

1. In the light of the analyses in Part I, the action programme for the implementation of a common maritime safety and pollution prevention policy should consist of four main types of initiatives:

- i) Convergent implementation of international rules
- ii) Uniform enforcement of international rules
- iii) Development of maritime infrastructure
- iv) International rule making.

The main items for this programme are presented in summary form in annex 1.

2. The programme claims to be neither exhaustive nor definitive. A number of issues which, at this stage, are more in the nature of problems requiring study or analysis call for further investigation by the Commission in consultation with government experts, industry and users representatives before policy orientations can be suggested. Examples of these important issues are the assessment of scrapping requirements and facilities for phased-out ships; the co-ordination of the availability of salvage capacities; risk evaluation and prevention; the financial responsibilities of owners of hazardous cargoes using substandard ships as well as the responsibility of the shipowner for the safety of crew and passengers; the examination of the possibility to establish an appropriate environmental liability system; analysis of the future requirements in terms of design of safe and environmentally-friendly ships that take into account research and development already done namely at European level. Moreover, after a period of time new issues may emerge and priorities might change.

3. The action programme thus represents those measures which are at present ripe for action at Community level. It will need to be up-dated from time to time as circumstances may require.

4. During the implementation of the action programme the Commission will promote public awareness and seek the support of the main economic operators and all governments as well as of non-government maritime interests. In particular the Commission will interact with existing or foreseeable frameworks, including the Maritime Industries Forum.

## CHAPTER 1. CONVERGENT IMPLEMENTATION OF INTERNATIONAL RULES

5. The first component of the action programme breaks down into five main groups of measures:

- i. convergent application of generally defined rules of IMO Conventions;
- ii. harmonisation of safety requirements for shipborne equipment;
- iii. convergent implementation of IMO Resolutions;
- iv. adoption of common standards for non-Convention vessels.
- v. action concerning the human element.

6. A summary explanation of the negative effects on safety at sea and on prevention of pollution by ships resulting from the lack of uniformity in the level of application by flag States of internationally agreed standards is given in Part I (§ 34 to § 36). The more detailed analysis outlined below of the ways the present international regulatory system operates helps in forming a wider understanding of the limits of such a system; of the reasons why, in the Commission's view, a Community answer rather than single States could improve the situation; and what type of answer is proposed.

### i) Convergent application of generally defined rules of IMO Conventions

7. Neither the SOLAS '74 Convention nor the Load Line Convention identify all standards to which all ships must conform at the building stage and during their entire life to a degree detailed enough to ensure that they are uniformly implemented in the Community in a non-divergent manner. This is particularly true for elements such as the hull, machinery, electrical and control installations. These fundamental ship components are controlled according to the rules of classification societies. Therefore most administrations decided to delegate to the classification societies the preparation and enforcement of safety rules concerning their reliability. The classification societies in question traditionally had adequate staff and facilities to develop the rules in question and to cover the related inspections.

8. However, and this is the root of today's problems in this field, during the past two decades the number of classification societies has greatly increased whilst several of them do not have the traditional characteristics to justify their being delegated to act on behalf of the administrations. For example they have insufficient trained and experienced personnel and infrastructure to prepare and to carry out tests and to interpret rules. The result of this historical evolution is that today the national authorities are confronted with a problem which is threefold:

- a. the SOLAS rules concerning the most important parts of the ship are not specified;
- b. this danger is frequently exacerbated by the absence of the expertise and long experience of a high quality classification society;
- c. also unspecified are the standards which need to be applied to ensure that the ship continues to be safe for the whole of its life.

9. This has led to a situation where not only rules differ in the Community but also the conformity of ships to such rules is determined by bodies of different levels of quality and expertise whose decisions on safety-related issues can hardly disregard other considerations such as the need to keep a fleet under their register.

10. An effective answer to these problems could be the adoption of a Community directive establishing measures to be followed by the Member States and national organisations concerned with the certification and the related surveillance of compliance by ships with the international Conventions on safety and pollution prevention at sea.

11. The first objective of the directive would be to secure the direct and tighter involvement of the national administrations in the ships certification and survey process. Where a Member State decides to delegate fully or in part its statutory role on surveys and certification of compliance to Conventions such as SOLAS, Load Lines and MARPOL, or to rely upon expertise (organisations or qualified surveyors) outside its competent administration to carry out inspections and surveys related to those certificates, it shall entrust these duties only to organisations which meet an established set of criteria demonstrating their ability and commitment to perform at highly reliable and efficient level.

12. As an example, the Commission notes that several of the following criteria characterise efficient and highly regarded classification societies. They can:

- comply with the criteria specified in EN 45000 and EN 29001 European standardisation (CEN);
- demonstrate their ability to carry out all surveys required by the Conventions for the issue of certificates ;
- set up and monitor international technical standards, and have sufficient experience and skill in performing technical surveys;
- demonstrate their ability to develop and keep updated a full set of own rules and regulations on hull, machinery and electrical and control equipment to internationally recognised technical standards;
- show world-wide representation and employ a minimum number of qualified technical staff;
- demonstrate a minimum size of classified fleet or tonnage;

Clearly these would be among the criteria upon which the Community would base recognition of the organisations entrusted with statutory duties.

A working relationship should be established between the competent national administrations and the organisations acting on their behalf to ensure quality and consistency of rules, surveys and certifications. It should be based upon a formalized agreement between the parties setting out the specific duties and functions assumed by the organisations. This should include a periodic audit by the administrations of this work, as well as the possibility of checking procedures by national administrations involving random inspections of ships.

13. A second objective of such a directive would be to ensure that all "Convention" ships entitled to fly the flag of a Member State comply with precisely defined requirements designed to achieve equivalent results on safety and reliability of hull, machinery, electrical and control installations.

These requirements should apply both to the certification of new constructions and to surveys during the life of the ship.

**a) New construction**

Preparation of sufficiently detailed standards for new constructions would mean practically re-writing the extremely large and complex set of rules and procedures of the classification societies on these components and keeping them continuously updated.

This would be unrealistic and unnecessary since the major classification societies members of the International Association of Classification Societies (IACS) have developed, maintained and upgraded in the course of the years all necessary standards for these ships' main components. Although they may differ in cases, it is generally accepted that their effects on the safety of ships are substantially equivalent.

Thus, a more pragmatic and realistic approach would consist in including in such a directive provisions to the effect that ships are to be built and maintained in conformity with the requirements for hull, machinery, electrical and control installations of those classification societies which meet the set of common criteria described above.

The proposed approach would introduce equivalent safety levels on all main components of ships under Member States' flags. Moreover, it would take away from the "approved" organisations, the present economic pressure put on them by unsound competitors. Such undue influence of the economic activities of classification societies on their statutory work has raised the doubts of many observers of the maritime world on the ability of these high level organisations to maintain the required full independence of judgement when carrying out their statutory duties on behalf of the national administrations.

The adoption and adequate implementation in the Community of such a measure would restore in all concerned, including Member States administrations, the full confidence on the effectiveness and reliability of the inspections and surveys of these classification societies and in their continuous commitment to maintain and update rules on hull, machinery, electrical and control installations.

A further provision would also be necessary to ensure that these classification societies will consult with each other periodically with a view to maintaining equivalence of their future standards and implementation thereof.

**(b) Surveys during ship's life**

Two aspects need to be considered:

1. specification of intervals between various types of periodical surveys and scope and extent of each survey;
2. specification of conditions under which a partially worn-out hull structure or worn machinery may still be considered safe for the period between two surveys and the extent of repairs or substitutions required.

The former are dealt with under classification rules and the above approach for new construction would apply. The latter are difficult to codify in written standards, each case requiring an evaluation on its own merits as well as the knowledge and the experience of the surveyor. He may also need detailed information from files giving the history of similar ships. The skill of the surveyor and the efficiency of the inspecting organisation are therefore key elements. This problem would be solved by delegating the execution of these tasks only to organisations meeting the criteria described above.

Finally complementary action is required to ensure that all flag administrations other than Member States administrations, which delegate the testing and certification of ships entrust such statutory duties only to highly reliable organisations.

To this end, a specific measure is required addressing the Member States as States of the port, to select for priority inspections those ships whose certificates, including the class certificate, have been delivered by an organisation which does not meet the criteria laid down for the EC-approved organisations.

Moreover, the Community and its Member States should, as recommended by the Council in its conclusions of 25.1.1993, as well as by the industry in the Maritime Industries Forum, act in a co-ordinated manner in IMO to obtain the extension of these provisions to the whole shipping world.



The serious gap described above can only be filled by such a directive establishing a common framework of quality at Community level to guarantee certain safety performances in the EC. It respects the proportionality principle by leaving to each Member State the right to decide the implementation tools that best fits its internal system and to the delegated competent organisations the duty and the tasks to lay down, maintain and apply the appropriate standards under the surveillance of the Member States in co-operation with the Commission.

**ii) Harmonisation of safety requirements for shipborne equipment**

14. For marine equipment a different approach from that put forward for hull, machinery, electrical and control installations is proposed. The reason is simple. Rules and standards for marine equipment are developed, to a certain extent within the relevant Conventions, rather than relying as was explained before, for hull and machinery, upon rules laid down by classification societies. The problem is rather that of ensuring that the margin of interpretation left to administrations or testing organisations converges as far as is reasonable and that they are effectively applied in a consistent manner in all Member States.

15. Following extensive consultation, both with the shipping industry and government experts, the Commission has formed the view that the level of performance of shipborne equipment required by the SOLAS or MARPOL Conventions suffers from problems similar to those identified for the main ship components: different levels of national standards implementing the international rules or recommendations concerning technical specifications and testing procedures leaving discretionary margins to certification bodies, and different levels of qualifications and experience, as well as testing methods of such bodies.

16. This leads to differing levels of safety, and in turn, despite the existence of international standards, to reluctance of Member States to accept without control equipment approved by another Member State; to the creation of technical barriers to trade and to unnecessary costs and administrative procedures related to the approval of this equipment. Moreover, shipping companies face higher costs in some Member States than in others because of different national requirements, and accordingly are at a competitive disadvantage to companies in other Member States. Community action for harmonisation in the Community of international technical requirements and testing of shipborne equipment as well as of conformity assessment procedures designed to improve safety at sea, safeguard human life and protect the environment seems therefore justified.

17. Directives should be adopted addressing in the first place shipborne equipment for which SOLAS and MARPOL require the approval by national administrations in accordance to standards set out in IMO Conventions or Resolutions.

The primary objective of such directives would be to establish the same level of safety performance of this equipment throughout the Community. Such directives would make use of certain aspects of the Community's "New Approach on Technical specifications, Testing and Certification"<sup>1</sup> to technical regulation and standardisation because they would provide that all equipment placed on the market for use on board a ship shall comply with common technical and testing requirements. This would be proven, in line with the provisions of the "new approach", by conformity assessment procedures which shall consist of the CE-type examination (module B) and, at the choice of the manufacturer, the EC declaration of conformity to type (either module C or D). Complying products shall exhibit the CE mark, the CE-type examination certificate and the identification number of the notified body. This approach would meet the further objective of ensuring the free movement of goods within the Community by establishing that Member States shall not prohibit, restrict or impede the placing on the market for putting into use on ships, equipment which complies with the requirements of the directives. Provisions shall establish that Member States shall recognise equipment exhibiting the above identifications also when granted in another Member State. Finally, procedures for recognition of notified bodies competent to carry out the conformity assessment procedures are set up. They should limit the EC recognition only to those organisations which meet a set of common minimum criteria to be established in the context of these directives.

18. As regards shipborne equipment for which no international provisions exist as regards both mandatory carriage and safety standards, the full use of the "new approach to standardisation"<sup>2</sup> is foreseen. It will focus only on those products for which the survey carried out by the services of the Commission has identified the existence of technical barriers to trade.

### iii) Convergent implementation of IMO Resolutions

19. In addition to the international Conventions and Protocols, the IMO Assembly adopts Resolutions to upgrade international standards or to complement those set in the Conventions and their Protocols. In most cases, acceptance of these Resolutions does not entail an obligation to comply. A survey carried out by the Commission's services with the help of government experts on a limited number of important safety-related IMO Resolutions, has provided evidence of a large variety of approaches in the Member States for the application and interpretation of these voluntary standards.

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<sup>1</sup> Council Resolution of 7 May 1985 (OJ. No. C136, 4.6.85).

<sup>2</sup> Council Resolution of 7 May 1985 (OJ. No. C136, 4.6.85).

20. Examples are found in rules on fire prevention, collision, grounding, stability and the minimising of consequences of casualties. To cope with some of these imperfections, yet more rules were adopted by the IMO Assembly. Since their interpretation or the decision as regards their application were left to the national administrations, these safety standards are also not determined or applied unequivocally.

21. Further examples of important Resolutions of a non-mandatory nature are found among those dealing with the carriage of dangerous goods, such as the International Maritime Dangerous Goods Code (IMDG) and the Code for Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH).

22. Also of high relevance in the light of past and recent dramatic events where hundreds of human lives are lost at sea, are those IMO Resolutions concerning passenger vessels and bulk carriers. Here problems related both to construction and to operational issues are underlined and recommendations are made extending from thorough investigations of accidents reports, so as to assist in the adoption of appropriate remedial measures, to implementation of specific interim measures, addressed also to loading terminal operators or crews as appropriate.

23. The negative impact which the use of different national rules implementing international standards has on safety, prevention of pollution, competition, barriers to trade and added costs and administrative procedures, has already been developed in previous paragraphs and will not be repeated here at great length. However, certain issues of high relevance to safety are shortly outlined through three specific examples of the type of actions required.

**a) Vanishing bulk carriers**

24. The effect of the rising graph of the vanishing bulk carriers deserves special attention. The facts are startling. Since 1975 more than 280 bulk carriers have been lost, 30 in the period from January 1990 to September 1991.

Mariners, shipbuilders, metallurgists, naval architects, classification societies and insurers are highly critical of current standards and practices, particularly as regards older vessels lifting heavy ores. When searching the causes of losses, it becomes clear that there is no single cause: structural failure, stress (including that due to vibrations), the type of steel used, corrosion, handling, cargo damage, and working practices have all been put forward. Immediate action is a must, and it was strongly urged by IMO Resolution A. 713(17) of 6.11.1991 "On the safety of ships carrying solid bulk cargo".

25. A first answer may come through the measures proposed under section i) "Convergent application of IMO Conventions" which should ensure that ship inspection requirements are dictated and enforced by law, i.e. direct Government intervention in the issuing of licences and certificates at all levels, or delegation only to highly qualified classification societies under strict supervision of the administrations, thus making both more accountable and legally liable.

26. But this will not suffice. Classification societies recommendations should be immediately implemented. For example: side structure to cover minimum strength and thickness for frames and brackets, detailed design and welding of brackets, with an increased weld factor; use of higher tensile steel frames and brackets; new requirements for watertight bulk heads.

A directive setting adequate provisions for the mandatory application of such recommendations, as an accompanying measure to that under section i), could bring a substantial contribution to the solution of the problems for vessels operating under Member States flags. A further measure should be taken at the level of port State control to ensure that other flags' vessels do respect these international recommendations. This point is further developed in the next chapter.

#### **b) International Codes and related Resolutions**

27. Along the same line of approach, other problems underlined by IMO resolutions could be solved by adopting, as a first step, Community directives giving mandatory nature to groups of Resolutions or parts of them for all vessels operating under the flags of the Member States. This approach would seem suitable for example to make sure that all Member States fully apply and enforce compliance to international codes such as the IMDG and the BCH Codes. As for the bulk carriers case, complementary action would then be needed at the level of port State control and in full compliance with the "no more favourable treatment" principle to encourage non-Community States to apply to vessels under their flag, codes and related Resolutions which they have approved within IMO.

28. As regards the Resolution A.680(17) and its recommendations related to the Safe Management Code, the modalities of their effective application in the Community should be thoroughly examined. A possible step could be to require any shipping company to have a "safety manager" responsible for all safety-related aspects of the shipping activities. This constitutes an integral part of the certification rules in aviation and the lack of it is a regrettable gap in the shipping industry. Furthermore, the expediency of making relevant provisions of this code mandatory for all operators of passenger ships which operate on a regular basis to and from Community ports should be examined. The same approach should be considered for other Resolutions concerning operational provisions related to these vessels, their crews and passengers, and those related to tankers.

#### **c) Port dues on segregated ballast tanks in oil tankers**

29. Conventional oil tankers must carry part of their water ballast in cargo tanks. Modern oil tankers are equipped with segregated ballast tanks, which are completely separate from the cargo oil and fuel system, having their own lines and pumps. An SBT tanker has a space which, therefore, cannot be used for cargo, and the volume of which is 15% - 20% over and above the volume of a conventional tanker with the same carrying capacity. SBT oil tankers have been ordered for the benefit of the marine environment.

30. When calculated on ships' volumes, dues and charges are e.g. 15 - 20% higher for these SBT oil tankers than the dues on conventional tankers. The charging of dues on the volume of the SBT tanks is an operational disadvantage for those who have taken an important step towards a cleaner environment.

31. In order to avoid that owners who have ordered SBT tankers pay such additional port costs, IMO Resolution A.388 (X) was adopted in 1977. Its wording has later been refined, and IMO Resolution A.722 (17), was adopted on 6 November 1991 by IMO's General Assembly. In short, this resolution deals with the exemption of the tonnage of SBT spaces. At its biennial general meeting in Spain in 1991, the International Association of Ports and Harbours (IAPH) passed a Resolution supporting the IMO Resolution.

32. The Commission is aware that in spite of the adoption of these Resolutions, State and port authorities in many countries, including some Member States, continue to enforce dues and charges on SBT tankers in a manner which does not comply with such recommendations and punishes SBT tanker owners, thus encouraging operators not to use these more environmentally friendly vessels.

33. The mandatory application of Resolution A.722(17) in all community ports would provide a much needed solution to this problem.

34. The very large number of the existing Resolutions and their varied degree of precision and details makes it impracticable to develop further in this context the specific actions required. This is particularly true for those Resolutions, and they are many, where a large discretionary interpretative role is left to the national administrations. The Commission intends to address the latter case by bringing to completion as soon as possible the exercise already started in the course of 1992 with the support of government experts. It consists in the establishment of a list of priority Resolutions, for which ad hoc measures shall then be proposed.

In this context the Commission underlines the request by the Extraordinary Council on Environment and Transport of 25 January 1993 to support the IMO action on the reduction of the safety gap between new and existing ships by up-grading and/or phasing-out existing ships, including ferries, built to earlier standards after a reasonable period of operation, paying particular attention to oil tankers not meeting the MARPOL standards which entered into force in 1982 .

35. An indispensable corollary to these actions would be to try and promote in IMO the solutions found for the Community to ensure that all vessels under non-EC flags would be put on an equal footing and would not constitute an unacceptable threat to safety and to the environment of EC coastal waters.

iv) **Adoption of common standards for non-Convention vessels**

36. Among the efforts aimed at plugging the gaps in international regulations, a further step is required as regards those vessels which, by virtue of specific exemptions in the international Conventions, are not subject to international standards. This is the case for passenger vessels and cargo ferries plying between ports in the same Member State, cargo ships of less than Convention size and, should the Torremolinos Protocol be adopted in its present form, fishing vessels below 45 metres. On the one hand, the international framework is of fundamental importance to maritime safety given the global character of the shipping industry. At the same time, it would appear necessary that also those ships operating exclusively in Member States waters, thus Community waters, should respect common requirements providing, as general rule, the guarantees of safe operation required by the international standards. Furthermore, certification of conformity should be done by qualified bodies if a level playing field based on convergent standards is to be achieved. This complex issue has been examined by the Commission and the Group of Government Experts on Maritime Safety (GGEMS) in its 10<sup>th</sup> meeting held in Brussels on 2 April 1992.

37. As regards passenger vessels on domestic voyages, the Group expressed itself, in general, in favour of a solution at Community level, based on a Council Directive establishing minimum rules for new passenger vessels - despite the complexity of the issue - and to extend such rules, as far as possible, also to existing ships. Bearing in mind the economic impact of such measures a phasing-in period is certainly required. The main reference framework for such a directive should be the SOLAS Convention, with due regard, of course, to the need to single out appropriate derogations for specific situations.

38. The need for such a measure was underlined by several experts not only on the basis of safety aspects, but also in the light of the recent adoption of the EC Regulation on liberalisation of cabotage services<sup>1</sup> which, opening national trades to ships from other Member States, emphasises the importance of ensuring that competition takes place on an equal footing. Today this would not be the case. Among the factors leading to an unequal footing are the varying safety levels of national rules for the fleets operating only on domestic routes.

39. As regard new cargo vessels below Convention size a large consensus on the need for a community measure also formed in the Group of Government experts at its 10<sup>th</sup> session, though some consideration should be given to the degree of priority with which a Directive should be prepared. In fact, while there seems to be little doubt that some of these vessels, particularly the tankers operating feeder services, represent a real threat to local environmentally sensitive areas, justification of this measure is found

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<sup>1</sup> Council Regulation (EEC) n° 3577/92 of 7.12.1992 "Applying the principle of freedom to provide services to maritime transport within Member States (Maritime Cabotage)". O.J. L 364, p. 7 of 12.12.1992.

particularly in looking ahead. The already large number of these vessels is bound to increase greatly if short sea shipping develops as a serious alternative to inland transport<sup>1</sup>. By focusing on new vessels only, the Community could anticipate a potential problem thus avoiding, in the near future, a number of those problems which are at the root of this Communication, in particular safety and distortion of competition. The Community measure would be based upon the requirements developed, for such smaller vessels, in the Torremolinos Convention and its Protocols as well as on SOLAS rules as appropriate. Given the international character of these vessels the Community and its Member States should also try, in a second stage, to promote adoption of these rules in IMO.

40. A third area where measures at EC level seem justified is that of the safety of fishing vessels bearing in mind the high casualty rate of these vessels. For the period 1982-1991 not less than 1.580 casualties (world-wide), with 1186 lives lost, were reported to Lloyd (these figures relate only to vessels above 100 GT). To remedy the situation several Member States, supported by the Commission, tried fruitlessly for a long period of time to establish acceptable safety standards through the adoption of an international Convention (the "Torremolinos" Convention of 1977). Regrettably, the international agreement was never ratified and the present expectations do not go beyond the acceptance of a Protocol to the Torremolinos Convention in the spring of 1993 (see also par. 144 and 145) The main chapters of this Protocol would apply only to vessels above 45 m in length. However this Protocol does recognise the need and encourages the adoption of regional agreements for vessels below this size. Given that 85% of the vessels of the Community fleet of vessels above 100 GT are between 24 and 45 meters, the international solution will not provide the required answer for the Community.

41. The next step is therefore the search for a Community solution to be extended as far as possible to other countries of the European region, seeking a high level of safety. The Commission proposals will be based upon the internationally agreed rules for vessels above 45 m., adjusted in so far as necessary, to take into account the local conditions of the areas where the vessels operate.

42. For vessels below 24 meters, the Commission intends to examine with the Member States' experts whether further measures are required to complement those already proposed to the Council for the protection of workers on board of fishing vessels<sup>2</sup>.

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<sup>1</sup> See also "The future development of the Common Transport Policy; a global approach to the construction of a Community framework for sustainable mobility".

<sup>2</sup> Proposal for a Council Directive concerning the minimum safety and health requirements for work on board fishing vessels

**v) Action concerning the human element**

43. A further area where much remains to be done concerns the weight of the human element in the chain of events leading to an accident. Figure 11 in chapter I has shown that human error, either by crew or shore-based personnel, is accounting for about 60% of all claims following an accident, and over 80% of the incidents.

44. An analysis of major claims carried out by the United Kingdom Protection and Indemnity Club has substantiated these figures with factual evidence. In particular this analysis demonstrates that:

- The majority of all personal injuries are caused by human error either on the part of the individual performing the task or by the officer in charge failing to give clear instructions or to supervise the performance of the task. There is also clear evidence to suggest that language difficulties on board ships are a contributing factor.
- About 80% of property damage accidents are due to the human factor, in particular errors by pilots during berthing operations. There is no doubt that poor communication, often aggravated by language difficulties, is a major factor.
- Collision is also an area where most if not all accidents are caused by human error. There is a greater likelihood of a collision occurring during the morning watch, traditionally kept by the first officer. Statistical evidence developed by the UK P&I club (1992 claims report) shows that 32% of the collisions occur between 04.00 - 08.00 hr, with most occurring around dawn in areas of high shipping activity when the master and a full bridge complement are on the bridge.
- An analysis of cargo and pollution accidents shows that half of these accidents are due to human error. They mostly consist of mistakes in storage, ignorance of carriage requirements of various commodities and bunker-related spills.

45. These facts and figures provide enough evidence of the high priority that should be given to measures aiming at reducing the risk of human error.

46. The Convention on Standard of Training Certification and Watchkeeping (STCW) developed under the auspices of ILO and IMO is the existing instrument for an international response to the need for qualified crews and officers. However, the above facts and figures show that the STCW Convention and its actual level of application need to be largely improved. It is also a fact that international Conventions on the issue of competence certificates are not always applied by all Member States and that such international acts may be unilaterally denounced.



47. Those measures aimed at giving increased effectiveness to the provisions of the STCW Convention are outlined in this chapter. Others relate to joint action in IMO, and are developed in chapter 4.

48. The first example of areas requiring action concerns the mutual recognition of diplomas. At Community level, the issue of qualification has been dealt in the context of two general Directives<sup>1</sup> addressing guidelines to several professions. Although they are important to ensure the free movement of seafarers in the Community they are not sufficient to guarantee a appropriate minimum level of training for all seafarers sailing on vessels flying a flag of a Member State, more so when they are involved in the transport of dangerous goods and passengers.

49. The question of training in the Community could also be improved by providing financial support to nautical institutions and schools in Member States as well as to EC shipowner's providing on board training for EC seafarers. Existing Community funds could be used for this purpose. Special attention in this context should be given to specialised courses related to certain types of transport such as transport of dangerous goods and passengers. These aspects could be considered in the context of the use of the Social Fund.

50. It would therefore seem expedient to lay down minimum training requirements within the Community to ensure that EC seafarers receive an appropriate level of training and enjoy freedom of movement within the Community. Such an appropriate level of training will contribute to navigational safety and the protection of the marine environment.

51. The Commission therefore proposes as a first step a Council Directive to ensure that ratings and lifeboatmen who intend to serve on a ship registered in a Member State have accomplished an appropriate training. This proposal will be submitted in the very near future. The requirements advocated are based upon those of the STCW Convention with the aim of their harmonised implementation. In addition, as recommended by the Council, mandatory provisions are included with regard to adequate knowledge of language for seafarers in charge of safety duties on board of passenger vessels and for ratings serving on liquified gas, oil or chemical tankers and ships carrying hazardous or polluting cargo.

52. As a second step, the Commission intends to examine with interested parties similar measures for captains and officers, taking into account the experience to be gained from the application at Community level of the Directive on ratings and lifeboatmen.

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<sup>1</sup> Council Directive of 21.12.1988 (89/48/EEC) OJ. L19, 24.1.1989 and Council Directive of 18.6.1992 (92/51/EEC) OJ. L209 24.7.1992.

53. Regarding third countries crews the Community should, in the context of port State control take appropriate action as regards ships with crews who do not possess adequate professional qualifications as these are required by international Conventions in particular the STCW Convention of 1978.

54. While these measure aim specifically to on-board personnel the overall concept of shipping management has also been identified by the IMO as a problem area requiring urgent and effective resources. IMO Resolution A 680 (17) and its related recommendations on the "Safe Management Code" try to provide the sound international basis upon which IMO Members should build their national solutions.

55. In this context the Community and its Member States should thoroughly examine the modalities of the most effective application and enforcement in the Community of Resolution A680(17) and the Safe Management Code, in parallel to appropriate action in IMO to secure its effective application worldwide.

56. A similar approach should be considered for other Resolutions or Conventions concerning operational provisions related to these vessels, to the safety of their crews and their working conditions, to passengers, and those related to tankers.

For example, as regards the ILO Convention 147 of 1976 on minimum standards in merchant ships the Commission has prepared requirements for transport workers, and their working environment on board transport means<sup>1</sup>.

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<sup>1</sup> C25 of 28.01.1993, p 17.

## CHAPTER 2. UNIFORM ENFORCEMENT OF INTERNATIONAL RULES

### Analysis of the present situation

57. While actions proposed under the first component address primarily the roles and responsibility of Member States as flag States, the second component focusses on their roles as port States.

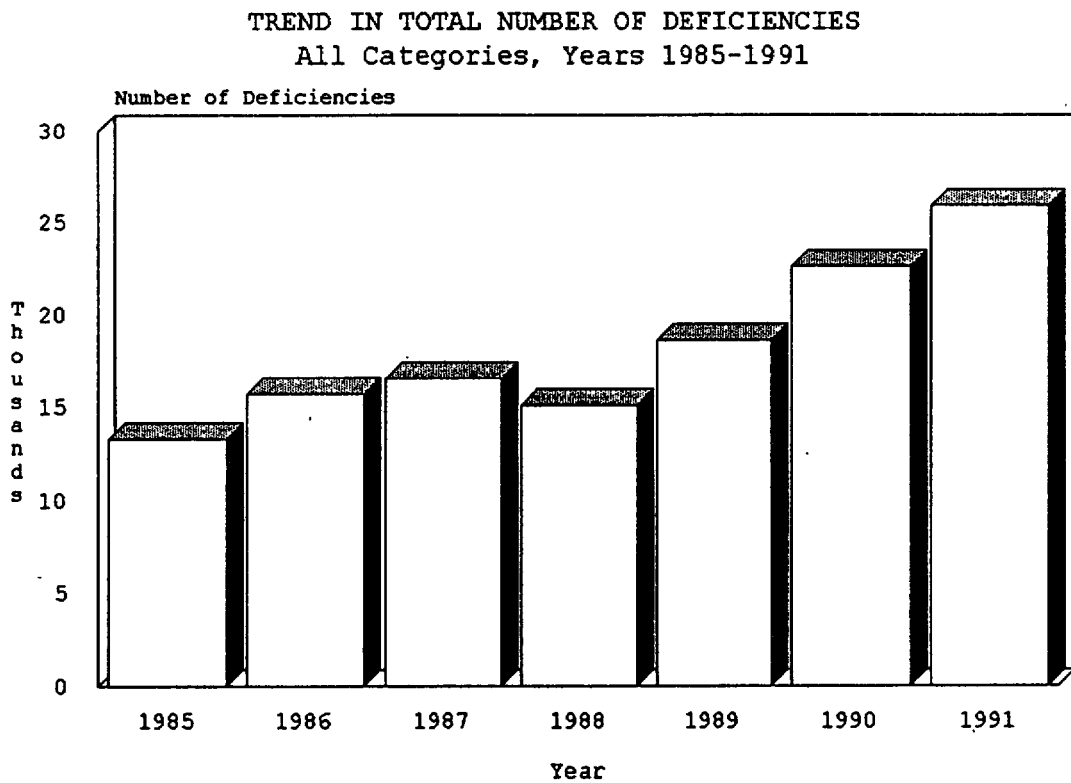
58. As shown in Part I, such action is justified in general by the fact that many flag States are unable to secure and maintain proper application and control of the safety and environment protection standards for ships on their respective registers. In fact, among the top priorities stressed by the IMO Secretary General and shared by the 17<sup>th</sup> Assembly is the need to secure a more uniform and effective application and enforcement of IMO Conventions. This is vital not only to ensure that ships of all flags comply with the standards as a condition for operating in Community waters, but also to ensure that ship operators who respect the rules are not penalised by unfair competition from substandard ships.

59. This is a task for the port States. European co-ordination of this task is currently carried out in the framework of the European Memorandum of Understanding on Port State Control (MOU). The MOU was originally concluded at The Hague in 1978, between the maritime authorities of eight States bordering the North Sea and the Channel, in order to enforce international Conventions relating to safety and living conditions on board ship. A new MOU, adopted in Paris in January 1982, is relied on by all maritime authorities in Community Member States with seaport facilities to control ships flying flags other than the national one. The fact that Norway, Sweden, Finland and recently Poland have signed the Memorandum shows that the approach also has the potential for ensuring that the whole of Western Europe could, by agreement, apply similar regimes to the control of ships.

60. Being a full member of the MOU Committee, the Commission has been able both to contribute and to closely examine the work and the achievements of the MOU. The statistical data on deficiencies and detention resulting from the PSC inspections as well as those presented in the first part of this Communication provide the basis for an analysis of the present situation.

61. Figure 13, for example, shows that every year more deficiencies are found by the PSC authorities. A growing number of deficiencies would naturally be expected due to the gradual increase of the activities of inspection authorities. After this initial phase, the deterring effect of these inspections should have reached the objective of discouraging substandard vessels from returning into Community ports. Hence, after 10 years of operation of PSC the deficiencies level should be showing a steady decline every year. However, this is not so. A possible explanation is that several flag States and operators using such flags are not pressed enough by the present inspection mechanisms to remedy deficiencies detected and, more generally, they are not encouraged to maintain their ships at the required standard, nor are they discouraged from returning with the same substandard ships to the countries of the Memorandum.

Figure 13

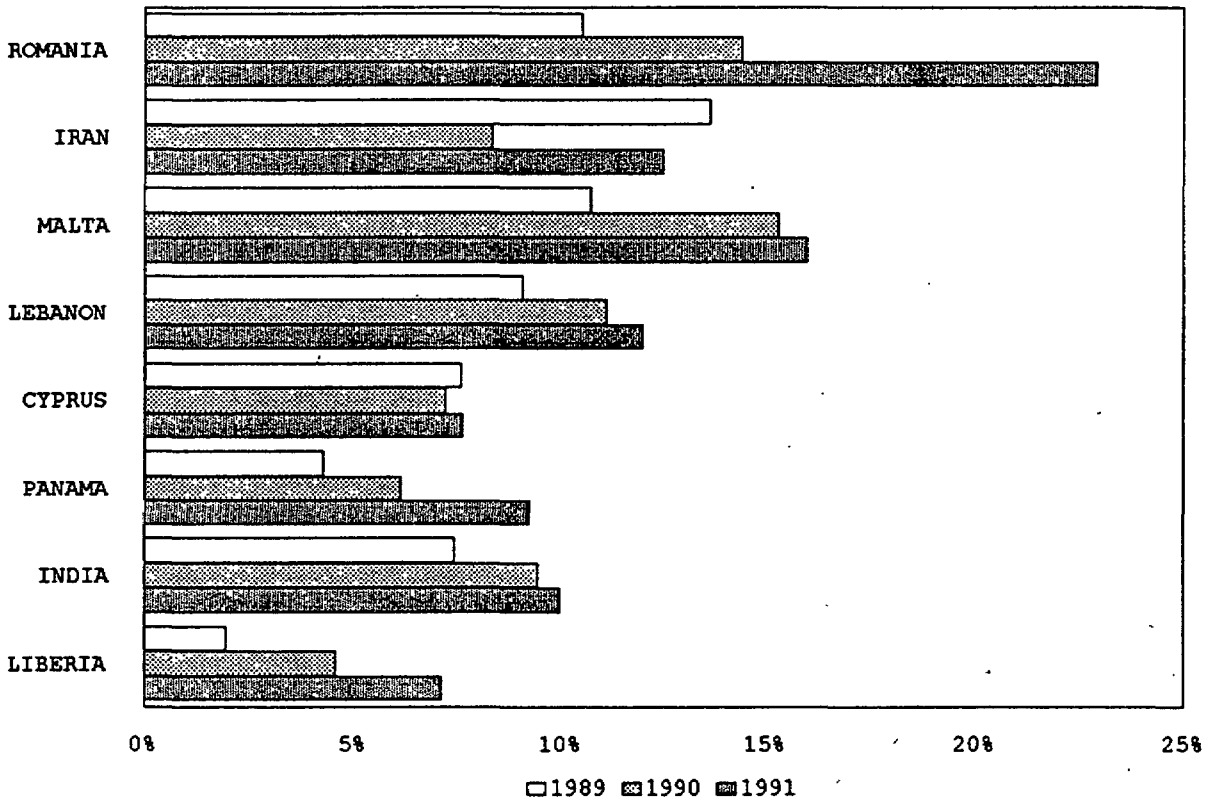


Source: PSC Report, 1991

62. This explanation finds further supporting evidence in the data collected (see figure 14) showing the trend in detention ratio for some flag States. Every year the ratio of detentions over inspections for vessels with low safety performance record increases steadily. It is not yet clear that the deficiencies found in flags with a good maritime tradition tend to diminish. This would seem to show that those very ships the MOU had set out to eliminate from European waters keep coming back every year with lesser maintenance and worse crews, in spite of the laudable efforts made by the surveyors and their administrations. Such ships compete with an unfair advantage with those which have made the additional financial efforts to meet the requirements.

Figure 14

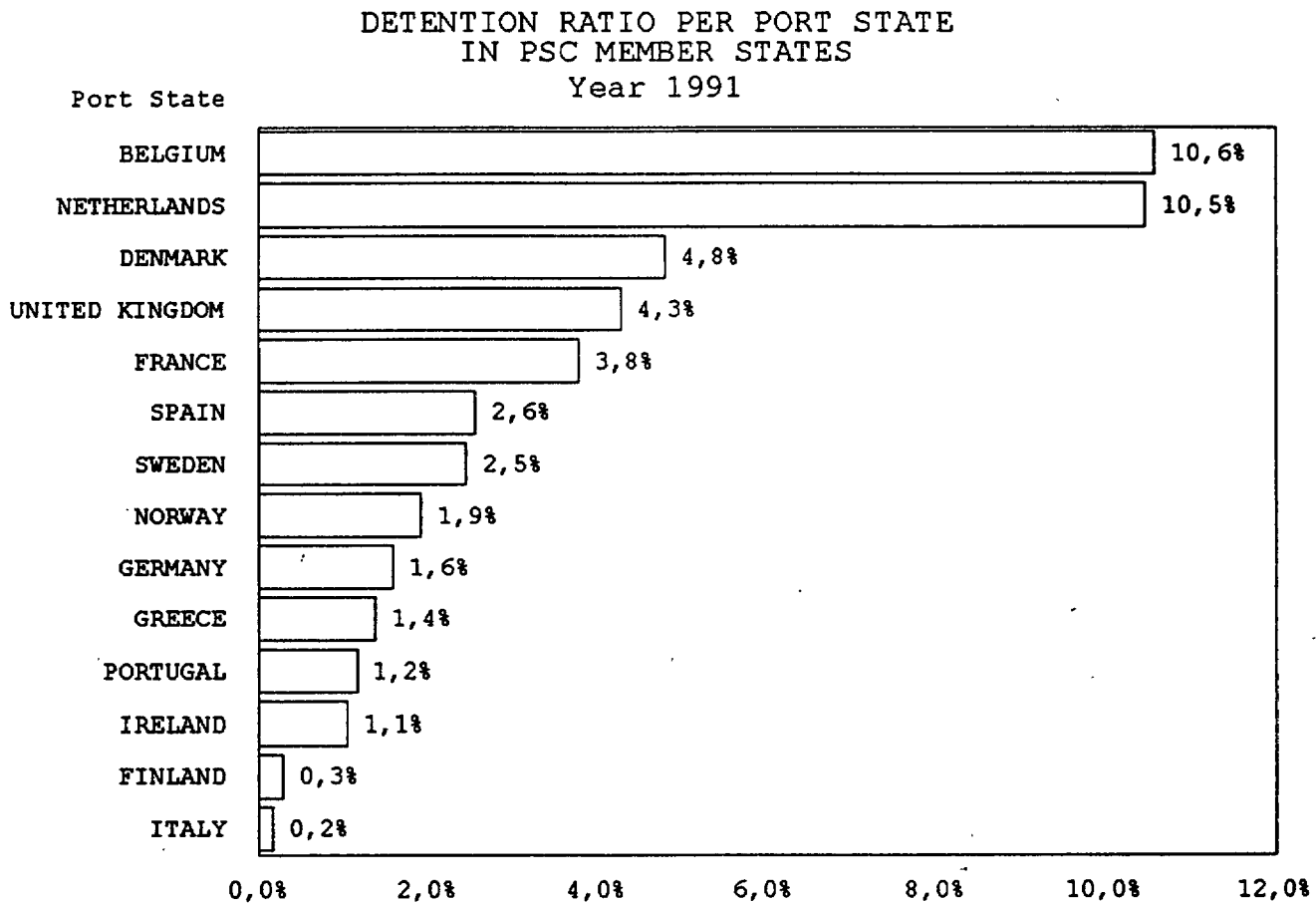
TREND IN DETENTION RATIO FOR A NUMBER OF  
FLAG STATES WITH LOW PERFORMANCE RECORDS  
Years 1989-1991



Source: PSC Report, 1991

63. A further startling information emerges from the inspection statistics: the number of detentions made by the national administrations varies greatly among the MOU members (see figure 15). The difference in percentage of ships detained as per number of inspected ships between the country with the lowest ratio and the country with the highest is in the range of 1 to 30. Figures for the other member States are distributed between these extremes.

Figure 15

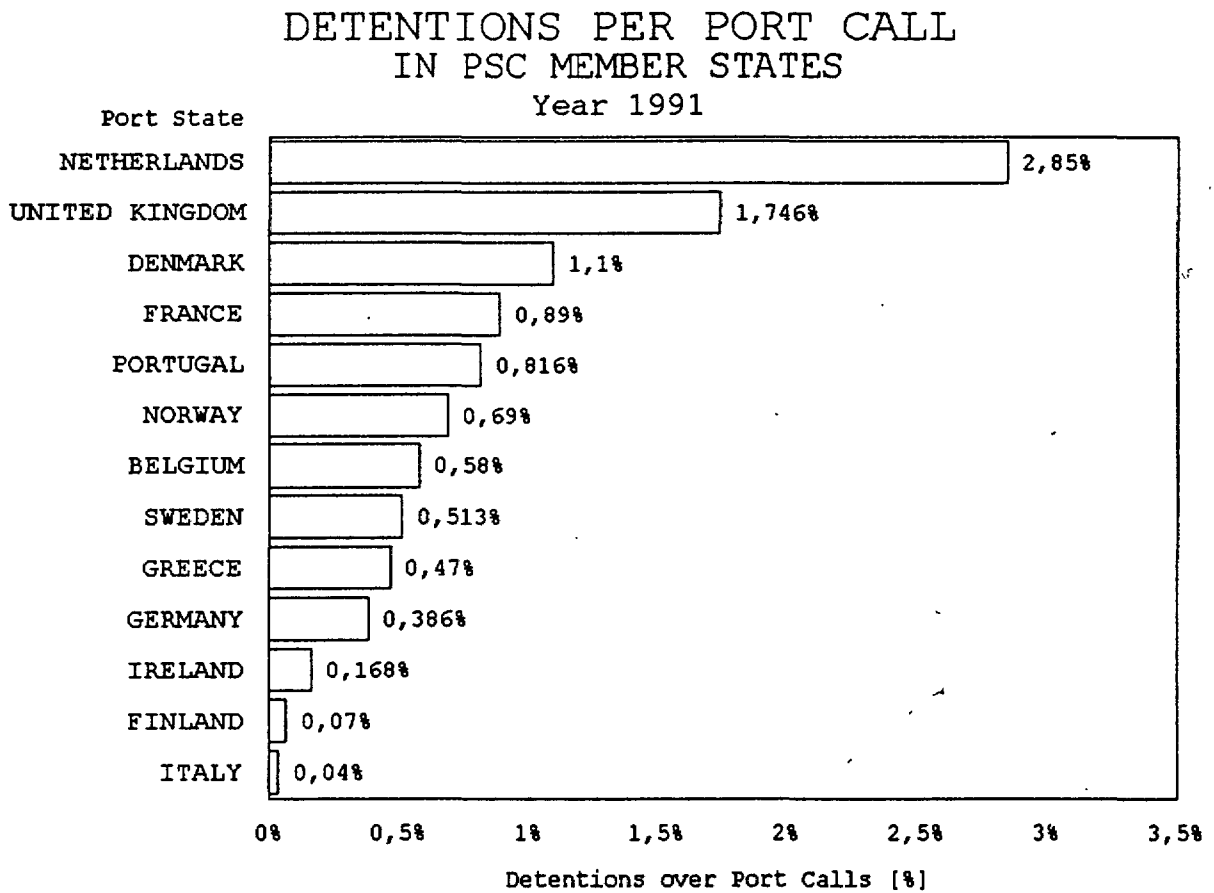


Source: PSC Report, 1991

64. These data must be read only for what they say, i.e. that there is a large degree of variety in the MOU decision-making process leading to detention of ships. They may not be used entirely as an assessment of the overall deterrent effect produced in the individual countries by the application of PSC.

Indeed, to this end, it would seem appropriate to examine also how many ships (percentage) have been detained out of all ships calling in the ports of each MOU member. This exercise, when carried out for 1991, shows an even larger degree of variety in the decision-making process, a detention ratio of seventy (70) between the highest and the lowest (see figure 16). It also shows that in two countries only the number of ships detained of all ships calling is above the average of the Memorandum countries, while in several Member States the number is quite below average.

Figure 16



Source: PSC Report, 1991

65. This uneven distribution undermines the objective of the MOU and raises the further concern that these differences in sanctioning non-compliance with international standards may also have a distorting effect on competition between neighbouring ports.

66. A further cause for concern arises as regards the present mechanism for data collection and exchange on inspections which appears inadequate for the following reasons :

- inspecting authorities of a Member State lack essential information on the ships entering their ports, even when these have already been inspected. It is not known, for example, if the deficiencies recorded have actually been rectified before departure. This information would allow a more effective planning of the daily inspection programme. Besides, in several instances, deficiencies which were recorded as rectified were found still in existence by the PSC authority in the next port of call;
- it is not known, in general, how many ships were found with deficiencies at the first inspection, and on how many of such ships the same deficiencies were found during the second inspection;
- it is not known if defective ships were actually those found defective the previous year; generally it is not known what happened after inspection or detention; were deficiencies actually remedied, where and under whose supervision?
- the relationship between the age of the vessel and deficiencies found or detentions made is unknown;
- when the ship is allowed to proceed under the proviso that she will be repaired as required, thereafter often nothing more is known. On several occasions the ships may simply change names and return later in the year with no improvement of her standards. The present system does not provide for systematic inspection of a ship entering the waters of the MOU countries for the first time (under that name).

67. In many Member States the emphasis is still laid only on the number of inspections carried out rather than on focussing attention on the quality of their inspection efforts, thus failing to act as agreed by the Ministers at the 4<sup>th</sup> Ministerial Conference on Port State Control<sup>1</sup>.

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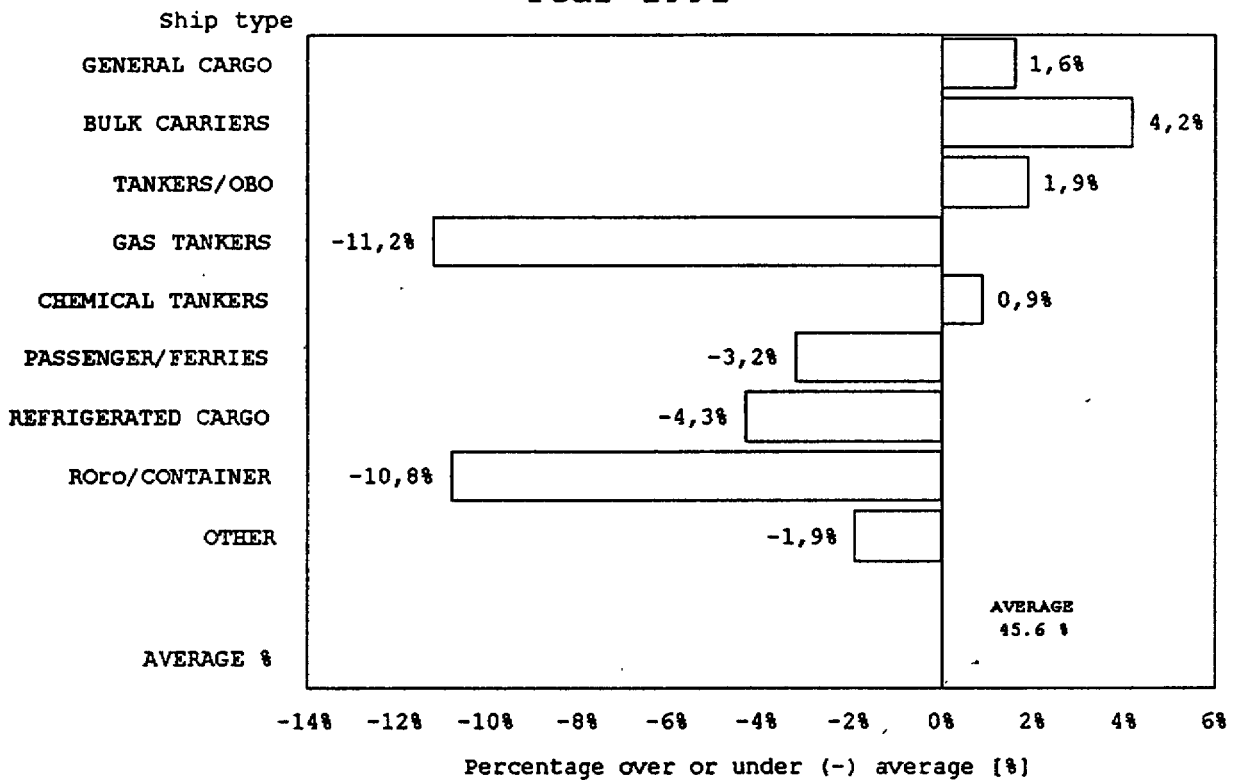
<sup>1</sup> "Safe operation of ships and pollution prevention" held in Paris on 14.3.1991.



68. There is plenty of statistical evidence (figure 3 and 17) showing that certain types of ships, for example general cargo ships, bulk carriers over 10 years old, ageing oil tankers, are more accident and deficiency prone than others. Furthermore, figures 8, 9, 10 and 11 show that ships operating under certain flags represent a higher risk to safety than other vessels owned or operated under flags whose safety record is well below average. Although the PSC system does not prohibit targeting these ships as priorities for inspections, no coherent and consistent action has yet been taken in this respect.

Figure 17

**INSPECTIONS WITH DEFICIENCIES  
Per Ship's Type, Over or Under Average  
Year 1991**



Source: PSC Report, 1991

69. All the above points demonstrate that, after 10 years of voluntary operation of the Port State Control under the MOU, and although a degree of progress has certainly taken place in the PSC system a high number of substandard ships continue to operate in European waters. There is also a striking lack of uniformity in inspection criteria including: the different choice of ships to be inspected, different importance and follow-up given to deficiencies found, different decision-making processes leading to different levels of inspection and different resources allocated.

70. This, in turn, frustrates the efforts of those member States and surveyors who try to implement the rules rigorously, and enables by such methods a selective use of certain ports of destination to slip through the net of proper control.

This situation should be eradicated. A possible solution would be the adoption of a more uniform target-orientated set of measures at Community level, while pursuing the same objectives also under the PSC framework, to try and achieve a wider European application. Bearing in mind the weaknesses of the system identified above, such actions should concentrate on measures to:

- i) establish a common set of criteria for the intensification of inspections of certain ships;
- ii) harmonise inspection and detention criteria;
- iii) establish adequate national inspection structures and a training programme for inspectors and
- iv) set up an effective mechanism to control and evaluate the effectiveness of the PSC measures.

**i) Establishment of a common set of criteria for the intensification of inspection of certain ships**

71. The Commission intends to put forward a draft directive setting up a list of "cases" which justify, more than others, the intensification of inspections on the grounds of their particular threat to safety or the environment. On the basis of the above analysis, such a list might include:

- ships flying flags with above average deficiencies, or detentions or casualties records, or an appropriate combination to be agreed. To this end, useful information may be obtained by correlating data concerning flag States with the highest detention ratio (see figure 10) with data on the world average loss ratio. (see figure 8);
- passenger vessels, including Ro/Ro vessels operating regularly/exclusively between the ports of the MOU members;
- bulk carriers particularly those older than 10 years;

- tankers nearing the date of phasing out agreed in IMO under MARPOL, Annex I, Regulation 13 G, or under the US "Oil Pollution Act of 1990". The latter is necessary since such tankers, being unable to operate in USA waters, are bound to concentrate in other areas, including those of MOU countries;
- vessels owned or operated by companies which do not comply with the IMO Safe Management Code;
- vessels failing to comply with MARPOL requirements on the use of reception facilities in ports when these are available;
- vessels failing to comply with notification or reporting requirements;
- vessels re-entering a port of the Member States under a different name;
- vessels carrying certificates issued by non-EC recognised organisations;
- a system for rapid exchange of information between the responsible authorities of the Member States.

**ii) Harmonisation of inspection and detention criteria**

72. The Commission has the intention to propose a draft directive setting guidelines for the control of deficiencies and detention. They should take into account the different types of vessels, e.g. bulk carriers, oil tankers, passenger vessels. The guidelines should provide clear guidance to the inspectors on questions such as: what to inspect, how to inspect and how to decide, and strike an acceptable balance between commonly agreed objective evidence and the professional judgement of the surveyors, particularly on the often complex issue of determining whether to detain the ship until the deficiencies are corrected or to allow it to sail under certain conditions. A list of serious deficiencies potentially leading to detention should be established leading to a more stringent and harmonised application of internationally agreed rights and obligations for the detention of vessels in the case of alleged violations or deficiencies.

73. In this respect it is necessary to improve the means to obtain conclusive evidence against alleged offenders, with a view to enable judicial authorities to impose very high fines. The provisions could also include the prohibition of further access to the ports of the Community for such ships should they refuse to comply. A tentative list to provide practical examples of deficiencies leading to detentions, with a particular emphasis on oil tankers, is given below:

- absence of valid certificates of safety (SOLAS) or of the International Load Lines Certificate;
- serious absence of compliance with the conditions fixing the load lines;
- serious deficiencies of the hull or of the ship structure;

- serious deficiencies of the machinery, the electrical installations, the main or auxiliary steering gear;
- serious deficiencies of the equipment needed for the operation of the ship, the manoeuvring, the communications, the navigation or the collision prevention;
- serious deficiencies in the field of fire safety;
- deficiency of the inert gas device;
- absence of a valid International Oil Pollution Prevention (I.O.P.P.) certificate or similar document;
- absence of the Oil Record Book or submittance of an incomplete or fake register;
- absence or serious lack of the operational handbooks with which the oil tankers must be provided;
- non compliance with paragraph 3 of the new Regulation 13 G of MARPOL 73/78;
- deficiency of the equipment concerning pollution prevention, including the hydrocarbons detectors;
- deficiency of the crude oil washing system;
- bad repair or maintenance such as to jeopardize the safety of the ship or pollution prevention;
- unjustified failure to comply with notification or reporting requirements such as those established under the Council Directive concerning minimum requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods.
- no compliance with the operation standards or the on-board procedures which are required by the relevant instruments related to the maritime safety or pollution prevention; in this respect insufficient professional qualification of the crew and non respect of those provisions of the ILO Convention 147<sup>1</sup> laid down under par. 4.1. of Chapter 1. of the MOU on Port State Control may also be considered as a serious deficiency.

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<sup>1</sup> Merchant Shipping Convention (No 147) of 1976 concerning minimum standards in merchant ships.

**iii) Establishment of adequate national inspection structures and a training programme for inspectors**

74. Action here could be developed in stages:

- evaluation at Community level of the results of the investigation by the MOU of the actual situation in each MOU member state as regards the number of surveyors available, and the professional knowledge and experience required to perform the various tasks;
- development, if necessary, of guidelines guaranteeing at national level an appropriate inspection structure able to fulfil the PSC commitments,
- establishment of training programmes (objectives, syllabus, methodology) on the basis of needs identified under the first stage; complement identified gaps with a common team of experienced surveyors and with the technical backing of qualified classification societies; interexchange of national PSC inspectors/surveyors.
- implementation of the training programme.

**iv) Monitoring and evaluation of the effectiveness of the PSC measures**

75. The efforts deployed by the national administrations over the coming years must be controlled and monitored in order to provide the Commission and the Member States with full transparency on the effectiveness of these port State control measures. An effective mechanism controlling the appropriate application of these measures should be established by the Community. This could be further expanded through the port State control mechanism of the Memorandum of Understanding of Paris adequately strengthened and duly supported by the development of an on-line information system, if possible on an international basis, and accompanied by regular publication of information on substandard ships.

### CHAPTER 3. DEVELOPMENT OF MARITIME INFRASTRUCTURE

76. In the previous chapters the role of flag and port States have been examined. The third component of the action programme focuses on the rights and duties of coastal States as regards the infrastructure and systems that ensure safety of navigation and the protection of the coastal resources from accidental and operational pollution.

#### The legal international framework

77. The role of States and their right of intervention in waters, under their jurisdiction, and on high seas is the subject of international and regional conventions. The language of these instruments is subject to different and, in some cases, conflicting interpretations. However, they provide reference and guidance in the planning of national and Community measures addressed to maritime traffic and aimed at increasing the safety of navigation and the protection of Community waters. Thus they are certainly relevant to some of the measures outlined in this third component of the action programme. Particularly relevant to this chapter is the question of the extent to which States are free, in view of the freedom of navigation granted under international law, to legislate on or intervene in navigation in their territorial sea and in their exclusive economic zone.

78. The relevant Articles of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), and more precisely articles 21(1), 21(1)(f), 22, 24, 56, 192, 211(2) and 211(3), allow that rules on ship reporting and notification may be established by States and applied to

- i. ships flying their flags,
- ii. ships destined for one of their ports, wherever those ships might be,
- iii. ships navigating in a part of their territorial seas that is not a strait used for international navigation.

These rules may cover the provision of information such as identity, position, cargo and destination of ships.

79. As regards the remaining scenarios, in particular transiting ships, that is, ships not bound for a port in the State concerned in the exclusive zone and in straits used for international navigation, the Commission is aware of the present ambiguity of the international customary law leading to opposing interpretations. Therefore, it proposes, in conformity with articles 39(2)b) and 56 of UNCLOS, a pragmatic approach with the aim of obtaining international acceptance: the Member States of the IMO should agree on the adoption, possibly by amending the SOLAS Convention, of a clear provision, establishing beyond doubt the right of coastal States to apply mandatory reporting obligations to ships in transit in the exclusive economic zones and in straits used for international passage.

80. No international decision is required for the other situations described in paragraph 78, except information to the IMO and to the shipping world of the measures taken by the coastal States or regional governmental organisation or institutions such as the European Community.

81. This interpretation of the existing international law in respect to ship reporting systems provides the legal framework for some of the actions and measures the Commission intends to propose as part of the third component of the action programme.

82. This third component, the harmonisation and development of infrastructure, may be broken down into four sub-components:

- i. traffic restrictions in environmentally sensitive areas
- ii. reporting systems
- iii. aids to navigation, including
  - a. harmonisation measures for VTS
  - b. aids to navigation infrastructure and recovery of its costs
- iv. pollution prevention facilities and monitoring of compliance.

**i) Traffic restrictions in environmentally sensitive areas**

83. The 16000 km of European coastline constitute a unique source of revenue and well-being to the European citizens and are a natural ecological environment to be safeguarded.

Parts of these coastlines and islands are of exceptional beauty and the natural habitat of rare flora and fauna, the privileged source of fisheries and aquaculture activities, or the site of historic relics. They may be also located on the most expedient route of dense shipping activities or on the most direct course for a ship on her way to a neighbouring port.

84. The recent events at the end of 1992 and beginning of 1993, all involving oil tankers, have drawn once more the world's attention to the high risks to which these sources of life and well-being are exposed by necessary trade activities. These events are not the result of an unfortunate and unlikely combination of unlucky circumstances. They are the result, as we have seen throughout this document, of a number of factors which can only lead to further and possibly even more catastrophic consequences.

85. If one focusses, for sake of exemplification, on the case of oil tankers, statistics will readily show that, while oil tankers accidents sharply decreased during the eighties they have started to rise again with worrying progression since 1989 (Exxon Valdez year in Alaska). This fact coincides with the ageing of the oil tanker fleet and the proliferation of poorly trained crews often from developing countries but used more and more on European-owned vessels. This is also to a large extent associated with a continuous reduction of freight rates.

86. The results are of high concern, since recent estimates show that more than 50% of these ships are older than 15 years and 50% of tankers show deficiencies which reduce their operational safety while, overall, more than 65% of accidents relate to ships older than 16 years. The average age of the world fleet has increased by 5 1/2 months per annum since 1980 as construction orders in the shipyards have continued to go down. Today shipyard orders equal 38 millions tons over a total fleet in operation of 245 million tons.

87. In the light of the above, and as a complementary measure to those discussed in the previous chapters, coastal States threatened by such high risk activities are forced to examine further action.

88. The Law of the Sea provides ample guidance on the choice of actions and the methods to implement them. In a number of cases, traffic restrictions and monitoring such as prohibition of passage, deep water routes, traffic separation schemes have provided satisfactory solutions. IMO has already adopted over 150 such zones and traffic separation schemes. They provide both evidence to the international acceptance of such solutions as well as experience to be used when planning further action along these lines.

89. The Council<sup>1</sup> has in fact called for these types of measures through co-ordinated and firm action in IMO of the Community and its Member States. The European Parliament<sup>2</sup> has urged the Community to take similar initiatives.

90. The Commission intends to respond rapidly and effectively to such urgent calls. As announced in the Council of Environment and Transport Ministers of 25 January 1993, the Commission intends to set up very soon a group of Government Experts composed of all administrations concerned to identify together, on the basis of objective criteria, those areas which are of the highest ecological importance and which are most exposed to the traffic of ships carrying hazardous cargoes.

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1 Council Conclusions of 25.1.1993

2 Resolution of the European Parliament of 21.1.1992.



91. Each case should then be examined on its own merits to devise the most appropriate solution, bearing in mind the need to avoid hasty decisions introducing unnecessary new hazards, for example bottlenecks with increased risks of collisions, or diverting traffic to another site where other activities might be exposed. The deliberations reached will then, as and when required, be submitted to IMO for approval or information as appropriate.

92. As a corollary, monitoring infrastructure such as VTS might also be required. This issue is examined below under section iii). For the purpose of this section it seems worth underlining that this exercise may also provide useful guidance to national and regional administrations by pinpointing their attention to areas at high risk thus helping them, to focus national resources, often limited, on effective investments in maritime traffic infrastructure. This would also help in the identification of areas where emergency facilities including towing could be concentrated.

## ii) Reporting Systems

93. Recent years have seen a significant increase in the volume and range of dangerous and noxious substances transported by sea, at a time when public opinion, alerted by a number of major accidents, is increasingly aware of the impact such accidents have on both man and environment. Thus a number of coastal States have promoted international and regional actions both to acquire timely and complete information on the goods transported at sea and to be able to intervene effectively where and when required.

94. In an effort to increase the vigilance of the authorities on the movements of these products, both in bulk and in parcels, amendments have been made in the SOLAS and MARPOL Conventions. These amendments introduce obligations on shipping operators to provide accurate information to the authorities in the port of loading. In addition, the International Convention on Intervention on the High Seas recognises the right of coastal States to take proportionate measures should an incident occur threatening their coastal resources and related concerns.

These instruments, however, are far from providing an adequate answer to the need for timely and precise information to the coastal States concerned and fail to identify the remedial action and to set up the required means of intervention in each coastal State. They are, however, a useful internationally accepted basis upon which effective systems may be built in the Community in response to the need.

95. The Council has recognised the importance of this problem and the need for action by agreeing at political level in substance in December 1992 a Directive establishing minimum reporting requirements on shippers, ship operators and shipmasters for vessels leaving or bound for ports in the Community and carrying dangerous or polluting goods. This first set of requirements, built upon the minimum international basis, would enable the Member States to obtain precise and timely information on the cargo on board vessels, even on the high seas, should an accident occur or the likelihood of an accident arise.

96. The Council recognised also that this is only the first step of a two-stage approach which will need to be completed by the introduction of a full mandatory reporting system under which the States concerned would have ready access to all relevant information on the movement of vessels carrying dangerous and polluting cargoes and on the precise nature of such cargoes when they operate in their waters.

97. The technical requirements for such system are already in preparation under Community R & D programmes, such as EURET 1.3, RTIS and EWTIS. Results, expected at the latest by the end of 1993, should enable the Commission and the Member States to co-ordinate efforts to set up the network required to respond to the provisions of the first phase. This network should be designed in modular form to be easily adapted to meet broader requirements of the second phase provided for in the Directive. This would include the development of an EDI system for the processing and interchange of the notifications and the reports provided for under these directives.

98. Particular attention and support will be paid to the ongoing work in IMO on the mandatory carriage of transponders (see also Chapter IV). These devices, by providing automatically relevant data on ships position and movement to the shore-based stations would greatly enhance the effectiveness of traffic monitoring by coastal authorities and the implementation of the directives (first and second phase) on the minimum requirements for ships carrying dangerous or polluting goods.

99. Meanwhile, the Commission intends to carry out an in-depth analysis of the existing international and regional agreements on intervention at sea, to identify the precise needs of the minimum intervention infrastructure which should be available in each coastal State to permit adequate and effective response to the potential threats which will be detected by the above described system.

100. Finally, co-ordinated action should be promoted within the IMO to develop further acceptance of reporting obligations by transiting ships and to ensure that work in this organisation does not result in rules which could diminish either Community objectives or the right of intervention afforded today to coastal States under international law (as outlined above).

### iii) Aids to navigation

101. Vessel Traffic Services (VTS) and radionavigation aids, either shore or satellite-based, are increasingly becoming an essential feature of the maritime safety policies of the coastal States. VTS in particular respond to the need to acquire in real time an image of the traffic in the waters of concern, to enable the coastal authorities to interact with ships, to provide symptomatic response to traffic situations and to organise, where necessary, the passage of vessels or the development of other activities in the safest and most expeditious ways.

102. In important regions of the world, for example Canada, VTS have been developed in a coherent and co-ordinated manner, in response to and as part of an integrated approach to coastal control of traffic. Until recently in Europe VTS developments have taken place on a piecemeal basis, in response to local needs or to specific accidents and the related public demand for action.

103. This, in turn, has lead and continues to lead to the development of incompatible and piecemeal coverage of the Community's coastal area. The negative consequences of this situation are several:

- The national authorities encounter the greatest difficulties in obtaining full participation in their local systems. For example, non captive traffic, that is, vessels not bound for a port in the Member States whose waters they are transiting, often fail to take part or even to respond to the VTS, thus greatly limiting both the effectiveness of this service, and the possibility of imposing sanctions in case of non compliance.
- Shipmasters who take part in the systems are confronted by a maze of rules and procedures differing from one area to another, due to the lack of standardised procedures.
- Economies of scale assisting in the development of new systems requiring heavy "up-front" investment are hardly possible. This fact has been and still is a large inhibiting factor in the national decision-making process of several Member States in this area, thus giving rise to an uneven situation in the Community. For example, while a mix of navigational aids (VTS, radio positioning) at least exists in some western and northern European areas, in the Mediterranean sea there is only a partial radionavigation coverage and an almost total lack of VTS, in spite of its greater exposure to pollution risks: oil carriage and oil pollution accidents are 3 to 4 times higher than in the North Sea (figures 18, 19 and 20).

Figure 18

Average amount of oil present  
at any one moment in tonnes

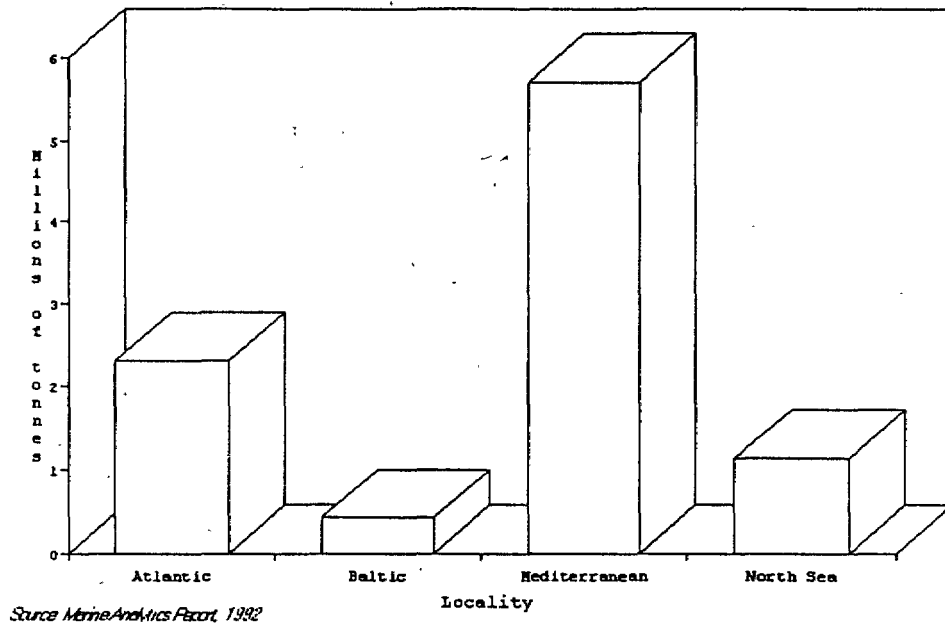


Figure 19

Average amount of oil spilt in a year  
due to collisions in tonnes

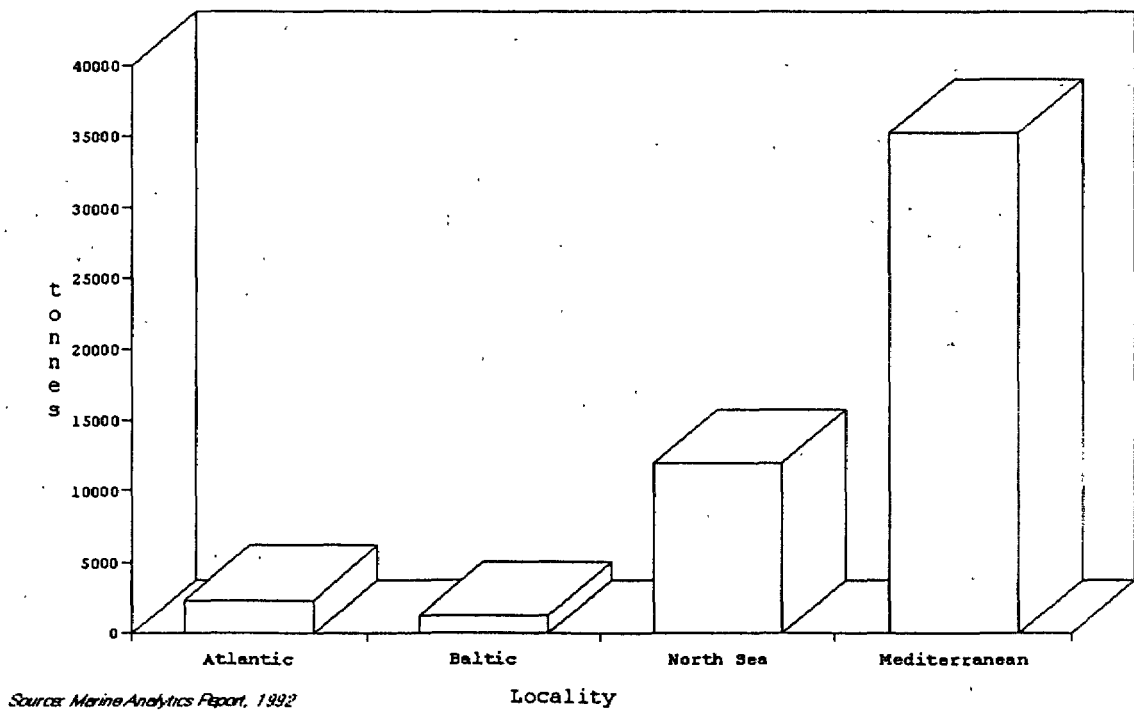
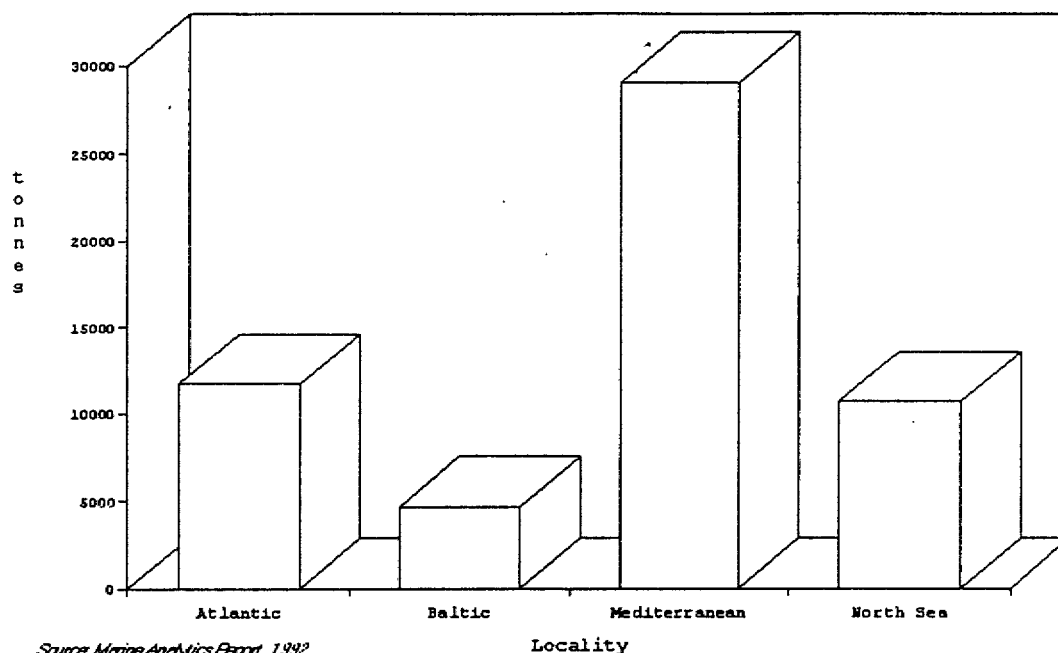


Figure 20

Average amount of oil lost per year  
due to sinking ships in tonnes



- In several cases investments in safety infrastructure are financed from the general national budgets and come under the annual financing of public services. Thus they suffer the general constraints and reductions of those budgets.
- A large number of these investments are dictated by the national need to respond to a potential threat created by transiting traffic, i.e. a traffic unbound to any national port. Member States, in particular those with an extensive coastline, are therefore called upon to invest heavily to protect their waters from a commercial activity which does not generate financial returns to their economies. These inequalities have been the source of complaints also because unilateral imposition of levies to recover at least part of the costs from home-bound traffic may lead and indeed has led to diversion of traffic to neighbouring ports in contiguous Member States which impose no levies thus creating a distortion of competition between ports.

104. These problems and the search for a more effective answer to them have been the subject of R&D work carried out by 15 European States under Council Decisions<sup>1</sup> (Project COST 301) and of further analysis by the VTS Committee of the International Association of Lighthouse Authorities (IALA). The latter, working on documents developed under COST 301, has developed recommendations specifically directed at the introduction of harmonised procedures and standards in VTS, thus explicitly recognising the need for the widest possible use of common standards and procedures for VTS.

105. However, IALA can only recommend standards to its members, and it does not include all Member States administrations concerned. Therefore, such recommendations have not been implemented in a convergent manner in the Community. There is also uncertainty as to a future application of harmonised VTS functions and procedures. The first fundamental step of harmonising risk evaluation has not been taken.

106. This situation contrasts sharply with the IMO Resolution A.648/(16) and also with the recognition by the European coastal States, parties to the 4<sup>th</sup> Ministerial Conference of the Memorandum of Understanding on Port State Control, of the importance of having the largest possible degree of harmonisation.

107. Finally the European Maritime Industries Forum (MIF) has called for Community action in the field of VTS as a tool to prevent accidents. More specifically the report of the MIF sees the VTS as an area where Governments should concentrate efforts and resources to prevent accidents rather than focusing in further safety construction measures aimed at improving on ships' survivability or better pollution containment after an accident. Furthermore, the MIF recommended the installation of an information system at Community level indicating equipment and other obstacles situated at the seabed as accidents to fishing vessels are caused mostly by seabed hazards.

108. In the search for effective remedies to the situation just described, and bearing in mind the European and international results already achieved, the following specific measures would appear justified at Community level:

- a. harmonisation measures for VTS and
- b. aids to navigation and traffic surveillance infrastructure and recovery of its costs.

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<sup>1</sup> Council Decision 82/887/EC of 13.12.82 on shore-based marine navigation aid systems.  
Council Decision 83/124/EC of 15.4.83 on a Community-COST Concertation Agreement.

**iii a) Harmonisation measures for VTS**

109. Using as a basis the output of COST 301, IALA and IMO Resolution A.648(16), a first effective step could consist in the adoption of Community directives aimed at establishing a set of common rules and procedures concerning VTS functions and operating procedures. This should include evaluation of risks, communication procedures for ship-shore interaction and for data exchange between VTS centres as well as minimum qualifications for VTS operators.

110. In conformity with the principle of subsidiarity, the Community measures would leave to each State, or to regional agreements as appropriate, the final right and responsibility to decide where and when local VTS infrastructure is required and the choice of the local VTS functions. It is proposed that when the national decision is taken to set up a VTS, its functions decided and, where required, notified or accepted by the IMO, the formats, procedures, message contents and operators qualifications shall meet common requirements set by a Community Directive. It will be based on the internationally recommended standards where they exist. An additional advantage at the level of enforcement could be obtained by network integration and by co-operation between national authorities in all Member States when compliance with the VTS is mandatory or recommended. The integration of the local VTS within a co-operative Community-wide system would permit the implementation of effective corrective measures on a much larger number of non complying ships than it would be possible if the national systems were not integrated.

111. Harmonisation would include also the adoption of a common guide for access or transit in the VTS areas based on a standard model. In fact, such a guide could easily be conceived as the European volume of the World VTS Guide drawn up by IALA. All Community port and coastal VTS should provide the information required in accordance with the IALA model and all vessels concerned should have on board and use the guide to facilitate their interaction with the VTS authorities and their compliance with the local rules.

112. Finally, objective means of measuring the impact of VTS in general, and of these measures in particular on traffic should be introduced. This could take the form of a monitoring system analysing the behaviour of traffic in the VTS covered areas. This project named European Permanent Traffic Observatory (EPTO) is currently being developed by the Commission at the level of a pilot project in full co-operation with VTS authorities and, more particularly, by the IALA-VTS Committee in a number of sample cases. It uses information supplied by data bases set up as part of the existing VTS centres, and processed systematically according to common criteria. Should the pilot project prove its use, it could be extended in a more permanent manner throughout the Community to provide to the competent authorities an objective tool, using common criteria, to assess the effectiveness of the local, regional, national or Community measures.

iii b) **Aids to navigation and traffic surveillance infrastructure and recovery of its costs**

113. Member States administrations are confronted with the twofold problem of setting up and operating advanced aids to navigation in response to a largely non home-bound traffic and of finding appropriate ways of recovering the costs for setting up, operating, maintaining and up-grading them.

- **Aids to navigation infrastructure**

Community action to assist in a more harmonious development of VTS and radionavigation chains using advanced technologies both on shore and on ship as part of the Community trans-European networks should create the economies of scale required for the application of more advanced technologies. It would also help the national authorities to take full advantage of the possibilities of the electronic age in their actions on maritime safety, thereby achieving improvements which would be hard to realise on a national level.

Through the establishment of guidelines, priorities and plans of action, projects of common interest can be identified. Interaction and inter-operability of the local systems with the networks can be assured. Indeed, infrastructure needs for VTS and radionavigation ought to be an integral part of the concept of trans-European networks for traffic management. Relevant projects will thus be able to benefit from the different sources of Community funding now available, in particular those available for trans-European networks, from the growth initiative and the Cohesion Fund. In this connection, it should be noted that projects related to the prevention of pollution at sea may respond at once to the two objectives laid down for the Cohesion Fund: the development of trans-European networks and the protection of the environment. They should also be considered in the perspective of the promotion of short sea shipping in the overall transport concept of sustainable mobility for the Community.

Community action should recognise a special priority to the Mediterranean region and the Western approaches to this sea, for both VTS and radiopositioning such as Loran-C. This priority is fully justified by the special ecosystem of the Mediterranean sea which has been recognised by international Conventions. Figures 19 and 20 provide factual evidence of the pollution level as a result of accidental spillage. This level is three to four times that of the North Sea, the coastline exposed is enormous while the infrastructure for traffic assistance and surveillance is extremely limited.

As regards VTS, efforts started in 1991 by the competent Ministers of France, Greece, Italy, Portugal and Spain. They were recently co-ordinated by the Commission, to develop an integrated regional VTS network based on the concept developed under COST 301 which should now be made an integral part of the trans-European network plan for VTS.



As regards radionavigation, following its recent report to the Council on the results of research into the financial implications of regional Loran-C systems for the Member States, the Commission will also respond to the Council request with a report on a European radionavigation plan comparable and compatible with those of the US and Russia. The Commission is carrying out this task in close collaboration with the International Association of Lighthouse Authorities (IALA). It was this collaboration which led to the Commission's proposal on regional Loran-C chains, and the subsequent adoption of the Council Decision on radionavigation systems<sup>1</sup>. The Commission proposes to step up this co-operation with a view to setting up at a later stage a satellite system for radionavigation for civil purposes, supplemented as far as required by terrestrial systems.

Finally, concerted action would seem necessary to ensure the full implementation of the "Global Maritime Distress and Safety System" promoted within IMO - this would necessitate in particular, the co-ordinated setting up of both the required shore-based facilities and the phasing-out of present systems.

- **Recovery of costs**

The analysis carried out above underlines the difficulty faced by several Member States of recovering the investments or at least the operating costs of navigation safety infrastructure. Such difficulty has not only hindered the coherent development of national plans in several Member States. Where cost recovery from the users is applied, it has also given rise to a situation where some ports operate at a competitive disadvantage. Also a major difficulty is recovering the costs from transiting traffic, which is the most significant part of the traffic for some States.

These are the main reasons why the answer to these problems cannot be found through national action alone. A mechanism must be set up in order to provide a level playing field in infrastructure investments without leading to ports in some Member States operating at a competitive disadvantage. It should ensure that expenditure on infrastructure reflects the real and current needs of the maritime sector and of coastal populations of the Community. A system under which users pay, directly or indirectly, for the provision of safety infrastructure will help to solve the problem.

It is important to find a suitable cost-sharing formula which would permit:

- the identification of the VTS and radionavigation infrastructure that is required to meet common needs, for example, navigation aids to international traffic;
- a cost recovery mechanism which would make the system self-supporting.

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<sup>1</sup> Council Decision of 25 February 1992 on Radionavigation Systems, OJ. No L159, Pg. 17, 17.4.92

The Commission believes that the Community dimension is appropriate, in both geographical and institutional terms, to assess the risks, establish the objectives; identify and optimize resources, and set up a common arrangement under which dues are set, collected and then shared among the national authorities; and develop effective machinery to deal with non compliance.

The search for appropriate solutions requires as a preliminary step the gathering of information from Member States on the costs of providing general marine navigation aids outside harbour limits, the methods of finance, the length of national coast lines, the number of light buoys and beacons provided, the coastal VTS (existing and planned), the level of traffic and the income out of dues to be paid, taking into account that several systems already exist in the Member States.

The solution to be reached should include the "user pays principle", where dues will be based on a methodology aimed at eliminating competitive distortions and reflecting the results of the above exercise. Various approaches are possible, either based upon existing systems or on a "Eurocontrol"-style system, whereby each country recoups the costs it incurs in running the system from a central authority. The Commission intends to discuss the matter rapidly with the Member States to identify and to propose to the Council an appropriate solution for the Community.

**iv. Pollution prevention facilities and monitoring of compliance**

114. Operational discharges at sea by ships are one, though not the major, contributory cause of coastal waters pollution. International rules on discharging at sea have been established to a certain extent. Parts of them are mandatory. Compliance by ships with these rules is very limited. Monitoring of compliance and sanctioning illegal discharges is extremely expensive and relatively ineffective.

115. Under international rules, all parties are obliged to provide and maintain facilities in their ports for the discharging of waste, including bunker oil. However, it is a fact that in the Community the level of port reception facilities differs sharply from one port to another. Port policies in this respect have the potential to give rise to deflection of trade for instance through weak application of the law to encourage access to the port. This is however also a fact potentially leading to unlawful discharges at sea.

116. As regards air pollution caused by shipping, an important part of it occurs during loading and unloading in ports, and is due to the emission of harmful or noxious substances released during transshipment of volatile cargoes.

117. Seagoing vessels generally possess Vapour Emission Control (VEC) systems in compliance with international regulation. There seems to be little doubt that the root of the problem arises in ports because of the absence of compatible systems on board and on shore, or because of the lack of VEC facilities in ports.

118. Adequate response to the above described problems cannot be found in individual action by Member States: the general international framework of rules being established, the problem is clearly that of a homogeneous response at the level of implementation and enforcement.

119. In this respect Community-wide initiatives which may produce results, where the individual action by Member States would have at best a more marginal result, should aim at developing:

**i) Oil/waste reception facilities**

- Ensuring that Community ports install adequate reception installations aligned to the specific waste discharges required by the type of shipment operations.
- As a further step, and in an effort to encourage compliance before moving onto sanctions, where adequate facilities are available, a common system should be implemented whereby movements of ships refusing to make use of the facilities would be closely monitored. For example, the quantity of oil water mixtures and residues on board would be measured, and the information would be provided to the next port of call in the Community. Subsequent control on the quantity of this waste at the next port of call would enable the competent authority to ascertain whether illegal discharges have occurred during the crossing.
- Furthermore, as already proposed under chapter II (par. 71, indent 6) a ship refusing without a valid reason to use the facilities offered, would justify a very close inspection by PSC authorities of the status of the ship, in particular its full compliance to the MARPOL, SOLAS and Load Line Conventions.
- The Community could closely examine the consequences of imposing mandatory discharging of oil residues and oily mixtures by all ships using Community ports.
- A survey on a Community scale of the micro and macro economic consequences will provide the first set of information to evaluate the adequacy of such measure.
- Finally, on the educational level, information and training of seafarers and of ship management on the reduction of illegal discharges could be promoted by the Community. As regards ship management the programme should focus on means to introduce more environmentally responsible management, by making clear that setting up an appropriate environment policy is not necessarily to the detriment of the operating costs of the company.

120. These proposals will be consistent with "a European Programme of Policy and Action in relation to the Environment and Sustainable Development"<sup>1</sup> recently agreed by the Council, where specific proposals for Council directives are also foreseen.

These include a proposal on "the reduction of operational and accidental pollution by small boats"; a proposal on the definition of sulphur content in all liquid fuels (including bunker oil) and, as a complementary action, a specific measure on the presence of toxic chemical components in bunkers.

**(ii) Vapour emission control**

Concerns over safety problems related to vapour return systems for ships may result in their deletion from the scope of a proposed directive on the control of volatile organic compound losses in the storage and transport of petrol. A commitment should however be made to include shipping in the scope of the directive as soon as these problems are overcome. A priority should be given to the search for the required technical solutions and for international agreement to their adoption. As for the waste reception facilities, an answer at Community level is also preferable, as compared with national solutions, given the distortion of competition that otherwise arises favouring those ports which do not impose the use of vapour emission control systems.

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<sup>1</sup> COM (92) 23 Final.

## CHAPTER 4. INTERNATIONAL RULE MAKING

### Introductory remarks

121. Most of the rules and requirements for sea-going vessels are negotiated in the IMO. This international framework is of fundamental importance to maritime safety and to the protection of the sea from operational and accidental pollution, and it must remain so, given the global character of the shipping industry.

122. It is also generally accepted that today a large number of construction and maintenance rules have been adopted, and efforts should first concentrate on their effective application. The role of the Community in respect to the latter has been outlined in the previous chapters.

123. However, the need for new rules in a number of areas exists. It is dictated by specific problems which call for international solutions, and appear on the agenda of the specialised committees and sub-committees of the IMO. There seems to exist a large consensus in the competent administrations and in the industries of the Community<sup>1</sup> on the need to deal with some of these negative factors as a matter of urgency.

### Performance standards for flag States

124. A first area of very high concern is that of the diversity of attitude and performance of flag States. It is a fact that several Member States of the IMO have severe difficulties in meeting their obligations as regards effective certification of conformity of vessels to, inter alia, the SOLAS, MARPOL, ILO 147 and Load Line Conventions. Among the primary reasons why several States offering registry facilities for sea-going ships are not able to perform as adequately as required one may recall: insufficient infrastructure to properly interpret and support application and enforcement of international conventions; insufficient trained and experienced technical staff within the administrations; unclear delegation of authority and inadequate regulatory oversight when surveys and inspections are entrusted either to surveyors nominated for that purpose or to organisations recognised by the administration; and absence of effective monitoring programmes to ensure that consistent and adequate maritime safety actions are taken.

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<sup>1</sup> Maritime Industries Forum; Final report to the Commission , October 1992.

125. It would therefore appear indispensable to set minimum requirements against which their ability to respond to their obligations may be measured. For example, they should at least:

- (a) have a comprehensive body of relevant national laws and regulations to enable the maritime administrations to implement and enforce the required international rules and standards pertaining to the operation of a maritime registry;
- (b) maintain an effective system for the promulgation of relevant maritime law and regulations with their amendments to all operators of ships under its registration;
- (c) maintain an effective and adequately staffed maritime administration to execute its responsibilities for:
  - proper and legally correct registration of ships;
  - exercise of inspection, survey and control, in accordance with relevant international Conventions, over ships entered in its registry;
  - conduct of casualty investigations;
  - issuing of Seaman's Identity Books.

126. The IMO has set up a sub-committee on flag State implementation (FSI) to examine this problem and adopt the required standards. The policy and economic implications of this initiative are very far-reaching. They are bound to be opposed by several States for different reasons, not least their lack of the required capabilities in terms of financial resources, qualifications and training. However, this issue needs to find a rapid and satisfactory answer at international level to prevent further shifting of the responsibility for safety of construction and maintenance of ships from the flag States to the port and coastal States, a process already gradually under way, if it continues for too long, which would risk to reduce the effectiveness of internal rule-making.

127. The Community should act to provide the required support to this initiative of the IMO not only within the sphere of the regulatory discussions but also in the context of its policy of support to third countries, for example in the framework of co-operation agreements such as those with developing countries. Resources could be channelled to provide the required support to those national administrations who need it most, to be able to align themselves to the standards of performance being developed in the IMO.

#### **Human element**

128. The very high impact of human errors on casualties at sea and a number of actions to reduce its effect have been examined in sector v) of chapter 1. Further initiatives are required which by their nature belong to this chapter.

129. The first one relates directly to the STCW Convention. Its revision, which is long since due, has just begun under the joint responsibility of ILO and IMO. So far much more attention has been paid to scholastic education than to problems of training and upgrading crews, bearing in mind also the problems and costs that such upgrading courses imply. Action of the Community and its Member States is required to speed up this process. Several elements will have to be taken into account with high priority and in particular communication. The ability to communicate in a common language on board has become a very serious issue at a time where the multiplication of multilingual crews has become a widely spread operational reality. This is more so during emergencies and particularly on all ships carrying passengers.

130. The language problems are also particularly significant during pilotage operations. Not only do the pilot and the master have difficulty in communicating with each other, but the consequences of misunderstandings between master/pilot and crews become inevitably more serious where there is less margin for error, as in berthing operations. Moreover, incident analysis carried out by the P&I clubs has shown that not only is it necessary to improve communications between master and pilot but also to ensure a clearer understanding between them as to who is responsible for well defined tasks at each stage in the manoeuvring of the ship. The P&I Club's own investigations revealed the need for master and pilot to discuss each stage and to think through areas of potential difficulty. In this context, the P&I club concluded "the shorter the time the pilot is on board the more likely the risk of an expensive accident".

131. A further area where much effort is required is that of technological development, particularly of ship handling equipment. Remote steering positions, integrated bridge control of engines, bow thrusters, stern thrusters, high-lift rudder, automatic helms are now commonplace. While adding to the controls of those in command, they have also brought new problems. Automatic helms reduced steering expertise of seamen. Coupled with reduced manning this leads to master or pilot steering the ship also on occasions where their freedom of movement would have been an advantage. Other problems followed the advent of the controllable pitch propeller. Once more the P&I shows that there is a good case to be made for all controllable pitch propeller ships to have the fail-safe position clearly displayed and have the main engine emergency stop control located on the bridge.

132. Moreover, facing an emergency situation on board a ship with a reduced crew requires a special training comparable to that of a plane crew, involving also a more efficient ship-land communication system and adequate training tools, e.g. simulators designed to study or to test more efficient ship/crews interface systems.

133. In more general terms these issues and several more could be summed up by saying that there is a need to analyse the conditions under which the various systems for ensuring the safety of navigation are operated. In this connection, the participants in maritime traffic, at whatever level of responsibility, should follow a prescribed pattern, which is essential for the integration of the four basic components of high quality operation: man, machine, methods and procedures.

134. Some of these matters are being addressed at Community level in the framework of research programmes such as EURET<sup>1</sup>, in particular project 2.4 "Human factors in the man/ship system", and by COST actions such as COST 311, on the use of stimulation facilities for training of crews, pilots and VTS operators. Others will have to be introduced in the further phase of EURET.

135. For a long time simulation methods have been identified for both research and training purposes in the maritime context, but it is only in the past four years that a search for a common approach to its application at Community level has been undertaken in COST 311. The results of the COST 311 operation demonstrate the lack of a co-ordinated plan to promote and implement simulation methods and technology in Europe.

Although some countries, mainly Denmark, Germany, the Netherlands and the United Kingdom, have invested heavily in this field, many others are not using this technology to the extent required. On the other hand, duplication and redundancy are to be avoided so as not to waste the investment made, however promising the market could be. A cost effective solution to this problem should be searched also within the Community.

136. Moreover, reducing human error through international requirements, standards and guidelines is also a priority agreed to in IMO to the extent that all committees and sub-committees have been recommended to review all measures in the light of human element issue and to bring proposals. Therefore, the Commission proposes that results of the efforts of both the P&I club members and the Community R&D programmes outlined above be brought to IMO as contributions of the Community and its Member States to the work programme of this organisation.

137. Finally, well co-ordinated action of the Community and its Member States should be set up in view of securing an effective application of the Safe Management Code also at international level.

#### **Introduction of new technologies**

138. The introduction of new technologies for shipborne equipment, systems for automatic transfer of data from ship to shore and vice versa, and potential applications of new technologies are under discussion in the IMO. They are:

- Electronic Chart Display and Information Systems (ECDIS);
- guidelines on the use of transponders on ships for safety purposes; optimum methods of radar display presentation;
- voyage data recorders and their mandatory use.

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<sup>1</sup> Council Decision of 21.12.1990 adopting a specific research and technological development programme in the field of transport (EURET) 1990 to 1993 (91/11/EEC) O.J. L 8 p. 16 of 11.1.1991.



139. All of these fall within the area of information and communication technology. Their introduction should considerably modify the balance between shore and ship in the navigational decision-making process and the respective roles of man and machine in these processes.

140. Experience with the introduction of high level information technology in major industrial activities has demonstrated that transitional periods require special care in all respects: social, organisational and technical, including psychological and physiological consideration for the design of man machine interfaces.

141. In particular, two major areas of concern always arise from this type of development:

- i. the co-existence for a long period of different levels of advancement in technical and operational standards;
- ii. the drastic changes in skills and knowledge needed to operate the new systems correctly, operators having to retain all the relevant past experience while as far as possible acquiring new skills, both being necessary for the safe operation of the newly implemented systems.

142. These matters are critical in the shipping industry, for the following reasons:

- navigation entails interaction between ships of different flag and coastal States;
- maritime activities go back a long way, making them reliant on past experience and resulting in a reluctance to accept changes. National certification, in the absence of IMO or EC rules, is often not mutually recognised by other States' administrations. This results in long delays for approval of new technology and thus in limited markets offering few incentives for R & D investments;
- recruitment of crews is often driven by economic and social criteria rather than seeking to recruit highly qualified crew; cheap labour on board leaves little encouragement for the manufacturing industries to invest in innovative technology which would reduce crew numbers. In deciding on crews for ships, operators have to balance the cost of sophisticated equipment with the cost of reduced but well trained crews; the risk to valuable capital assets if crews are not as competent as required; and the overall need to make profit;
- the reliability of new technology equipment must be ensured to guarantee safety and protection of the marine environment.

143. Satisfactory answers are relevant to Community policies on safety at sea, and would contribute to the creation of wider markets for the European manufacturing industries. The Community and its Member States should therefore provide the required support to the initiatives of the IMO in the above mentioned areas in a well co-ordinated manner.

#### **The Torremolinos Convention**

144. The IMO Maritime Safety Committee has decided to undertake a revision of the Torremolinos Convention to bring it into line with the new SOLAS provisions. The original Convention in fact never came into force. The revision will be completed by a diplomatic Conference to be held in Torremolinos in spring 1993. The entry into force of this Convention through the adoption of a Protocol would satisfy requirements of the Community to a certain extent only. This would apply particularly to the requirements of Community policies on safety of fishing vessels, on achieving the objectives of the internal market and on fisheries where different construction standards may cause distortions of competition. As recommended by the Commission in its Communication to the Council on the principle of subsidiarity,<sup>1</sup> Member States' and Community's accession to the Torremolinos Protocol would be the most adequate response to the above requirements instead of an internal Community measure.

145. Community accession would in fact ensure that the Convention is brought into application within the Community at the same time. The Commission stresses that any other approach would not provide the required guarantee that uniform and simultaneous application will occur in the Community. To this end the Commission has transmitted to the Council a Recommendation for a Council Decision giving the Commission negotiating directives. In accordance with the agreement reached in the Council framework on 3 February 1993, the Commission and Member States will attend the Conference and will co-ordinate with the view of defending common positions. To this end consensus has been reached on the main objectives to be achieved during the negotiations, to safeguard a uniform high level of safety for the European fishing fleet; to preserve the right to adopt appropriate rules at Community level for vessels between 24 and 45 meters and the possibility for the Community to become a contracting party to the Protocol, if the Council so decides.

#### **The Community's role in support of the IMO**

146. The four specific areas examined show the importance of action in the IMO in the search for solutions to the problems identified. The Community has an important role to play, both within and in support of the IMO to ensure that the IMO rule-making process does indeed reach its objectives and is not unnecessarily stretched over such a long period of time that it is no longer credible or effective.

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<sup>1</sup> SEC(92) 1992 final, 27.10.92.

147. It follows that the Community needs to take action so that co-ordinated positions can be taken favouring the adoption of necessary new rules or the modification of old ones.

148. So far it has proved difficult to develop this Community role. For example, Member States have on occasion resisted this effort to co-ordinate, introducing friction and inefficiency into the task of ensuring that work in the IMO takes proper account of the Community's requirements. They have also opposed the natural development of the Community's current status as an observer in IMO to keep pace with developing Community competence. The end result of these attitudes can be to limit unacceptably the role of the Community's institutions in setting and implementing standards having a direct effect on the proper functioning of the internal market, the safety of ships, life and the protection of the marine environment.

149. It is the Commission's belief that this state of affairs should be rapidly remedied. The Commission sees positive prospects in common action by the Community to support and to promote further and more coordinated and firm action in the IMO as urged by the Extraordinary Council of 25.1.1993, aimed at :

- identifying jointly priority problem areas;
- bringing proposals to IMO and
- providing well co-ordinated support during the negotiations phase.

In this context specific attention should be given to joint action aimed at promoting the adoption by IMO - thus on an international scale - of those measures the application of which has been enhanced by the Community provisions outlined in the previous chapters of this communication.

150. This approach should not only speed up the international decision-making process but also, in turn, facilitate, the convergent application of such rules in the Community.

151. Finally, the Community's participation in the IMO should be kept under examination with a view to ensuring that it can participate as effectively as possible in work on matters falling within its competence, in the light of the completion of the internal market, of the development of the Common Transport Policy and the Community Environment Policy. In the light of the experience of the common action, if necessary, the possibilities and modalities for the Community to become a member of IMO should be explored with a view to achieving the most effective participation of the Community.

### Committee on Safe Seas

152. The Commission intends to propose to the Council a Decision setting up a Committee on Safe Seas (COSS), in conformity with Council Decision 87/373/EC of 13 July 1987,<sup>1</sup> laying down the procedures for the exercise of implementing powers conferred on the Commission.

153. COSS could be the forum for identifying and evaluating subjects of priority importance, including those for which solutions are best searched for at international level, and to co-ordinate the Member States' contribution to these subjects in IMO.

154. Guidelines for such co-ordination should be set to ensure effective action while respecting the IMO's methods of working and the technical character of much of its activity. This should also take due account of the need to minimise possible negative reactions to the development of regional voices within the organisation.

155. COSS could also be the forum where, following decisions taken at IMO, their convergent and timely application in the Community, including the accompanying measures needed, would be considered.

156. The setting up of COSS could also be used to avoid the proliferation of committees by taking upon COSS work entrusted to ad hoc committees under the specific measures outlined in the previous chapters or under future measures.

157. During the interim period required for the Council and the European Parliament to examine the proposal of setting up COSS, the Commission and the Member States should co-ordinate action in the IMO on priority issues such as those outlined in this chapter. The experience gained through such co-ordination would provide further inputs to the definition of the guidelines of COSS.

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<sup>1</sup> Council Decision of 13 July 1982 laying down the procedures for the exercise of implementing powers conferred on the Commission.

## ANNEX 1

## THE ACTION PROGRAMME

## A. COUNCIL DIRECTIVES/DECISIONS

## List of measures proposed

1. Proposals to be adopted by the Commission in 1993.
  - Carriage of dangerous and polluting goods by sea. Minimum requirements for vessels bound for or leaving Community sea ports, designed to ensure that the authorities are properly informed and can take appropriate action (EC directive on a reporting system, 2nd phase) (Chapter 3, section ii).
  - Control of ships by the port State: tighter measures (EC directive on the establishment of common criteria for the intensification of inspection of certain ships) (Chapter 2, section i).
  - International rules and certain Resolutions of the IMO: convergent application in the Community of certain IMO Resolutions (e.g. tankers, bulk carriers, passenger vessels) (Chapter 1, section iii).
  - Introduction of common safety rules for:
    - . marine equipment used on board of commercial and passenger vessels (Chapter 1, section ii).
    - . training of seafarers (minimum level of training for certain maritime professions) (Chapter 1, section v).
  - Introduction of common rules and standards for classification societies and technical safety standards for ships (Chapter 1, section i).
  - Decision setting up a Committee on Safe Seas (Chapter 4, last section).
2. Proposals in the pipeline for adoption by the Commission in 1994-1995.
  - Further measures on convergent application of IMO Resolution (Chapter 1, section iii).
  - Directive on safety requirements for vessels not subject to international Conventions. (Passenger vessels on domestic voyages, fishing vessels below 45 meters, cargo vessels below Torremolinos Convention size), (Chapter 1, section i).
  - Further rules on maritime equipment (of mandatory carriage) (Chapter 1, Section ii) and on minimum level of training for captain and officer (Chapter 1, section v).
  - Control of ships by State of port: harmonisation of detention rules, and mechanism to control effectiveness of port State inspections (Chapter 2, section ii).
  - Measure on traffic surveillance and aid, including identification of environmentally sensitive areas (Chapter 3, section i), harmonisation of procedures for vessel traffic services (Chapter 3, section iii a) and mechanism on recovery of costs for traffic surveillance/aid infrastructure (Chapter 3, section iii b).

- Measures on vapour emission controls, on the reduction of operational and accidental pollution by small boats and on sulphur content of liquified fuels and toxins in tanker fuels (Chapter 3, section iv ).
- Measure on the ratification of the Protocol to the Torremolinos Convention (Chapter 4).

## B. OTHER ACTIONS

- Training programmes for crews, surveyors, VTS operators, port State control inspectors (Chapter 2,3 and 4).
- Traffic surveillance and aid infrastructure: VTS development including emergency facilities, demonstration projects of automatic ship tracking using transponders, European permanent traffic observatory, European radionavigation plan, development of LORAN-C in the Mediterranean Area (Chapter 3, section iii ).  
Development and use of reception facilities (Chapter 3, section iv ).
- Studies on:
  - Assessment of scrapping requirements and facilities
  - Co-ordination of availability of salvage capacities
  - Risk evaluation and prevention
  - Financial responsibility for cargo owners using substandard ships
  - Responsibility of shipowners for the safety of crew and passengers
  - Feasibility of a civil liability system for damage to the environment
  - Evaluation of results of accidents reports, particularly on bulk carriers.
- R & D: directing of the research and development programme on transport in support to priority requirements of the Common Policy on Safe Seas as identified e.g. human factor in maritime casualties, environment friendly tankers designs.

## ANNEX 2

## LIST OF ABBREVIATIONS AND EXPLANATIONS.

Assembly	The Assembly of the International Maritime Organization.
BCH	Code for Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, adopted by IMO.
Classification Societies	Private or public organisations which execute inspections on board vessels related to the seaworthiness, the safety, the pollution prevention and the equipment of (seagoing) vessels.
COST (301) (311)	Research programme to investigate into the possibilities to establish a Community vessel traffic management system.
EC coastal State	One of the States of the European Community with a coastal area open to the sea.
ECDIS	Electronic Chart Display and Information System, a new technical development to replace the common printed geographical charts of sea-areas with computer assisted displays on board vessels to manoeuvre the ship.
EC rule	Legal instrument adopted in the framework of the European Community.
EEC Treaty (Treaty)	The Treaty on the institutionalisation of the European Economic Community, (Treaty of Rome 1957).
EEZ	Exclusive Economic Zone; a zone in the high seas established by the coastal State under the provisions of the Law of the Sea (UNCLOS).
EFTA	European Free Trade Association.
EPTO	European Parliament Traffic Observatory.
EURET	Research and Development programmes on Transport.
EWTIS	Research and Development project on exchange of information between Member States.
Flag State	A State under whose flag a vessel is entitled to sail.
GGEMS	Group of Governmental Experts on Maritime Safety to assist the Commission in developing measures for maritime safety.
GMDS	Global Maritime Distress and Safety System, the new satellite distress and safety communication for shipping.
IACS	International Association of Classification Societies.

IALA	International Association of Lighthouse Authorities, an international organisation of Governments and Industries.
IAPH	International Association on Port and Harbours.
ILO	International Labour Organisation, one of the Specialised Organisations of the United Nations.
ILO 147	Convention 147 of the International Labour Organisation.
IMDG-code	International Maritime Dangerous Goods Code, a Resolution of the Assembly of IMO adopted on 6 November 1991, as Resolution A. 716(17).
IOPP certificate	International Oil Pollution Prevention certificate; a certificate to be issued by the flag State or on its behalf after inspections have been carried out on board the vessel.
IMO	International Maritime Organization, one of the specialised organisations of the United Nations.
IMO Resolution	Decision taken by the Assembly of IMO, the main bodies of IMO, or a conference convened by IMO.
Loran-C	Existing radiopositioning system for use in shipping.
Maastricht Treaty	Treaty on the European Union (1992). An agreement between the EC Member States to amend the EEC Treaty.
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973, amended by its Protocol in 1978.
Member State	One of the States of the European Community.
MIF	Maritime Industries Forum, composed of representatives from the European maritime industries, trade unions, ministries of the EC and Scandinavian EFTA countries, European Parliamentarians and various EC Commissioners.
MOU	Memorandum of Understanding on Port State Control, an agreement between various European States to execute control on board ships visiting their ports under the aegis of international Conventions.
P & I clubs	Private organisations on the insurance market, which act together in insuring ships and their cargo.
Port State	A State where the port is situated which is visited by a vessel.
PSC	Port State Control, an agreement between various European States to execute control on board ships which visit their harbours under the aegis of international Conventions.
R & D	Research and Development undertaken or supported by the European Community.



RTIS	Research and Development project on Transport (Regional Traffic Information Service).
SBT	Segregated Ballast Tanker; tanker with dedicated cargo tanks which are solely used for carrying ballast, no ballast in oil cargo tanks permitted.
SOLAS	International Convention for the Safety of Life at Sea, 1974, as amended.
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978.
Torremolinos	Torremolinos International Convention for the Safety of Fishing Vessels, 1977.
Treaty	The Treaty on the institutionalisation of the European Economic Community (Treaty of Rome, 1957). See also EEC Treaty.
UNCLOS	United Nations Convention on the Law of the Sea, as adopted during the Third United Nations Conference on the Law of the Sea, Montego-Bay, 10 December 1982.
VTS	Vessel Traffic Services, system to guide and instruct maritime traffic from shore, using modern observation and communication technology.