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MARITIME SAFETY COMMITTEE
82nd session
Agenda item 24

MSC 82/24/Add.2
22 December 2006
Original: ENGLISH

**REPORT OF THE MARITIME SAFETY COMMITTEE
ON ITS EIGHTY-SECOND SESSION**

Attached are annexes 14 to 38 to the report of the Maritime Safety Committee on its eighty-second session (MSC 82/24).

For reasons of economy, this document is printed in a limited number. Delegates are kindly asked to bring their copies to meetings and not to request additional copies.

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ANNEX 14

RESOLUTION MSC.228(82)

(adopted on 7 December 2006)

REVISED GUIDELINES FOR THE PREVENTION AND SUPPRESSION OF THE SMUGGLING OF DRUGS, PSYCHOTROPIC SUBSTANCES AND PRECURSOR CHEMICALS ON SHIPS ENGAGED IN INTERNATIONAL MARITIME TRAFFIC

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Maritime Safety Committee,

RECALLING that the 2002 SOLAS Conference adopted resolution 3 on Further work by the International Maritime Organization pertaining to the enhancement of maritime security, which, in operative paragraph 1(h), invited the Organization to review resolution A.872(20) on Guidelines for the prevention and suppression of the smuggling of drugs, psychotropic substances and precursor chemicals on ships engaged in international traffic (the Guidelines) and, if necessary, to develop appropriate amendments thereto,

MINDFUL that United Nations Security Council resolutions 1373(2001) and 1456(2003) have, *inter alia*, noted with concern the close connection between international terrorism and transnational organized crime, illicit drugs, money laundering and illegal arms trafficking; and have emphasized the need to enhance co-ordination of efforts on national, subregional, regional and international levels in order to strengthen a global response to these serious threats to international security,

MINDFUL ALSO of the work conducted by other United Nations agencies and international organizations, such as the United Nations International Narcotics Control Board, the United Nations Office on Drugs and Crime, the United Nations Interregional Criminal Justice Research Institute, Interpol and the World Customs Organization, to assist States to combat international terrorism and transnational organized crime, illicit drugs, money laundering and illegal arms trafficking through provision of guidance and capacity-building activities,

RECALLING ALSO resolution A.985(24) adopted by the Assembly, at its twenty-fourth regular session, by which the Assembly, *inter alia*, authorized the Facilitation Committee and the Maritime Safety Committee to adopt jointly the necessary amendments to the Guidelines and to promulgate them by appropriate means,

NOTING that the Facilitation Committee, at its thirty-fourth session, is expected to adopt the Revised Guidelines for the prevention and suppression of the smuggling of drugs, psychotropic substances and precursor chemicals on ships engaged in international maritime traffic through which it will adopt identical amendments to the Guidelines,

1. ADOPTS the Revised Guidelines for the prevention and suppression of the smuggling of drugs, psychotropic substances and precursor chemicals on ships engaged in international traffic, set out in the Annex to the present resolution;

2. URGES Member Governments to implement the Revised Guidelines as from 1 April 2007;
3. INVITES ALSO Member Governments and non-governmental organizations in consultative status with IMO to circulate the Revised Guidelines as widely as possible in order to ensure their widespread promulgation and implementation and to bring them in particular to the attention of harbour masters, shipping companies, ship operators and managers, shipmasters and other parties concerned;
4. FURTHER INVITES, where appropriate, Member Governments to consider amending their national legislation to give full and complete effect to the Revised Guidelines;
5. REQUESTS ALSO the Assembly to endorse the action taken by the Maritime Safety Committee and the Facilitation Committee and to revoke resolution A.872(20).

ANNEX

**REVISED GUIDELINES FOR THE PREVENTION AND SUPPRESSION OF THE
SMUGGLING OF DRUGS, PSYCHOTROPIC SUBSTANCES AND
PRECURSOR CHEMICALS ON SHIPS ENGAGED IN
INTERNATIONAL MARITIME TRAFFIC**

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**REVISED GUIDELINES FOR THE PREVENTION AND SUPPRESSION OF THE
SMUGGLING OF DRUGS, PSYCHOTROPIC SUBSTANCES AND PRECURSOR
CHEMICALS ON SHIPS ENGAGED IN INTERNATIONAL MARITIME TRAFFIC**

PREAMBLE

The International Maritime Organization (IMO) proposes the following “Revised Guidelines for the prevention and suppression of the smuggling of psychotropic substances and precursor chemicals on ships engaged in international maritime traffic”, harmonized with international instruments and recommendations issued by various international bodies such as IMO, the World Customs Organization (WCO) and the International Labour Organization (ILO), their purpose being to strike a balance between facilitation of international trade and management of security, thus helping to prevent drug-trafficking activities.

The ultimate aim is to comply with United Nations Security Council resolution 1373(2001), whose paragraph 4 refers to the close connection between international terrorism and transnational organized crime, illicit drugs, money laundering and illicit arms trafficking, and highlights the need for closer co-operation at national, subregional, regional and international levels so as to strengthen the international response to terrorism and serious threats to international security, and also with resolution 1456(2003), which reaffirms the duty to prevent terrorists from making use of other criminal activities such as transnational organized crime, illicit drugs and drug trafficking, and other criminal activities.

The purpose of these Guidelines is thus to establish basic procedures, not only for detecting drugs on board, but also for making prevention the principal means of ensuring that the scourge of drug trafficking does not damage the world’s economy and wellbeing through attacks on international maritime trade.

In this regard, it is worthwhile recalling the work done by States and international organizations to tackle drug trafficking, which is reflected in international instruments that are now gaining unequivocal international acceptance.

To illustrate this point, there follows a brief summary of the various international efforts to tackle drug trafficking, some of which address the close links with international maritime transport.

In general terms, the most important of these are the International Opium Conventions (The Hague, 1912, and Geneva, 1925), the Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs (Geneva, 1931), the Convention for the Suppression of Illicit Traffic in Dangerous Drugs (Geneva, 1936), the New York Protocol of 1946 amending most of the above-mentioned instruments, the Single Convention on Narcotic Drugs (New York, 1961) and its amending Protocol of 1972, the Convention on Psychotropic Substances (Vienna, 1971) and the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (Vienna, 1988; this shows how the legal treatment of this matter has developed over time, as well as the international response to an activity that has a direct impact on society.)

The latter – the Vienna Convention of 1988¹ – can now be said to have gained a large measure of acceptance in the international community, following a full examination and review of its provisions to take into account the prevention and eradication of illicit drug trafficking. Implementation of these Guidelines will thus require a general knowledge of the Vienna Convention. In this regard, special attention should be paid to the following articles of the Convention: 3. Offences and sanctions; 5. Confiscation; 9. Other forms of co-operation and training; 12. Substances frequently used in the manufacture of narcotic drugs and psychotropic substances; 13. Materials and equipment; 15. Commercial carriers; 16. Commercial documents and labelling of exports; 17. Illicit traffic by sea; 18. Free trade zones and free ports; 20. Information to be furnished by the Parties.

It is also important to bear in mind the bilateral agreements concluded between States on the subject of preventing and controlling illicit drug trafficking, many of which draw on the international agreements mentioned above.

Furthermore, the 1982 United Nations Convention on the Law of the Sea (UNCLOS)² is fundamentally important to application of the Guidelines, especially its emphasis on the principle of co-operation as the prerequisite for achieving common objectives on the basis of shared responsibility, since action against drugs is ultimately a joint responsibility requiring an integrated and balanced approach.

However, as stated at the outset, mankind is today confronted with a set of variables which radically affect development, trade and world economies, and factors such as drug trafficking and terrorism threaten the facilitation of global maritime trade. It is pertinent to highlight the direct link between these factors and positive responses such as the new provisions in chapter XI-2 of SOLAS, the ISPS Code developed by IMO, the “ILO/IMO Code of Practice on Security in Ports” and the “WCO Framework of Standards to Secure and Facilitate Global Trade” (SAFE Framework of Standards).

Familiarity with the content of these documents is advisable for implementing the Guidelines; they should be regarded as complementing and extending the Guidelines when dealing with the areas of harmonization of procedures, flexible dealings in maritime transport, and security for seafarers, shore-based personnel, port facilities and ships; their ultimate aim is to help achieve the balance between security and facilitation.

It is likewise worth recalling that at a diplomatic conference convened by IMO in 2002 new provisions to the SOLAS Convention were adopted, together with the ISPS Code, for the sole and specific purpose of significantly enhancing maritime security through the efforts of governments and private companies. The new provisions in the Code undoubtedly provide a solid basis for international co-operation between ships and port facilities to prevent and identify acts that threaten the security of maritime transport. The new chapter XI-2 of SOLAS and the ISPS Code require ships, companies and port facilities to comply with provisions for enhancing

¹ The Vienna Convention of 20 December 1988 came into international force on 11 December 1990. By January 2006 it had 179 States Parties, including 87 signatories.

² UNCLOS, 1982, article 108: “1. All States shall co-operate in the suppression of illicit traffic in narcotic drugs and psychotropic substances engaged in by ships on the high seas contrary to international conventions.
2. Any State which has reasonable grounds for believing that a ship flying its flag is engaged in illicit traffic in narcotic drugs or psychotropic substances may request the co-operation of other States to suppress such traffic.”

maritime safety and security, and above all to protect those persons engaged in maritime activities, whether on land or at sea.

Because the ISPS Code provides for effective co-operation and understanding between all the actors involved in maritime transport, namely the authorities and national, regional and local governments, and thus also masters, crews, passengers, shipowners, shipping agents and port administrations, it may be regarded as another element supporting application of the Guidelines, since co-operation among the various actors and among those for whom they are responsible can contribute to effective application. Here, it is worthwhile mentioning the threat to security posed by drug smuggling. Although the Code makes no mention of terms such as drug trafficking, drugs or narcotics, it is not difficult to see illicit drug trafficking in terms of a genuine threat to security. One has only to imagine what lies behind this trade: arms, easy money, illicit goods, robbery, kidnapping and terrorist attacks to name only some aspects.

The “ILO/IMO Code of Practice on Security in Ports”, seeks to integrate aspects of security, safety and health in ports and terminals. The Code of Practice complements the international efforts to support IMO’s work on maritime security, by offering a method for identifying weaknesses in port security, so as to establish security measures designed to prevent, detect and respond to illicit acts against ports used for international maritime traffic; however, it is equally the case that the recommendations can be used as the basis for action designed to protect maritime operations and ports in the national context.

In this respect, the Code of Practice elaborates on issues relating to security, beyond the scope of port facilities to the port as a whole; the provisions of the ISPS Code set out the requirements relating only to ship security and the direct interface between the ship and the port facility, but are still compatible with the Code of Practice. This is why it is stipulated that the port facility security assessment and the port facility protection plan must take into account the security measures in place at port facilities - the importance of a link between each facility and the rest of the port is therefore emphasized.

Equally, emphasis is placed on training and awareness in relation to security, as basic factors for effectively carrying out an adequate port security strategy.

With regard to integrating the Code of Practice and these Guidelines, it is emphasized that any security measures brought into effect must focus on preventing the fraudulent introduction of contraband, medicines, narcotics, other illegal substances and prohibited materials, with the overall objective of maintaining an acceptable standard at all security levels.

The recommendations in the Code of Practice are not concerned solely with defining the factors to take into account in evaluating and implementing security plans; they also draw attention to the fact that Member States must prepare a “policy statement on port safety”, which should be reviewed and updated periodically to reflect changes in these and related activities that take place in them. This statement must specify the measures taken by the Member State to promote regional and international co-operation, acknowledgement of the importance of the human element, and interdependence between security and public safety, economic development and marine environment protection.

Last, but no less important, is the “SAFE Framework of Standards”, which begins by stating that world trade is the basis for economic prosperity but is also vulnerable to being used for terrorist acts that can disrupt the global economy. Accordingly, the document sets forth basic minimum principles and standards for action by WCO Members aimed at securing the flow of global trade and facilitating the movement of goods.

The SAFE Framework of Standards describes the work of customs services as an important contribution to safety and the facilitation of world trade and emphasizes their importance in developing integrated management of the logistical chain, facilitating trade, enhancing reliability and predictability, tackling the challenges of the twenty-first century, strengthening co-operation between customs services and companies, and reforming internal co-operation so as to enhance capacity.

The SAFE Framework of Standards provides a scheme made up of four basic elements which are fully complementary with IMO’s work on facilitation of international maritime traffic. These are harmonization of requirements relating to electronic information, a consistent focus on risk analysis in safety matters, inspection of high-risk containers and cargo destined for abroad using non-intrusive methods as far as possible, and a focus on the commercial benefits to be obtained from applying and complying with minimum standards of safety in the logistical chain.

The basic aim of the SAFE Framework of Standards is to see how, using methods built around two pillars of collaboration, the basic elements can be brought to bear in order to benefit world trade. These two types of collaboration are described as Customs-Customs and Customs-Business; if these are developed to the full, they can stimulate world trade, ensure greater security against terrorism, improve the contribution that customs services and commercial partners make to the economic and social wellbeing of States, strengthen the ability of customs services to detect, dispatch and manage high-risk consignments through more efficient handling of goods, and eliminate duplication and multiple requests for submission of reports.

It is thus important to revise the “Guidelines for the Prevention and Suppression of the Smuggling of Psychotropic Substances and Precursor Chemicals on Ships engaged in International Maritime Traffic” in the light of the WCO Framework of Standards as well, because the Framework emphasizes the IMO theme of facilitation on principle, in particular the notion of co-operation and prevention, and also establishes criteria for granting companies within the logistical chain official status as collaborators in security-related tasks. These criteria concern analysis of risk assessment, security plans adjusted to risk assessments, communication plans, measures to prevent irregular or undocumented goods from entering the international logistical chain, physical security of buildings and premises used for loading or storage, cargo and container security, security of means of transport, control of personnel, and security of information systems.

Finally, it is important to bear in mind that most drug seizures worldwide and a considerable proportion of drug smuggling occurs by sea. For this reason, all efforts to prevent illicit trafficking on board any kind of ship and to monitor routinely for diversion of chemical products must ensure that risks are reduced and that, at all costs, difficult situations for ship, master, crew and cargo do not arise. Three principal factors should be borne in mind when considering the implications of illicit drug trafficking for commercial means of transport:

- (i) The very high value of drugs when smuggled in large quantities has attracted the major international criminal organizations and terrorist groups. The possibility of violent incidents, including armed assault, on discovering any sizeable quantity of drugs should not be overlooked and, consequently, due precautions should always be taken.
- (ii) The professional trafficker rarely carries the drugs himself and usually finds an accomplice to do so. Merchant seamen are frequently targeted by drug traffickers anxious to get their products from producing to consuming countries. Often the seafarers are not fully aware of the risks involved, which include long prison sentences and, in some countries, the death penalty.
- (iii) There are no “safe” shipping routes where operators can be quite certain that there are no illicit substances on their ships. Direct sailings from countries of supply to countries of consumption are clearly considered as a risk and receive special attention from customs authorities. However, increasing quantities of drugs are being moved by roundabout and circuitous routes, using ports in countries which are not drug producers which drug traffickers believe invite less risk of interception in countries of destination.

These Guidelines provide general advice that may give guidance to shipowners, seafarers and others closely involved with the operation of ships. Their aim is to help shipping companies, operators and managers, ships’ masters and officers to prevent and combat illicit drug trafficking and to recognize the main symptoms of drug dependence among crew members. On the basis of these Guidelines, shipowners may wish to examine the possibility of adopting or improving procedures aimed at preventing drug trafficking offences and the diversion of chemical products aboard their ships. Such procedures will necessarily vary from one ship to another, depending on the types of ship, their cargo and the routes they serve.

Shipping is vulnerable to drug trafficking on two fronts. First, the threat of drugs being concealed on vessels means that law enforcement efforts by the competent Authorities of each State may result in long delays to the departure of ships, especially cargo ships. Secondly, the possible involvement of crew members in drug use threatens the safety of the vessel.

The essential and basic way to create a united front against drug trafficking and drug dependence on ships and among their crews is education, training, appropriate personnel selection, and assistance for ships’ crews. Without these, it is impossible to create awareness among the crew and achieve the genuine commitment from the company and the ship that will ensure transparency and fairness in the ship’s operations.

Finally, it is important to acknowledge the invaluable information obtained from the Internet sites and written documents of the International Narcotics Control Board, the United Nations Office on Drugs and Crime, the International Criminal Police Organization (Interpol), the European Union, the Organization of American States (OAS), and the records of the inter-American courses on port security held by the OAS, which provided the raw material for preparation of these Guidelines.

CHAPTER 1 – PREVENTION OF ILLICIT TRAFFICKING OF DRUGS AND PSYCHOTROPIC SUBSTANCES

Prevention is one of the most important aspects where illicit trafficking of narcotic drugs is concerned; it should involve all who belong to the maritime sector, increasing their awareness of the scale of the global drug-trafficking problem and encouraging them to contribute to the international efforts to detect and eliminate narcotic drugs trafficking and psychotropic substances.

Likewise, part of prevention involves enhancing the safety and security arrangements for boarding points, ports, port facilities and ships, and supporting co-ordinated action among the competent authorities in port, particularly those operating at the ship-port interface. This is an area in which it is becoming even more important to develop the mentality, based on facilitation, co-operation and training needed to inform relations between those authorities, the shipping companies and the crews, if the best possible overall outcome of a protected port, including control of illicit trafficking, is to be achieved.

However, it is important to strike a balance between control and facilitation, as too much control would hamper normal international trading of legal cargoes, causing unnecessary delays for both ships and port facilities, and insufficient control would lead to increased drug trafficking.

1 COMPETENT AUTHORITY PROCEDURES

1.1 Action by officers of the competent Authorities

Officers of the competent Authorities have certain duties to fulfil with respect to all vessels arriving from and departing for foreign countries and normally seek to establish friendly co-operation with ships' officers and crews. Their training should prepare them to respect the ship as the seafarer's home, and to recognize that crew members wish to do their work without interference and without shipboard life being disturbed more than necessary.

It is important that the officers of the competent Authorities receive any co-operation and information that any crew member can provide to eliminate drug trafficking. Information provided will be treated in the strictest confidence and will be investigated without delay.

Some Authorities of the coastal State are empowered by law to board³ without the permission of the flag State any ships not entitled to sovereign immunity within their ports or transiting or remaining in its territorial sea and to inspect and examine any part and open any closed place or container suspected of concealing contraband whether or not keys are available. Some Authorities may also be empowered to exercise, in the contiguous zone, the control necessary to prevent, *inter alia*, infringement of the coastal States customs, laws and regulations within its territory or territorial sea. Such procedures vary according to the legislation in different countries. The Authorities of the coastal State may also be empowered to board and search foreign flag suspect ships located seaward of the territorial sea/contiguous zone with the permission of the flag State.

³ See MSC/Circ.1156: Guidance on the access of public authorities, emergency response services and pilots on board ships to which SOLAS chapter XI-2 and the ISPS Code apply.

Questions asked about possible actions by officers of the competent Authorities in relation to the ship include the following:

Can officers of the competent Authorities board the vessel?

Most national legislation provides that any officer of the competent Authorities may board the ship at any time while it is within the limits of a port or within territorial waters. Ship security plans may not be used by the competent Authorities as grounds for access to the ship or to any place in it.

Can officers of the competent Authorities search the ship?

Most national legislation allows specified officers of the competent Authorities to search any part of the ship. They are also permitted, by law, to remain on the ship while the necessary searches are made. In certain areas of the vessel for example cargo spaces, void cargo spaces, sensitive electronic equipment, etc., where they will need advice, crew assistance, it may be necessary to use special clothing or equipment to conduct a search. Officers of the competent Authorities are to be informed of such areas on boarding. Such officers should respect the need to comply with the requirements of the ship security plan where this does not conflict with their operational tasks and legal right of access.

Can ships on which illicit drugs are found be seized by officers of the competent Authorities?

Under certain national legislation, some ships used to carry goods subject to seizure may also be seized under the relevant legislation. Sanctions may be imposed on a vessel whose responsible officers (i.e. the master, officers and engineers, manager or owner of a vessel) are involved, either through their acts or through failure to take reasonable precautions to avoid any member of the crew under their supervision engaging in illicit drug trafficking.

Does a proper gangway have to be provided for access to the vessel?

Most legislation requires officers of the competent Authorities to be provided with safe means of access to and exit from the vessel. These officers' requirements must be complied with immediately, provided that they are reasonable in the circumstances.

What power does an officer of the competent Authority have when searching a vessel?

The law may permit subject to the powers of individual authorities within national law an officer of the competent Authority to have free access to every part of the ship and its cargo. Additionally he may:

- .1 mark, or cause to be marked, any goods before loading;
- .2 lock up, seal, mark or secure any goods carried in the ship, or in any place, or in any container;
- .3 break open any place or container which is locked if the keys are withheld or otherwise unavailable.

Such officers of the competent Authorities may have authority to:

- .1 board or search ships when these actions are necessary to suppress illicit trafficking by sea;
- .2 arrest any offender and may impose sanctions or fines, and order arrest, unless otherwise laid down in the legislation of the country.

When officers of the competent Authorities take legal proceedings, the master and other responsible parties may be held criminally liable, as appropriate under national law.

1.2 Information about the crew

Ships' masters may be asked to comply with any reasonable request by the competent Authority for important information which may be available concerning one or more individual crew members. Although there may be criminal liability, co-operation and the value of the information supplied by the master may be mitigating factors with regard to the ship's liability.

On the arrival of the vessel, officers of the competent Authority should, where practicable, be notified of the fact that one or more crew members have left or joined the ship in that port. It is important to bear in mind that prior to a "free pratique" visit, where applicable, no crew member may leave the ship.

Officers of the competent Authorities should be provided with any information on the cargo and the crew before the ship's arrival⁴.

IN NO CIRCUMSTANCES SHOULD THE OFFICERS OF THE COMPETENT AUTHORITIES ABUSE THE POWERS CONFERRED UPON THEM BY THE LEGISLATION THAT GOVERNS THEIR FUNCTIONS. ANY INSTANCE OF LACK OF INTEGRITY ON THE PART OF SUCH OFFICERS ANYWHERE IN THE WORLD SHOULD BE REPORTED TO THE NATIONAL AUTHORITIES AND THE FLAG STATES.

On request, the competent Authorities will advise shipowners and masters of high risk ports. Customs authorities should designate specific contact points in ports for reporting drug-related incidents.

1.3 Action by Companies

Whenever practicable, Companies should be prepared to assist the competent Authorities in suitable training on methods of searching the type of ships operated by the company.

Details including drawings of any recent structural repair, major remodelling or refit of the vessel (interior or exterior) should be made available in case they are required by the competent Authorities.

⁴ See MSC/Circ.1130: Guidance to masters, Companies and duly authorized officers on the requirements relating to the submission of security-related information prior to the entry of a ship into port.

Companies should normally allow competent Authorities access to commercial information on ships and their cargo, especially changes of destination, consignee, etc.

Companies should assist in training officers of the competent Authorities on the use of container routes, cargo and information systems or provide the competent Authorities with appropriate access to such systems.

1.4 Cargo security

In preparing the cargo handling procedures and their security plans, Companies and port facilities may request the competent Authorities for assistance in providing information and expert advice to their staff responsible for security, cargo handling and documentation, in order to train them to recognize and report cases where the circumstances are suspicious, such as discrepancies in weight, losses, inconsistencies in payments, make-up of bales, route, anomalies in documentation or any other inconsistency.

Such plans and procedures should include provisions for notification of competent authorities of any security breaches or cargo security concerns.

1.5 Security in the port facility

Port facilities and locations covered by approved port facility security plans should implement security procedures in accordance with the provisions of the ISPS Code. Port facilities and other locations, for example fixed and floating platforms, not covered by port facility security plans approved by the Contracting Government concerned, should establish appropriate measures to enhance the security of ships interfacing with them, in accordance with 2002 SOLAS Conference resolution 7 on Establishment of appropriate measures to enhance the security of ships, port facilities, mobile offshore drilling units on location and fixed and floating platforms not covered by chapter XI-2 of the 1974 SOLAS Convention. Such measures may include:

- .1 The control of access by private vehicles to cargo stores and loading services.
- .2 Having a list of all vehicles and persons with regular authorized access to cargo stores and port services, and making this list available to the competent Authorities.
- .3 Restricting parking of all vehicles to a designated area, remote from the active loading areas.
- .4 Any vehicle authorized to enter at one time to cargo stores or loading services must be issued with a dated entry pass and parking should be restricted to designated areas. The pass numbers should be recorded and made available to the competent Authorities if required.
- .5 When the port facility or ship has electronic security systems, such as closed circuit television covering the cargo holding or loading area, the systems must be accessible to the competent Authorities, if they so request.
- .6 Access to cargo and loading areas should only be permitted to authorized persons and vehicles showing the correct identification.

- .7 All these precautions and actions should be harmonized, to the extent possible, with the relevant measures in the ship security plan.

1.6 General security

The ship security officer and/or the company security officer must periodically carry out reviews of the control and security measures in their ports of call and take measures to report them to the port facility security officer and/or competent Authority of the port concerned. The review should focus specifically on those measures designed to restrict access of unauthorized persons, cargoes and/or provisions to the vessel, services and cargoes.

The Company security officer should notify the competent Authorities when employees discover suspect packages or unjustified cargoes on the ship or outside it. Suspect packages should be kept under observation while the competent Authorities are notified.

The Company security officer should send warning signals to ships and loading services, with the description of internal sanctions and/or measures applied to employees in confirmed cases of drug trafficking or abuse, with general reference to the severe penalties imposed by the competent Authorities throughout the world for drug-related offences.

The Company should provide the competent Authorities with information on stevedoring companies which provide services to its ships in the respective ports, and identify companies which provide ship-related services.

The Company should, to the extent possible, take all the precautions necessary when recruiting new employees to work on their ships, to check that none of them has been convicted of drug trafficking or has a history of drug abuse.

1.7 Personnel security

The Company security officer and where applicable the ship security officer should allow only authorized and duly identified employees to handle operational information about the cargo or the ship.

The Company security officer and the ship security officer should involve the competent Authorities in educating its personnel in identifying areas where exceptions to normal commercial practice may suggest the possibility of a drug-related offence.

The relevant company personnel should be trained to recognize signs that an employee may be likely to commit drug-related offences and in the measures to be taken when suspicion is aroused.

1.8 General

The Company should provide clearly identified and easily accessible local contact points for all matters shown to be of legal interest to the competent Authorities, such as cargo lists, passenger reservations, cargo routes, employee information, etc.

Companies should notify all employees or agents involved in ship or cargo operations, ashore and on board, of the content of these matters and give them instructions to carry them out in line with Company policy.

Companies should encourage constant and open exchange of information with the competent Authorities.

Companies and the competent Authorities, together with other bodies involved in commercial transactions, should regularly discuss matters of mutual interest, both locally and nationally.

Companies should seek advice from the competent Authorities concerning the provision of suitable assistance and educational material, so that the company security officer or ship security officer can:

- .1 list the illicit trafficking of drugs in their ship's security assessments as a threat;
- .2 develop procedures in ships' security plans for preventing illicit trafficking of drugs; and
- .3 implement those plans.

Companies should endeavour to educate their personnel, both ashore and on board, in the dangers of drug abuse and ways of identifying illicit substances.

2 POSSIBILITY OF ILLICIT LOADING ONTO SHIPS

The procedures necessary to prevent illicit drugs being concealed on board vessels clearly depends on the level and nature of the risk. Carriers need to assess the threat and identify their vulnerability.

Factors which need to be taken into account include:

- .1 ports of call and routes taken by the vessel;
- .2 the origin and routing of the cargo;
- .3 the level of control exercised at port facilities;
- .4 the degree of control exercised regarding access to the ship; and
- .5 the vulnerability of the crew to pressure by drug traffickers.

Today's traffickers use a wide variety of routes, often transshipping the cargo several times until its country of origin is completely obscured. Few ports can now be considered safe from attempts to place drugs and other illicit substances on board, although ports in producing countries remain those in which the vessel is most at risk.

Ships are vulnerable to being used as a conduit for the movement of drugs:

- .1 in cars, freight vehicles, trailers, etc.;
- .2 by visitors to the vessel;
- .3 in luggage placed in a baggage trolley;

- .4 in ships' stores;
- .5 by contractors' personnel (for example repair or cleaning gangs);
- .6 as part of crew effects;
- .7 concealed on or in the vessel's machinery or hull; and
- .8 in cargo or in the structure of cargo containers or packing.

In such cases, the trafficker may have the unwitting assistance of innocent people. Trafficking on commercial vessels can therefore be conducted by:

2.1 Overt or covert entry and concealment of drugs within the ship

The trafficker can board the ship, conceal a package and disembark before its discovery.

2.2 Indirect entry and concealment of drugs within the ship

The trafficker may use some convenient means of concealing and smuggling his illicit package on board (for example in cargo, its packing or containers, some item of passenger or crew baggage, in a carton of fresh provisions or in a box of machine spares). Such an exercise generally puts all the risk of detection on to an innocent third party.

2.3 Conspiracy to insert and conceal drugs within the ship

This will involve one or more members of the ships' crew or shore staff. For example: crane operator and crew member in the bridge-house during loading and unloading.

2.4 Concealment of drugs on the outside of the ship

Major drug movements can be carried out by a diver reaching the vessel's hull, either from another vessel or underwater, and securing a package to the ship's hull or to a main intake, a propeller bracket or a rudder fitting. Such attempts require considerable knowledge and technical skill and are only undertaken by the more sophisticated traffickers. This form of illicit trafficking is more likely in drug producing areas, which are also the areas of greatest risk.

3 COMPANY ROLES IN OVERALL SHIP SECURITY

Overall responsibility for the security of a ship, and the people on it, rests with the master. It is difficult for any organization to provide absolute security in every circumstance since commercial considerations, such as the need to continue operating and the cost of such a measure, have to be borne in mind. Security measures inevitably become a compromise between what is desirable and what is practicable in the circumstances.

Security measures, however, should relate directly to the level and nature of the risk of illicit drug trafficking in any particular location. The risk in the ports visited by ships needs to be reviewed regularly by both the company and the master, with the security measures being adjusted as appropriate.

Good security involves a readiness to accept that risks exist, perhaps involving employees, and that arrangements might be necessary to counter them.

Companies through the company security officer should consider:

3.1 Education and training of crew

Although security is the responsibility of all crew members, they are likely to be more security conscious and vigilant if the principles of good security, and the risks of becoming involved in drug trafficking or abuse, are explained. A continuous and thorough training and education programme can support measures taken to safeguard overall ship security.

The whole crew in accordance with their rank and duties should receive appropriate training in accordance with the provisions of the ISPS Code, STCW Convention, STCW Code and relevant MSC circulars issued by the organization.

This training must include drills and exercises carried out at appropriate intervals taking into account the ship type, ship personnel changes, port facilities to be visited and other relevant circumstances.

3.2 Liaison between competent Authorities at the port and the Company

Good communication and liaison with competent Authorities at the port in regular ports of call is essential since it will provide local “intelligence”, contacts and guidance, and assistance in all aspects of threat assessment. This contact and communication in ports is done by the ship security officer or the Company security officer.

3.3 Awareness of the risk of illicit trafficking

The threat of illicit drug trafficking in different ports of the world varies. The Company therefore needs to consider the threat in relation to each port of call. The Company’s shore staff at each port should also be made aware of the risk and ways in which they can assist in combating it. Such reviews should be discussed with the competent Authorities at the port at both ends of the trade in which the vessel is engaged.

3.4 Review of ship security

In the light of a carrier’s assessment of the threat to its operations, a continuous review of the evaluation and the security plan measures currently in force should be carried out, since this might reveal areas where additional measures are necessary.

3.5 Personnel available for ship security

Company personnel, ashore and afloat, are vital to the operation of a good security system, whether or not they are directly employed in security functions.

Drug traffickers generally carry out a reconnaissance of potential smuggling opportunities for whatever type of operation they are planning. An unsecured vessel or cargo compound is more likely to be targeted than an obviously protected one and traffickers are deterred by visible security arrangements. A ship whose crew is obviously vigilant is less likely to be selected as an innocent conduit for a drug run than one with a crew whose security procedures are neither

extensive nor diligently enforced. It is therefore of great importance that security precautions are seen to be effective at all times.

The greatest deterrent to a potential trafficker is the obvious awareness of the threat by shore-based and seagoing staff.

3.6 Special care with cargo in containers

Companies are encouraged to co-operate with the competent Authorities at the port in sharing information that may be valuable in the establishment of a “container-risk profile”. A systematic analysis of criteria such as consignee companies, owners, source, market history, form of payment, ports of call, etc., may be valuable in establishing such profiles, in accordance with the SAFE Framework of Standards.

Remember:

IF DRUGS ARE PREVENTED FROM GETTING ON BOARD THEY CANNOT BE UNWITTINGLY CARRIED. THE KEY ISSUE, THEREFORE, IS CONTROL OF ACCESS TO SHIP AND CARGO.

4 MEASURES AND PROCEDURES FOR OVERALL SHIP SECURITY

4.1 Port facility security

Security measures and procedures reduce the vulnerability of any facility. The security level set by the Contracting Government will have a significant influence on the number and type of security measures and procedures required. The presence or absence of effective shoreside security measures is one of the main factors which determine the need for additional shipboard security measures.

4.2 Security on board ship

The master is responsible for the safety and security of the ship. Additional security measures should be implemented to counter increased risks when warranted. A properly trained crew is in itself a strong deterrent to breaches of security. The first line of defence is the maintenance of the integrity of the vessel. This could be seriously compromised if crew members or other company employees become involved in drug trafficking.

4.2.1 Control of access to the ship and identification

The main task facing a would-be trafficker aiming to conceal packages on board the vessel is to gain access by infiltration. Security measures aimed at prevention should therefore be in the ship security plan. In each case the best methods of deterring and preventing unauthorized access are crew awareness and control of entrance to the vessel.

The vessel’s hull is a clear boundary which is easily defined. Protection of this boundary creates a physical and psychological deterrent to persons attempting unauthorized entry. It delays intrusion, enabling crew and security guards to detect and, if necessary, apprehend intruders. It also provides personnel and vehicles with designated and readily identifiable places for entry on to the vessel.

4.2.2 Precautions while ships are in port

Where appropriate, and in addition to the security measures appropriate for the security level in force, in order to adequately prevent illicit drugs from being brought aboard, additional measures to counter drug smuggling should be applied for example when required cargo nets might need to be intercepted and opened on the main deck before being lowered into the hold, for purposes of inspection, since drugs, components or precursors are often wrapped in the cargo nets so as to bring them aboard undetected.

4.2.3 Access by persons other than crew members

In addition to the guidance given in MSC/Circ.1112 on Shore leave and access to ships under the ISPS Code and MSC/Circ.1156 on Guidance on the access of public authorities, emergency response services and pilots on board ships to which SOLAS chapter XI-2 and the ISPS Code apply, where persons other than crew members are permitted on board, the following precautions should be observed:

- .1 access may be authorized to specific departments but should not be granted to restricted areas, engine rooms, holds, stores, etc.;
- .2 any package or bag brought on board or removed from the ship should be examined;
- .3 in the case of shore personnel working on board, for maintenance, loading, unloading, stowing or unstowing the ship, etc., the ship security officer should ensure that access to restricted and unauthorized areas is controlled; and
- .4 access control at the ship's access ladder or gangway while at the port facility.

4.3 General precautions on ships

In addition to the security procedures appropriate to the security level in force, additional precautions should be applied in drug risk areas, for example restricted areas on board ships for example, bridge, engine room, radio room, etc. should also be established. The locking of store rooms, cabins and internal access points, unused while in port, is an obvious precaution. The use, number and distribution of ships' master keys should be controlled by the ship security officer. Corrective action should be planned in advance in case security should be compromised by misuse or loss of keys. The following measures might be considered for protecting the natural boundary created by the ship's hull:

- .1 Access points to the vessel should be kept to a minimum, ideally a single controlled gangway, ramp or companion way. When regulations demand a second emergency ladder, consideration should be given to keeping it rolled up or lifted clear of the water.
- .2 If the risk warrants it, access points should be manned. In certain circumstances two members of the crew or supplementary security staff may be required. They should be fully briefed on their duties and the action to take in the event of an incident or emergency. They need to be provided with a flash light, a means of summoning assistance and communications equipment to remain in touch with the duty officer. A means of discreet communications by radio, direct-line facilities

or other reliable means should be provided at each access point for use by security or operating personnel to contact the port facility security officer in the event that assistance is required.

- .3 Gangway duty personnel need to hold a list of crew members, shore officials and expected visitors. Security alarms and devices may be appropriate in certain ports, as a complement to guards and patrols. Immediate and appropriate response to alarms is important if they are to be effective.
- .4 Packages, spares and stores should be carefully scrutinized when being taken on board.
- .5 Random, frequent and thorough searches should be made if it is impractical to search every item. Items sent ashore for repair, inspection or replenishment, such as fire extinguishers, gas bottles, etc., should be closely examined on return to the vessel.

In areas of high risk or at security level 2 or 3 visitors may need to be searched and photographed on boarding, accompanied whilst on board or even prohibited from entering the ship.

Shore facility employees, vendors, assigned law enforcement officials and others, whose official duties require them to board the vessel, should be asked to identify themselves and prominently display suitable identification. Persons refusing to present security documents at an access point to the vessel should be denied entry and reported to the port facility security officer and the competent Authorities at the port. If necessary, a responsible officer should be called to confirm their identity. Strangers should be challenged.

Unexpected visitors should only be allowed to embark one at a time and should be watched from the other side of the ship.

Vulnerable or little-used compartments and unmanned machinery spaces should be kept locked, especially in high risk ports, and watchkeepers should make random inspections to look for signs of tampering. Consideration should also be given to removing identifying tallies over the doors of those compartments.

The decision to keep certain spaces locked during a stay in port should take into account basic security aspects.

Crew members should be warned to be suspicious of unexpected objects or packages in unusual places. They should not accept packages from strangers and should be aware that drugs may be introduced into seemingly innocent packages.

To prevent this, boxes which have been searched could be bound with coloured tape for identification, or automatically strapped using polypropylene tape.

Small craft in the vicinity of the vessel should be kept under surveillance and, at night, illuminated where possible.

At sea, if there is any doubt about the identity or intentions of a vessel which is seeking to attract attention, no reply should be given. Furthermore, when circumstances so warrant and safety permits, the ship should increase speed and/or extinguish navigation lights and increase deck

lighting. Attempts should be made to identify or photograph any vessel behaving in a strange manner and the competent Authorities at the nearest port should be informed immediately by the fastest possible means. Particular care needs to be exercised in narrow waters and during the hours of darkness, when a surreptitious approach could be carried out more easily.

4.4 Measures to provide protection against external concealment

4.4.1 Lighting

While in port, at anchor or underway, the ship's deck and overside can be illuminated in periods of darkness and restricted visibility, though care should be taken not to interfere with the required navigation lights and safe navigation.

The lights should be arranged to illuminate specific areas continuously during the hours of darkness or restricted visibility. In some circumstances, it may be preferable to use such lighting systems only in response to an alarm.

Floodlights may be used to supplement the primary system and may be either portable or fixed. Where available, searchlights can be used to illuminate suspicious persons, vehicles or craft approaching the vessel.

4.4.2 Watch from on board

A good lookout should be kept from the deck, to look for bubbles divers, floating refuse (which may hide swimmers) or small boats. Approaching boats should be challenged and, if unidentified, should be prevented from coming alongside.

4.4.3 Searches below the waterline

If it is thought likely that a device has been fixed to the outside of the hull below the water-line, a search can be carried out to locate the device, though not to dislodge it. Qualified clearance divers are required to do this and their assistance should be sought through the competent Authorities at the port.

4.5 Personnel control

Passengers, crew members and other Company employees having legitimate business on board vessels clearly have greater opportunity to circumvent access control measures if determined to do so. Their potential for involvement in illicit activities must not be overlooked in assessing a vessel's vulnerability for use in the transport of drugs.

Where the threat warrants it, therefore, all reasonable and legal precautions should be taken to check the background and integrity of employees, especially prospective new staff. References from previous employers should be requested. Dismissals from previous employments or frequent job changes should be explained.

In assessing the possibility of employees succumbing to drug related pressures, the following points should be considered:

- .1 Is there an anti-drugs commitment from management and are staff aware of it?
- .2 Is there a drugs awareness and education programme and is staff co-operation encouraged?
- .3 Do all employees entitled to access to vessels or cargo have identification badges?
- .4 Are all employees aware of what to do and whom to tell if a suspicious bag or package is found?
- .5 Are all employees aware of what to do if they become suspicious of cargo, customers or colleagues?
- .6 Are any employees exhibiting signs of drug involvement such as changes in appearance, behaviour or character, frequent requests for swift changes or a desire to be allocated to a particular vessel, consignment or work station?

4.6 Forms of involvement of on-board personnel in drug trafficking

Employees, crew members or passengers may become involved in drug trafficking either as individuals or as part of an organized conspiracy.

4.6.1 Individually

Experience indicates that officers and management are rarely involved in this kind of activity. Since access to the cargo at both loading and discharge is difficult to guarantee for a crew member – and even more so for a passenger – drug trafficking by individual carriers generally uses the personal or working area of the crew member involved. However, an effort may be made to conceal the goods in an area which will not immediately draw attention to the individual if the goods are discovered.

4.6.2 The organized conspiracy

Such conspiracies may sometimes involve several or all crew members, including ships' officers, port facility staff and port management. With inside knowledge of vessel schedules, routing, shipboard routines, cargo information systems and customs procedures, large quantities of drugs can be involved and concealment techniques can be highly sophisticated as there is time to prepare the hiding place and conceal the product. Other places of concealment which may require an organized conspiracy are fuel tanks, engine room machinery, conduits or pipes.

5 DETECTION OF CONCEALED DRUGS

5.1 Shipboard searches

To help ensure maximum effectiveness, the search plan should be practised from time to time to build up confidence on the part of the crew and to remind them that good security is everyone's business. In areas of high risk or if specific information has been received, searches may be conducted after leaving each port. In these areas crews should be prepared to conduct a greater number of searches of people and goods. Every crew member should have areas of responsibility and search areas, which should be rotated randomly by the ship security officer.

Ships are particularly vulnerable to the transport of illicit substances. In the case of drugs, precursors and chemicals used in their manufacture, two main factors should be borne in mind:

- .1 the high value of the drugs, precursors and chemicals used in their manufacture and the involvement of international organized crime mean that large sums of money are at stake, with the consequent pressures including the risk of violence; and
- .2 the possibility that some crew members may be drug addicts.

N.B.: All psychotropic substances are very dangerous and some can be absorbed through the skin. Gloves and masks should always be used when handling suspicious substances. Never rub, touch or handle substances with exposed skin. Do not inhale vapours or powder. Do not smoke near the substance in question. Do not test it. Do not taste, eat or drink it.

Everyone should bear in mind the possibility of sudden violence, including armed attack, when a large quantity of psychotropic substances, chemicals used in their manufacture or precursors are discovered. Due precautions should be taken at all times.

5.2 Shipboard search planning

To ensure that a thorough and efficient search is completed in the shortest possible time, search plans should be prepared in advance. This should normally be done by the competent Authorities in conjunction with the ship security officer and can be reviewed and modified in the light of experience.

The search plan should be comprehensive, and should detail the routes searchers should follow and all the places on the route where a package might be hidden.

The plan should be developed in a systematic manner to cover all options and to ensure no overlap or omission. This allows those responsible to concentrate on the actual search without worrying about missing something.

Before conducting the search, the configuration of the vessel should be taken into account to ensure that:

- the ship is divided into manageable areas;
- all areas of the ship are included; and
- all areas of the ship are accessible.

This configuration would show:

- .1 number of decks;
- .2 number and location of cargo holds;
- .3 number and location of tanks and void spaces;
- .4 size and layout of engine room;

- .5 number and size of crew quarters and public areas;
- .6 accessibility of ventilation systems; and
- .7 number and size of storerooms used for various purposes.

One location on board needs to be designated as the control point where search team reports are sent, analysed and controlled.

Preparations should be made to equip the search teams with:

- .1 flash lights and batteries;
- .2 screwdrivers, wrenches and crowbars;
- .3 mirrors and probes;
- .4 gloves, hard hats, overalls and non-slip footwear;
- .5 plastic bags and envelopes for collection of evidence; and
- .6 forms on which to record activities and discoveries.

A system of check cards would be useful. One would be issued to each searcher specifying the route to follow and the areas to be searched. These cards can be colour-coded for different areas of responsibility, for example blue for deck, red for engine room. On completion of individual search tasks, the cards are returned to a central control point. When all cards are returned, the search is known to be complete.

When the master or the ship security officer has decided to search the ship, he should first brief his department heads who, in turn, can brief their own search group leaders. It is the group leaders who then organize their teams and search allocated spaces, using search plans to ensure that no spaces are missed.

5.3 Types of shipboard search

5.3.1 Reactive search

This type of search would be carried out in reaction to a specific threat or piece of intelligence indicating that a package or bag has been placed on board. It can also be used as a precaution at level 2 or 3, or during times of heightened threat. A reactive search should comply with the following principles:

- .1 Crew members should not be allowed to search their own areas in case they are involved in a drug smuggling operation and have concealed packages or bags in their own work or personal areas.
- .2 The search should be conducted according to a specific plan or schedule and must be carefully controlled.

- .3 Special consideration should be given to search parties working in pairs with one searching “high” and one searching “low”. If a suspicious object is found, one of the pair can remain on guard while the other reports the find.
- .4 Searchers should be able to recognize a suspicious package or bag.
- .5 There should be a system for marking or recording “clean” areas.
- .6 To prevent the illicit movement of goods during a search, the movement of persons should be controlled. Where this is not applicable, persons should be subject to search when transiting between searched and un-searched areas.
- .7 Searchers should maintain contact with the search controllers, perhaps by UHF/VHF radio.
- .8 Searchers should have clear guidance on what to do if a suspicious package or bag is found.
- .9 Searchers should bear in mind that smugglers may try to match the package or bag to the background, such as a tool box in an engine room.

The engine-rooms of ships are common places for concealing psychotropic substances, drug components or precursors. Generally shaft tunnels and lubricating oil and settling tanks are suspect, as are starting air bottles, the gauges of which can readily be set to show pressure even when empty. Access to the engine-room can be made from the shaft tunnel escape trunk opening on to the main deck or the steering engine flat. Once again it must be emphasized that such doors should be kept closed when the ship is in port and opened only in cases of need or emergency. Nevertheless, the need to keep escape routes clear must be observed.

The search controller should keep a record of all reports from the search groups to ensure that all spaces are checked and that the master and/or the ship security officer always has an up-to-date search status.

The discovery of one package or bag should not be the end of a search as there is always the possibility that more than one package or bag has been planted.

5.3.2 Fast search

Similar to the above search plan, a plan for fast search, or ‘quick look’, at the unlocked or more vulnerable and accessible areas can be drawn up for use after unloading/disembarkation and before loading/embarkation, etc. Using the card system, selected cards only are issued, covering the more vulnerable and accessible areas.

In this event:

- .1 all previously locked doors should be checked to ensure they have remained locked; and
- .2 all unlocked spaces, lifts and rubbish bins should be thoroughly searched.

On completion of the fast search, the master and/or the ship security officer can decide whether a full search, including a search of locked spaces, is necessary.

5.3.3 Preventive search

Preventive searching aims to deter smugglers from trying to smuggle a package or bag on board a ship and to find it before it is planted. There may be occasions when all visitors to the ship need to be searched.

The point or points where people and goods pass into a restricted or sterile zone, such as the vessel, need to be established and controlled. At these points, checks and searches should be made to ensure that everything that passes through the point is clean. Once through the point, segregation is important and no contact should be allowed with uncleared personnel. The percentage of persons/goods searched will, of course, depend upon the threat level.

Passengers and their hand-carried baggage can be examined on shore, at one or more search points, or on boarding the vessel. As every port is different, final judgement must be made by the competent Authority.

No person or vehicle should be allowed to “turn back” from a sterile area or depart the ship without the knowledge of the person controlling the search.

Restricted or sterile areas should be searched if they have been accessed.

The frequency of such searches will be determined by the threat level.

5.4 Methods of searching

The method of search chosen will depend on the individual situation and the level of threat. Physical search remains the final and most reliable method as long as it is correctly carried out.

5.4.1 Physical searching

Passengers and visitors to ships may be physically searched. With large numbers of people, this is best carried out in private booths, as this minimizes embarrassment and increases effectiveness. The use of private booths also prevents search methods from being observed. Passengers should not be given the opportunity of selecting a particular searcher and barriers should be used to prevent searchers being distracted by the large number of people around them.

A supervisor should observe visitors or passengers to note suspicious behaviour and to direct people to available searchers.

To be properly effective, a physical search of packages, bags and belonging should include a check for false bottoms, lids, sides and compartments. Very often a smell of glue or a heavy odour to mask the smell of certain drugs is an indication that a lining may have been removed and put back in position. Special attention should be paid to any tampering or repair to a package, greasy stains or small holes in the exterior. Contents should be assessed during the search and if the weight seems unbalanced or disproportionate for no obvious reason, a further check for a false compartment may be justified.

Particular attention should be paid to electrical and electronic apparatus, new as well as used, being brought on board. Passengers should be questioned on the origins of the equipment and whether it has been out of their possession for any period of time. Equipment may be examined for unusual characteristics such as signs of tampering, excessive weight or loose objects inside.

Other containers carried in bags which could be used to conceal drugs must also be examined. Normally this can be done visually.

5.4.2 X-ray systems and detection technology

The most usual method of screening high volumes of baggage and personal belongings is to use X-ray equipment. Modern equipment is capable of producing images of good definition and penetration, but X-ray examination can be less effective than physical search in identifying drugs, although false compartments or hollow sections in goods, packaging or containers can be revealed.

Baggage X-ray equipment provides a fast and convenient way of seeing inside objects without the need to unpack or damage them. It can be bought with various tunnel sizes, from the typical 600 mm wide x 400 mm high tunnel equipment that is used for screening passengers bags, through the 1 650 mm wide x 1 500 mm high equipment which is used to screen cargo, to specialized systems capable of screening whole containers and vehicles. This flexibility will allow most objects that can conveniently be moved to be passed through the equipment and produce an X-ray image.

Operator efficiency decreases significantly after only a relatively short time, particularly at peak screening periods, and operators should only scan X-ray images for a maximum of 20 minutes before being employed on other duties. The image must be presented for a minimum of 5 seconds to permit proper examination.

Bulk detection devices measure some bulk characteristic of materials in an attempt to detect the possible presence of explosives or drugs. Some of the bulk characteristics that may be measured are the X-ray absorption coefficient; the X-ray backscatter coefficient; the dielectric constant; gamma or neutron interaction; and the microwave, millimetre wave, or infrared emissions. Further analysis of these parameters can result in calculated mass, density, nitrogen content, and effective atomic number. While none of these characteristics are unique to explosives or narcotics, they can be sufficiently indicative to point to a high probability of the presence of explosives or certain types of drugs.

Explosives and drugs may also be detected by means of the vapours they give off or the particulate traces spread when they are handled. In general, vapours are found in the air while particles are mostly found on surfaces. Because some explosives and drugs are more volatile than others, vapour detection tends to be appropriate to some materials while trace detection is more appropriate to others. It is essential to recognize that vapour detection equipment relies on the presence of explosive vapour and is not capable of detecting explosives and drugs which do not vaporize, or if the vapour is contained.

Further information on available technology to secure and facilitate international trade, including drug detection equipment, can be found in the WCO Databank on advanced technology which is available via the WCO web site www.wcoomd.org.

5.4.3 Use of dogs

Specially trained dogs can be very effective in searching cars, baggage and freight. Dogs can also be used for searching in ships but need to be familiar with the sea-going environment to achieve results.

5.4.4 Additional considerations

In addition to searches of people and accompanying belongings, there may be occasions when searches of other items boarding the vessel may be necessary.

.1 The searching of freight and vehicles before boarding is difficult and expensive but there are times when the security levels warrant such measures to be taken. In high risk areas careful examination of:

- external packaging,
- container and vehicle infrastructure,
- paperwork,
- the screening of drivers,
- coupled with good intelligence

contributes to solving the problem.

If companies are suspicious that freight, freight vehicles or trailers may contain illicit goods they should be isolated and advice sought from the relevant law enforcement authority immediately.

.2 Ships' stores

All ships' stores consigned to a ship offer a conduit for drugs. Ships must check their stores carefully and screen each item when the security level so demands. The unexpected package or bag is the one to be wary of.

.3 Miscellaneous deliveries to ships and ports

Smugglers may well use innocent-looking vehicles and people delivering routine items such as bread, milk, flowers or fresh vegetables to contacts on board. Good access control, personnel identification and random search will help to counter this risk.

6 CONCEALMENT OF DRUGS ON BOARD SHIPS AND TELL-TALE SIGNS

6.1 On board ship

Drugs on board vessels can be hidden in the structure of the vessel itself or in seldom-used compartments, spaces and machinery, concealed in accommodation areas or, where crew members are involved, held on the person or in personal effects. The cargo offers many opportunities for concealment, especially where unit load or containerized cargo is involved.

6.2 Places of concealment on board ship

There are many places on board a ship where drugs can be concealed. Some of the more common places where drugs have been found include:

- .1 where it is unlikely that anyone will enter or where searches are rarely made, whether due to respect (for example master's cabin, the sofa in his day room), awkwardness (for example propeller shaft tunnel) or danger (for example behind electrical panels and in inert cargo spaces); near the funnel where fumes may disguise distinctive smells such as cannabis; passenger cabins;
- .2 store rooms (flour bins, refrigerators, freezers for provisions such as fish and meat, sacks of vegetables or inside canned goods);
- .3 deposited provisions (wardrobes);
- .4 paint stores (paint lockers);
- .5 in crew quarters (for example behind or in radiators or toilet fittings, behind pictures or skirting boards, in porthole panelling, in cabin, ceiling and wall panelling, in false compartments in the bases of wardrobes and in coat hangers, under lockers and drawers, beneath bunks and mattresses and other cabin furniture);
- .6 places where access is prohibited to unauthorized personnel;
- .7 inside lubricating oil tanks or cargo tanks; in companionway ducts, floor, wall and ceiling panels, inside ventilation pipes and shaft tunnels or cable ducts in the deck or inside engine-room machinery, in computer rooms, control panels, sumps, bilges and funnel shafts;
- .8 crates or containers with false bottoms; double-bottomed oil drums, cylinders and paint drums;
- .9 places where the substances may not seem out of place (for example medical stores, lifeboat stores); inside fire extinguishers, hoses and their storage spaces;
- .10 inside recent structural alterations; in freight containers or in hollow spaces in their construction;
- .11 inside false floors and/or ceilings in cabins and companionways;
- .12 in oil or water tanks false probes or visual indicators and falsely calibrated gauges may be fitted.

6.3 Suspicious circumstances on board

The following are examples of circumstances which should be regarded as suspicious and warrant further investigation:

- .1 strangers found in unusual places while the ship is in port;
- .2 strangers carrying parcels and seeking access to the vessel;
- .3 shore gangs or contractors' staff working unsupervised on apparently unnecessary work or outside normal hours without good reason;
- .4 unanticipated work, especially structural adaptations of alterations (for example closed off spaces);
- .5 crew members found in strange places without reason (for example, catering crew in the hold or engine room), loitering in unusual places during the voyage or showing undue interest or unease during officers' inspections;
- .6 passengers found outside passenger or public areas;
- .7 unexpected occurrences (for example, a supposedly full ballast tank found empty) or things out of place (for example, sacks of flour in the paint store);
- .8 evidence that packages, tanks or containers have been opened;
- .9 disturbed stowage, closed off spaces, pipes going nowhere;
- .10 missing keys;
- .11 unexplained failure of electrics or mechanics, for however short a period; and
- .12 evidence of tampering with welded tank tops, primed gauges, insecure boat covers, unlocked "secure places".

6.4 Suggested checks for masters and ships' officers

- .1 know your crew's usual habits and study any unease or departure from routine, such as unusual places for routine jobs on board or any uncharacteristic behaviour;
- .2 maintain proper gangway watch at all times in port and forbid unauthorized access;
- .3 conduct regular inspections of varied nature, place and duration and log them;
- .4 question all strange persons in an unusual place on board while the ship is in port;
- .5 take into consideration the possible significance of finding things out of place; for example, a supposedly full ballast tank found empty, or sacks of flour in the paint store;
- .6 inspect all disturbed stowage, closed off spaces, pipes going nowhere;
- .7 seek evidence of tampering with the ship's fittings, for example, welded tank tops, insecure boat covers, equipment which does not work;
- .8 where possible, arrange supervision of shore gangs; and

- .9 lock all spaces and access points to, for example, cargo spaces not regularly in use and control access to keys.

6.5 Observation of behaviour patterns

Crew members or passengers should be carefully observed as to their behaviour patterns. The following might be significant:

- .1 nervous or suspicious behaviour;
- .2 unusually large amounts of money;
- .3 unusually large local purchases;
- .4 expensive clothing;
- .5 lists containing names, dates or places and references to money, weights or other units;
- .6 unusual clothing when going ashore or returning to the vessel (for example, bulky or out-of-season clothing, conspicuous bulges on the body);
- .7 unusual interest in a particular area of the vessel, consignment or container;
- .8 possession of unusual tools not connected to the job; and
- .9 possession of drug paraphernalia.

6.6 Suspicious circumstances at sea

In addition to being aware of the threats to their own vessel, crew members may, while undertaking their normal duties, become aware of unusual activities which may be worth reporting through the master and/or ship security officer to the competent Authorities. For example:

- .1 goods being transferred to and from vessels at sea;
- .2 goods being brought aboard from vessels close to shore;
- .3 marker buoys in unusual places;
- .4 signalling between vessels and the coast;
- .5 inflatables moving offshore at high speed (especially at night);
- .6 unusual diving activity in the port; and
- .7 craft anchored or off-loading goods on remote areas of coastline.

6.7 Suspicious circumstances on shore

Companies, through the company security officer, should be aware of the drug trafficking threat and take it into account, whether or not:

- .1 the person making the cargo booking is familiar;
- .2 the shipper/consignee is a regular customer or a first-time client;
- .3 the article involved is consistent with the client's business;
- .4 the shippers'/consignees' addresses are incomplete, misspelt, vague or inappropriate;
- .5 the "notify party" is difficult to contact;
- .6 it is a last minute booking;
- .7 the charges are prepaid and in cash;
- .8 any attempt has been made to hide the name/address of the payer of freight;
- .9 the shipment originates in a known drug source or transit country;
- .10 the consignment appears to be normal bearing in mind the origin and routing of the cargo, commodity, country of origin and destination and the value of the goods;
- .11 the cargo is properly described on the documentation; and
- .12 the size/weight ratio is commensurate with the commodity.

All staff should be aware of the threat and alert to any unusual circumstances. Any such circumstances, together with details of the ship and cargo, should be reported to the competent Authorities.

Cargo handling staff should be asked to look for:

- .1 broken seals on containers;
- .2 false floors in containers (not flush with the door frame) or false ceilings (roof above the corner blocks or changes in height of internal ceiling);
- .3 blocked cavities in the frame of containers or trailers;
- .4 evidence of drilling in the frame of a container or chassis;
- .5 evidence of fresh paint or new welding, or variations in wall, floor or ceiling texture, which may indicate a structural alteration designed to conceal drugs or other contraband.

Special attention should be paid to reefer boxes where insulation spaces and material, as well as the machinery, offer additional smuggling opportunities.

7 ACTION WHEN DRUGS ARE FOUND

7.1 General guidance

In the absence of any specific standing guidance from the Company in the ship security plan, ship security officers should seek directions on measures to be taken whenever drugs are discovered on vessels, in cargo or on premises. If drugs are found at sea, the authorities at the next port of call should be notified by radio before entering territorial waters. The competent Authorities should be informed as soon as possible.

7.2 Personal safety considerations

The following points must be observed to ensure personal safety when a suspicious package or bag or substance is discovered:

- .1 Do not pierce or open suspicious packages or bags wrapped in newspaper, foil, carbon paper, or polythene bags and sealed with masking tape.
- .2 Do not feel, handle or touch the substance without skin protection and a face mask.
- .3 Do not inhale powders, fumes or vapours.
- .4 Do not rush your actions.
- .5 Do not smoke near the substance or expose it to heat or flame.
- .6 Do not UNDER ANY CIRCUMSTANCES taste, eat or drink the suspect substance.
- .7 Always wash hands and brush clothing free from any contamination as soon as possible.
- .8 Ensure adequate ventilation and lighting in confined or enclosed spaces.
- .9 If moving the items to a secure place, wrap them in plastic film, sheet or bags and take them to a secure place or safe as quickly as possible.
- .10 Take note of anyone taking an unusual interest in what you are doing.

7.3 Specific guidance

Get another person to witness the position of a suspicious package or bag before taking any action. If possible, take photographs of the package or bag as it was found, i.e. find a witness (avoiding the “minder”). Handle as little as possible and remember there may be fingerprint evidence on the package or bag. Where necessary, taking handling precautions, remove the goods to a safe place under lock and key. Guard if necessary. If at sea, record any discovery in the

ship's log. Include as much detail as possible: date, time, location, approximate quantity, person detecting, names of witnesses, etc.

- .1 Do not disclose the find, and limit information to persons who need to know.
- .2 Notify the competent Authorities at the next port of call before entering territorial waters. Failure to do so could result in charges of drug trafficking.
- .3 Do not allow crew members to disembark before being interviewed by the competent Authorities.
- .4 Protect any wrapping and anything else found in the space.
- .5 Consider searching similar locations and spaces.
- .6 Write a report AS SOON AFTER THE EVENT AS POSSIBLE. Include everything that occurred. Making a sketch plan of the space and area often proves helpful. It is also very useful to note why the particular location or cargo was inspected or how the package(s) or bag(s) came to be found. Include any suspicious activity noticed. The report should be signed by any witnesses. At sea, the finder of the package or bag, the witnessing officer, the master and/or the ship security officer, or the head of department, should sign the report, showing the date and time. If the finding is in cargo, the relevant cargo documentation should be collected for subsequent examination by the competent Authorities.
- .7 Ships' masters and/or security officers should notify the competent Authorities and the port facility security officer upon arrival.

8 MEDICAL SUBSTANCES PERMITTED ON BOARD

8.1 Medical substances used on board

Most vessels today carry medical supplies for treatment of illness during the voyage as well as emergency lifeboat medical stores. Vessels within territorial waters are subject to the provisions of the appropriate national legislation and any regulations relating to storage and supply of listed drugs will need to be observed. These are generally common rules based on international agreement.

The master of any vessel is responsible for the safe storage of medicines and security of the ship's medical locker, which is to be kept locked. Very often, substances such as morphine and diazepam are under the direct control of the master, who keeps them in his cabin together with a detailed record of the existing and used amounts, the corresponding incidents which occurred on board and the substance expiry dates.

Medical stores kept in lifeboats should be frequently inspected at sea and removed to the medical locker for security when the vessel is in port. If alternative arrangements are made, security should be the best available.

The vessel should provide a list, with quantities, of all controlled drugs (for example, morphine) to the competent Authorities, together with the ship's report, on arrival at a port. Providing the quantities carried are reasonable, no licence will generally be required.

On vessels such as cruise liners which carry a ship's doctor, he or she is responsible for the medicines and for any related irregularities that may arise, but the master will still carry the legal responsibility for every irregularity.

8.2 Medical substances for trade

Drugs, irrespective of quantity, require a valid licence for import or export, although some minor relaxations may apply. The licence will specify the substances, period of validity of the licence, ports to be used and any special conditions concerning the shipment. Since any variation from the licence constitutes an offence, the competent Authorities at the port should be approached if changes are required.

It must be remembered that pharmaceutical preparations containing substances which appear in the tables of the 1988 Vienna Convention are not exempt from control, unless their composition is such that those substances cannot easily be used or recovered by the available means. Thus, unless expressly exempted, pharmaceutical preparations must be controlled appropriately.

CHAPTER 2 – CONTROL OF THE TRANSPORT OF PRECURSORS AND CHEMICAL PRODUCTS

1 Precursors and essential chemical products used in the illicit manufacture of narcotic drugs and psychotropic substances

Drug producers, in addition to needing access to raw plant materials for processing into narcotic substances, also require access to large supplies of chemicals to obtain the illicit substances that are to be marketed. Some drugs, known as synthetic drugs, are entirely chemically based. However, it must be borne in mind that most finished products contain a percentage of chemical products, which may be distinguished as follows:

Precursor: a chemical substance which is needed for processing of a finished product, either cocaine or heroin; its molecules will be present in the molecule of the finished product. If the precursor is not used, the final product cannot be obtained. Before obtaining the finished product it is necessary to have this precursor.

Reagent: a product used to provoke a chemical reaction, but which is replaceable by another reagent if the same chemical reaction is obtained. The precursor must be a product of this type. The reagent may be one type of product, or another with similar properties which provokes the same chemical reaction: one may be substituted by another.

Solvent: a chemical substance which is included in the formula. Its presence is required in order to cause a reaction which dissolves and eliminates impurities, thus making the product easier to handle.

Controlling the transport of precursor chemicals is thus essential to the control of drug manufacture.

The cocaine production process serves as a useful reminder:

The initial requirement is for coca leaf, from which a cocaine paste is extracted. This is refined into cocaine base, which is then converted to cocaine hydrochloride. The chemical products used

are kerosene, ammoniacal water and sulphuric acid. The refinement process requires ammoniacal water and potassium permanganate. The conversion process requires acetone, ether and hydrochloric acid.

The following table provides a summary of the chemicals used in preparing various narcotics:

CHEMICAL PROCESSING IN DRUG MANUFACTURE

INDUSTRIAL CHEMICALS	DRUGS PRODUCED
Acetone	Heroin, morphine, cocaine
Ethyl acetate	Heroin, cocaine
Butyl acetate	Cocaine
Hydrochloric acid	Heroin, morphine, cocaine
Sulphuric acid	Cocaine, marijuana oil
Butyl alcohol	Morphine, cocaine paste
Acid anhydride	Heroin, methaqualone
Chloroform	Heroin, morphine, cocaine
Sodium carbonate	Heroin, morphine, cocaine
Methanol	Cocaine
Ethyl ether	Heroin, cocaine

* Internet site of the Air and Space Power Journal International (Spanish)

Many of these are classified as controlled substances under the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Illicit Substances (see annex 1).

It is therefore important that ships and port facilities deemed to be at risk from drug trafficking formulate and implement plans to prevent and control the illegal diversion of chemical substances in order to restrict illicit drug production.

2 Precautions for the transport of precursors or essential chemical products used in the manufacture of narcotic drugs

Shipments of these products to drug producing areas are certain to generate interest on the part of the competent Authorities who are likely to investigate the consignment in greater detail. If any of the substances should be discovered on board unmanifested or in unusual circumstances, the competent Authorities at the next port of call should be notified.

- .1 Both the master and the crew of a ship carrying essential chemicals or precursors used in the manufacture of narcotic drugs or psychotropic substances should take security measures in respect of store rooms and lockers where they are stored, including inspections to check the quantity and condition of the packages, for example to ensure that brand labels have not been altered.
- .2 During its voyage, any ship carrying essential chemicals or precursors used in the manufacture of narcotic drugs or psychotropic substances, must inform the competent Authorities of the nearest port that it is carrying such substances, indicating the class, quantity, destination, route and itinerary. Ships masters are reminded that the ship's stores may include legitimate chemicals which are, or contain, precursors. Care should be exercised to ensure such chemicals in the ships stores are declared to the appropriate competent authorities.

Both the master and the crew of the ship should be informed about the existence of various diversion mechanisms used by those engaged in illicit chemical trafficking.

3 Recommendations to countries which produce, distribute and supply precursor chemicals

Countries which produce chemical products that can be used to manufacture narcotics are requested to make special efforts to control their distribution or supply, through measures such as the following:

- .1 establishing government control of precursors so that the destination and means of distribution of these substances is known precisely;
- .2 submitting timely reports from the port of loading to the port of destination of ships carrying chemical products, including description of the ship, route and itinerary, type of substances, quantities and intermediate ports of call;
- .3 urging ships carrying precursors to notify the Authorities at the port of destination and intermediate ports of call at least twenty-four (24) hours in advance, so that the necessary control measures may be taken by each State.

Bearing in mind that chemical products are essential to the manufacture of psychotropic substances, it is important that all governments insist on such controls as they deem appropriate to ensure that the specific quantities and qualities of those products reach their legal destination.

Do not fail to assist if it is in your power to do so.

ANNEX 1

LIST OF ESSENTIAL CHEMICALS AND PRECURSORS FREQUENTLY USED IN THE MANUFACTURE OF NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES

(under the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, signed in Vienna on 19 December 1988)

Table 1

N-acetyl-anthranilic acid
Ephedrine
Ergometrine
Ergotamine
Isosafrole
Lysergic acid
3,4-methylenedioxyphenyl-2-propanone
1-phenyl-2-propanone
Piperonal
Pseudoephedrine
Safrole

The salts of the substance listed in this table whenever the existence of such salts is possible.

Table 2

Acetic anhydride
Acetone
Anthranilic acid
Ethyl ether
Hydrochloric acid*
Methyl ethyl ketone
Phenylacetic acid
Piperidine
Potassium permanganate
Sulphuric acid*
Toluene

* The salts of hydrochloric acid and sulphuric acid are specifically excluded from Table 2.

ANNEX 2

THE BALANCE BETWEEN SECURITY AND FACILITATION

The world is confronting processes that call for large-scale action on the part of the maritime industry, which is becoming stronger in its role as motor of international trade. Globalization, trade agreements between States, competition and quality of services ensure that maritime transport tackles the important challenges, in order to continue developing as a vital contributor to the flow of international trade while also retaining features that enable it to function on a secure and protected footing.

At the same time, the world is also faced with situations which may place international maritime transport at risk, examples being terrorism, drug trafficking and logistical and procedural problems; if these are not foreseen and addressed in accordance with the established international procedures, they can harm the development of markets and ultimately transport itself.

This is why it is increasingly important to achieve the required balance between facilitation of international transport and maritime security. The way to achieve this is to deploy the capacities of every competent Authority at the port, in both facilitation and control. Equally important are exchange of information, collaboration and respect between the various departments and areas of expertise in each competent Authority.

Only in this way will it be possible to have international maritime transport which is not subject to unnecessary delays, is protected from incidents which might pose a threat to its overall security and, at the same time, is equipped with security mechanisms which both offer protection and can develop into outstanding state resources, in turn ensuring optimal levels of security which will encourage international trade.

To develop this balance between facilitation and security, the international community has made considerable efforts to produce regulations and recommendations offering States guidance on what action to take and how to co-ordinate it. With respect to matters relating to facilitation of international maritime transport, the first instrument to mention is the IMO Convention on the Facilitation of International Maritime Traffic and also the contributions by organizations such as WTO and the WCO. The latter has published the Framework of Standards to Secure and Facilitate Trade, which gives practical guidance for developing, on the basis of two basic pillars, namely Customs-Customs collaboration and Customs-Business collaboration, flexible and effective measures, with the training of officials and the commitment of States constantly to the fore.

The fact that States are following the guidelines on security in compliance with the ISPS Code has contributed to greater awareness of security and to an overall understanding of safety, in turn making the maritime transport interest groups more accountable for ensuring smoother integration of planning, safety and scope of application; this should make both the shipping and the trade sectors more efficient.

Accordingly, competent authorities at the port, shipping agencies and clients have a shared responsibility to contribute their utmost, in keeping with the spirit and procedures of the existing international mechanisms and instruments pertaining to facilitation and security at sea and in port.

Finally, the balance between facilitation and security will become firmer with the passing of time, as companies and clients on the one hand, and States on the other, become more involved in both areas. Gradually, this will introduce practices that prevent unnecessary delays in port, thus minimizing of people, cargo and ships to safety risks. All this will take place in a framework of local security plans that combine to assure the overall safety of port facilities, companies and ships.

ANNEX 3

**INTERNET SITES PROVIDING INFORMATION RELATING TO INTERNATIONAL
AND NATIONAL LEGISLATION, STATISTICS ON CONSUMPTION AND SEIZURES,
AND SITUATIONS INVOLVING ILLICIT TRAFFICKING OF DRUGS,
PSYCHOTROPIC SUBSTANCES AND CHEMICAL PRODUCTS**

UNITED NATIONS OFFICE ON DRUGS AND CRIME (UNODC)

www.unodc.org/unodc/index.html

INTERNATIONAL NARCOTICS CONTROL BOARD (INCB)

www.incb.org/incb

INTERNATIONAL CRIMINAL POLICE ORGANIZATION (ICPO/INTERPOL)

www.interpol.int

WORLD CUSTOMS ORGANIZATION (WCO)

www.wcoomd.org

**EUROPEAN MONITORING CENTRE FOR DRUGS AND DRUG ADDICTION
(EMCDDA)**

www.emcdda.eu.int/mlp/ms_es-index.shtml

THE INTER-AMERICAN DRUG ABUSE CONTROL COMMISSION (CICAD)

www.cicad.oas.org

ANNEX 4

DRUGS AND DRUG ADDICTION

Drugs of abuse

A drug is defined by the World Health Organization (WHO) as “any substance that, when taken into the living organism, may modify one or more of its functions”. Within this definition is a wide range of substances, some of which are both freely available and socially acceptable.

To give some examples:

- Socially acceptable and freely available substances:
Caffeine, tobacco (although increasingly becoming less socially acceptable), alcohol (in most countries).
- Socially unacceptable and freely available substances:
glue, methylated spirit, petrol, solvents, cleaning fluids.
- Socially acceptable and freely available pharmaceuticals:
aspirin, paracetamol, vitamin tablets.
- Socially acceptable and controlled pharmaceuticals:
barbiturates, valium, diazepam (librium), and numerous other prescription drugs.
- Socially unacceptable and controlled pharmaceuticals or substances:
cannabis, LSD, cocaine, morphine, heroin, amphetamines, opium.

Many of the substances in each category carry some risk of drug dependence, but those in the last category carry by far the greatest. Although some of the latter substances may be used under strictly controlled medical supervision, total dependence can still occur within a short period of time. When these drugs are abused (i.e. used in uncontrolled circumstances) addiction can result very rapidly.

Drug dependence can take various forms:

Physical addiction

This is defined by WHO as “a state that shows itself by physical disturbances when the amount of drug in the body is markedly reduced. The disturbances form a withdrawal or abstinence syndrome composed of somatic and mental symptoms and signs which are characteristic for each drug type”.

In the case of physical addiction the body develops a craving for the drug. Withdrawal symptoms occur when the drug is withheld and some of the symptoms are physically visible in the form of excessive sweating, constant desire for liquids, scratching, twitching of muscles, irritability, diarrhoea, muscle spasm and in extreme cases, coma and death. Where physical addiction occurs the body requires progressively larger doses of the drug to achieve the same level of intoxication or “high”. The quicker this increase is noticed the higher the body tolerance is said to be.

Psychological addiction

“This is a condition in which the drug promotes a feeling of satisfaction and a drive to repeat the consumption of the drug in order to induce pleasure or avoid discomfort” (WHO 1974).

In this case the mind develops a dependence on the drug although there may be no physical dependence. Withdrawal symptoms are not as pronounced as in physical addiction but there may still be irritability, fits of anger, fixation on taking a further dosage, irrational behaviour, feelings of victimization, etc.

Environmental addiction

This can occur when the addict becomes accustomed to a particular lifestyle. Social meetings or meeting places, not just of opium or cannabis users, have been conducive to environmental addiction and provide opportunities for both addicts and “pushers”. If drugs circulate in particular places, the addict has a permanent source and the “pusher” a constant market.

The increasing incidence of the AIDS virus in many parts of the world has given new impetus to reducing drug abuse, since one of the main conduits for spreading infection is the use of contaminated hypodermic needles shared by drug users.

There are no social divisions or classes of drug users. They may be found in all walks of life and at all social levels. The physical characteristics of drug addicts depend on the type of drug used and the time that has elapsed since the last dose.

The drug user generally develops an ability to lie about his habit and keep it secret. Crew members may not notice a drug user among their colleagues.

In a closed community, such as exists in a ship’s crew, there may be a strong bond of group loyalty which may result in an unwillingness to believe the worst about a colleague. Drug abusers and drug traffickers are aware of this and will, if suspicions are aroused, take advantage of this.

Drug characteristics and identification

The effect of drugs differs from person to person depending on the amount taken, the surroundings and the reactions of other people. There are certain behavioural tendencies which can be a useful guide to the identification of drug use.

Sophisticated forensic analysis is often required to establish the exact nature of any substance found. The following guidance may, however, help with tentative identification.

CANNABIS

Origin

Cannabis, the hemp plant (*Cannabis sativa*), is a bushy plant which grows wild throughout most of the tropical and temperate regions of the world, especially in the Middle East, south-western

North America, South East Asia and Mexico. It can be grown virtually anywhere in the world although the major “commercial” movements generally originate in the West Indies, Africa, Turkey, the Indian sub-continent and Thailand.

The most important active ingredients are concentrated in the resin at the top of the plant. Hashish or “hash” is resin scraped from the plant and compressed into blocks.

Although historically herbal cannabis has always been grown outdoors in regions with warm climates, it has become clear that growers in cooler climates are now producing high quality cannabis indoors in climate controlled conditions. Plants produced in this way are particularly rich in the active ingredient of cannabis (tetrahydrocannabinol or THC) and the product of such plants has a particularly pungent aroma which may account for its nickname “skunk”.

Cannabis is the most common illicit drug. It can be found in three forms:

Herbal (marijuana)

This is found as a green, yellow or brown herbal material, rough or fine in texture depending on the grade of the sample and similar in appearance to dried stinging nettles or hay. Stalks, stems and twigs may be present as well as small white seeds. The substance smells of spicy damp earth and mild rotting vegetation. There is a noticeably acrid “bonfire” smell when being smoked. The smell will linger in a non-ventilated environment.

Resin

This appears as beige to dark brown or black (occasionally with a yellowish or greenish tinge) and is normally found as slabs or small chunks, although occasionally in powdered form or moulded shapes. It is slightly sticky in texture. If it is in slabs or moulded blocks, these are normally 0.5 or 1 kg in weight with dimensions 130 mm x 100 mm x 25 mm (5 in x 4 in x 1 in) or 260 mm x 200 mm x 25 mm (10 in x 8 in x 1 in) respectively.

The slabs will usually be wrapped in polythene or linen. The substance can be moulded into various shapes such as the soles of shoes, beads, carved heads, etc.

Oil

This appears as a dark green to black, occasionally golden, viscous oily liquid and has a smell similar to herbal cannabis, but stronger. It is normally transported in glass or metal 5 litre or 1 gallon containers though they may sometimes be smaller. Cannabis oil dissolves polythene or plastic.

Smell

In general, all forms of cannabis have a spicy smell reminiscent of damp earth and rotting vegetation. It is likely to cause nausea where exposure is prolonged. The smell varies with the age of the sample, but is more noticeable in oil than in resin, which is itself stronger smelling than the herbal variety. The smell of the drug lingers in the clothing and the atmosphere where it has been smoked.

Administration

The herbal and resin forms of cannabis are usually smoked, but they may be eaten or chewed. In its oil form it can be absorbed through the skin or painted on cigarettes.

ASSOCIATED EQUIPMENT

Addicts use long cigarette papers, often several layers, small earthenware bowls, wood pipes or any wide-bored article such as animal horns, tree roots or water pipes, or crude cardboard tubes or filters - all designed to cool the temperature of the smoke. Commercial cigarettes may also be found with a line of oil “painted” around them.

Special safety note: Cannabis oil can be absorbed through the skin and cause powerful hallucinations.

Degree of addiction

Psychological addiction:	fairly strong
Environmental addiction:	fairly strong
Physical addiction:	none
Body tolerance:	none to slight

Influence and symptoms

The most common effects are talkativeness, bouts of hilarity, relaxation, and a greater appreciation of sound and colour. The substances can induce drowsy and uninhibited behaviour with the addict exhibiting markedly slow reactions. There will be a marked inability to follow reasoned argument, the pupils of the eye will dilate, and the user will exhibit aggression when confronted.

With higher doses there may be perceptual distortion and persons using the drug when anxious or depressed may find their feelings magnified. For people with disturbed personalities heavy use can precipitate a temporary psychotic disorder.

Popular myths

Fiction:	cannabis is an aphrodisiac
Fact:	the drug reduces sperm count and fertility
Fiction:	it is harmless
Fact:	the drug is stored in the brain and lowers the intelligence rating. It is also carcinogenic.

Quantities of shipment

Generally 25 kg to 5,000 kg. Most shipments of cannabis and its derivatives have been found on ocean-going vessels.

OPIATES AND OPIOIDS

Origin

Opiates are drugs derived from the opium poppy. Opium is the dried “milk” of the poppy and contains morphine and codeine. From morphine it is not difficult to produce heroin which is, in its pure form, a white powder over twice as potent as morphine. Opiates have medical uses as pain-killers, cough suppressants and anti-diarrhoea treatments.

The main sources of supply for illicit opium and its derivatives, morphine and heroin, are the poppy fields of the so-called “Golden Triangle” area of Burma, Thailand and Laos in South East Asia and the “Kabul Triangle” or “Golden Crescent” area of Afghanistan, Pakistan and Iran in South West Asia. It is produced in smaller quantities in other areas of the Eastern Mediterranean

through to South East Asia. Most likely ports of origin, based on past seizures, are Bangkok, Singapore, Penang, Port Klang, Bombay, Calcutta, Karachi and Kota Kinabalu. However, most other ports within the area of production have been used by drug traffickers.

Both morphine and heroin are chemically derived from opium. Opium is converted to morphine in a relatively simple chemical process that usually takes place in a makeshift laboratory near the poppy fields. It takes about 10 kg of opium to produce 1 kg of opium and 3 kg of opium to produce 1 kg of heroin (i.e. 30 kg of opium to produce 1 kg of heroin). Heroin is a name commonly used to describe a preparation containing diacetyl morphine base or its salts.

It is a semi-synthetic product derived from the complete acetylation of morphine base.

Opiates may appear in various forms:

Raw opium

Raw opium starts as a thick, dark brown or almost black sticky substance, hardens to the consistency of liquorice and then, with time, to a hard brown/black slightly sticky mass like sealing wax, depending on its age.

Care is usually taken to ensure that it does not dry out since it loses much of its value if it becomes hard and brittle. In its raw state opium cannot be smoked. It is smoked only after conversion to prepared opium. Raw opium is unlikely to have identification marks. It may be wrapped in cellophane or polythene inside waterproof paper in order to stop the raw opium drying out. Polythene or cellophane bags have been found inside tins or wrapped in sacking or sailcloth.

Raw opium has a sweet, oily, pungent aroma, reminiscent of hay. It is not an unpleasant smell from a distance, but is sickly and nauseous when close up or in a confined space without ventilation. Its method of packing is designed to reduce the chance of detection by smell.

Prepared opium

This is produced by treating raw opium with various methods of water extraction, filtration and evaporation to obtain a product suitable for smoking. It usually appears as a black, brittle mass or parings and may smell faintly sickly like raw opium.

Opium dross

This is the substance remaining in the pipe after smoking. Due to incomplete combustion and volatilization, it can retain some characteristics of opium and contain a considerable amount of morphine. It will have a charred appearance and the smell of opium will linger in the air long after smoking.

Medicinal opium

Medicinal or powdered opium is opium that has been dried at moderate temperatures and reduced to a fine powder, usually light brown in colour. It has the characteristic smell of opium, though this may be disguised by additives such as camphor. The product can be used in medicines, any of which are classed a medicinal opium if they have a morphine content greater than 0.1%.

Morphine

Morphine is chemically derived from opium. In its pure form it consists of white crystals. It is often adulterated and its colour may range from white, cream or beige to a dark coffee colour. It is also found in a medical injection form as a colourless liquid in ampoules. Both pills and ampoules may be commercially produced. In this form it may smell faintly of ammonia or rotting fish.

Diamorphine (heroin)

Diamorphine is a further distillation of morphine. Generally similar to face powder in appearance, it is perhaps slightly coarser, and cream to light brown in colour. It is generally odourless but may have a faint vinegary smell. The substance may be commercially produced in pill, capsule or ampoule form. It is more popular with addicts than morphine since it gives a quicker and more intense "high".

Synthetics: for example pethidine

These normally appear in pill or ampoule form. The pills, which are odourless, are often white but may vary in colour.

Semi-synthetics: for example Dilaudid, Omnipon

These usually appear as odourless pills or ampoules.

Codeine

This is usually found as white tablets or pills.

Administration

Opium and its derivatives are smoked, inhaled or injected through the skin (subcutaneously), or directly into the bloodstream (intravenously).

Associated equipment

This may consist of pipes, porcelain bowls, skewers, small peanut oil lamps, rags, charred silver foil, matchbox covers, hypodermic needles, eye droppers, etc. Possession of opium utensils is in itself an offence in many countries.

Notes:

- Identification of pills and capsules is possible by reference to manufacturers' charts. Information such as the diameter of the pill or tablet, its colour, its shape and any markings or scoring on the surface can often be radioed ahead and a tentative identification requested.
- Ships' supplies of opium, in all its forms except raw and prepared, are generally permitted in small quantities under the control of the master or ship's doctor.

Special safety note: Narcotic fumes are generated at about 40°C. If found, opium or its derivatives should be stored in a cool place. The fumes or vapours should not be inhaled.

Degree of addiction

Psychological addiction: strong
Environmental addiction: strong
Physical addiction: strong
Body tolerance: high

Influence and symptoms

Moderate doses of pure opiates produce a range of generally mild physical effects (apart from analgesia). Like sedatives, they depress nervous system activity, including reflex functions such as coughing, respiration and heart rate. They also dilate blood vessels, giving a feeling of warmth, and depress bowel activity, resulting in constipation.

Immediately after taking the drug the user's eyes will become constricted. Subsequently the pupils will dilate and the drug will induce a drowsy torpid state in the addict, with dilated pupils, constipation and a slow response to stimuli. Symptoms similar to influenza or malaria but longer lasting will appear if the drug is withdrawn. In the longer term, loss of appetite and general apathy will result in the addict becoming emaciated and in poor health with poor hygiene.

There will be needle marks on the addicts' veins.

The addict generally uses around 0.25 g per day.

Popular myths

Fiction: the high purity of black market opiates is guaranteed.

Fact: purity at street level is usually 5-10%. Sugar, brickdust, caffeine, cement, milk powder, urine, powdered glass etc are known adulterants to so-called "pure smack" (diamorphine).

Fiction: it is easy to be cured.

Fact: research shows that of treated addicts, 10% have stayed off for more than 6 months but only 2% or 3% for more than 2 years.

Fiction: the substance is not really dangerous.

Fact: the average life expectancy of a heroin or morphine addict is about 6-8 years. Some can survive much longer. Many die within 4-5 years. AIDS can be transmitted by using infected needles or syringes.

Quantities of shipment

Usually from 5 kg to 75 kg.

COCAINE

Origin

Cocaine is derived from the leaves of the Andean coca shrub and has powerful stimulant properties similar to those of amphetamine. It is produced mainly in the northern half of South America, especially Colombia and Venezuela, where cocaine profits are a major influence on the economy. The main problem facing the producers is transporting the substance to consumption areas.

It is moved in three forms: coca leaf, coca paste and cocaine.

Coca leaf

This appears as an elliptical leaf, greenish brown to red in colour, similar to large bay leaves in appearance, usually dried. It is odourless.

Coca paste

This appears as a white to off-white or creamy coloured putty-like substance. It has a strong chemical odour, rather like linseed oil.

Cocaine

This appears as a fluffy white crystalline powder which glistens like snow, though occasionally transported as a colourless solution. It is odourless.

“Crack”

“Crack” emerged as the “in” drug in the early 1980s, initially in the United States. Its use has now spread to other countries. It is produced by mixing cocaine hydrochloride with baking soda or ammonia and/or amphetamine powder. Water is then added to form a paste which is heated and dried. After drying, the “crack” is broken into small pieces.

Being an adulteration of pure cocaine, “crack” is unlikely to be shipped in large quantities since it is bulkier than the pure form of cocaine.

Administration

The substance can be inhaled, injected or rubbed into gums, genitals or the anus. Regular users with sufficient supplies (and wealth) might consume 1-2 grams a day. “Crack” can also be smoked through a heated glass pipe.

Associated equipment

Equipment consists of hypodermic syringes, needles, eye-droppers, snuff spoons, razor blades, mirrors, fancy phials or pill boxes, straws, etc. The “sniffing” paraphernalia can be antique or expensive metal tubes encrusted with precious stones worn as ornaments. Less wealthy addicts use plastic spoons, straws, empty ball point pen refills, etc.

Degree of addiction

Psychological addiction:	strong
Environmental addiction:	strong
Physical addiction:	none to slight
Body tolerance:	slight

Influence and symptoms

Like an amphetamine, cocaine produces psychological arousal accompanied by exhilaration, decreased hunger, indifference to pain and fatigue and feelings of great strength and mental capacity. Users will exhibit pinpoint pupils and suffer from a highly excitable state and erratic behaviour. They will be talkative and may have an increased heart rate and respiration. Repeated doses over a short period of time can lead to an extreme state of agitation, anxiety, paranoia and perhaps hallucination.

When sniffed, the physical effects peak after about 15-30 min and then diminish. The after-effects will include fatigue and depression. This means that the dose may have to be repeated every 20 min or so to maintain the effect. Withdrawal symptoms include depression, anxiety for another dosage and feelings of victimization.

The physical signs of abuse include injection marks, abscesses on gums etc, running nose, sniffing and streaming eyes.

The symptoms of “crack” are an immediate “high” lasting approximately 30 minutes followed by intense depression. The user can become psychotic, violent, paranoid and extremely confused. The physical effects are brain seizure, loss of consciousness and lung damage.

Popular myths

Fiction: it is not physically addictive like heroin.

Fact: true. But it is addictive mentally and can damage the membranes lining the nose and also the structure separating the nostrils. The addict can be easily overdosed and purities vary from the usual 30% to about 90% from source to source.

Fiction: it does not do any real harm.

Fact: AIDS has been commonly transmitted by contaminated needles or syringes. There is no known cure for AIDS.

Quantities of shipment

Usually from 5 kg to 75 kg.

HALLUCINOGENS

Lysergic Acid Diethylamide (LSD)

LSD is a synthetic white powder which can be formed into crude pills or shapes.

It is also found as impregnated papers the size of postage stamps, often with mystic signs or sheets of cartoon characters or miniature pictures. It is a pale or colourless solution in its pure form.

Mescaline

This appears either as black to brown buttons with white, thready fungus often present or as a black ground powder.

Psilocin/Psilobycin

This is found as a pale pink or yellow liquid and in pill or tablet form.

DMT

This comes either as small black seeds, or as a finely ground black/brown powder.

Bufotenine

Bufotenine is odourless and is usually found as tablets or in liquid form.

Synthetics

These are found in powder, crude pill or tablet form, or as colourless liquids.

Smell

All forms are odourless.

Administration

This can be by eating, sniffing, injecting, smoking (occasionally), handling or by rubbing into gums, genitals or anus.

Associated equipment

This may include silver foil wrappings or photographic paper (LSD degenerates in daylight). Clear gelatine capsules may also be found. Small quantities are usually involved (10 micrograms can cause toxicity if absorbed through the skin). Hallucinogens will be carefully wrapped for transport.

Special safety note: Minute quantities will cause toxicity (from 10 micrograms in the case of LSD, 6 to 60 milligrams in other types). Some forms are readily absorbed through the skin. The utmost care must therefore be used when handling.

Degree of addiction

Psychological addiction:	strong
Environmental addiction:	fairly strong
Physical addiction:	none
Body tolerance:	none to slight

Influence and symptoms

These will vary according to the drug. There will be highly irrational behaviour and the user may be oblivious to outside stimuli, perhaps cowering, voluble or convinced of superhuman ability (e.g., flying, floating, great strength). The user may run amok with apparent schizophrenia and insane behaviour. There may be periods of lucidity and instances of “flashback”.

Popular myths

Fiction: good “trips” bring you into contact with God, the Universe, Nature, etc.

Fact: more often the “trips” are bad and permanently scar the personality.

Quantities of shipment

Not usually found in commercial quantities in maritime freight.

STIMULANT DRUGS

Among the main stimulants are amphetamine salts and sulphate, phenmetrazine, benzphetamine, chlorphentamine, fencamfamine, mephentamine, methylenedioxyamphetamine (MDA), pemoline, phendimetrazine, phentermine, pipradol and prolintane.

Description

Amphetamine products, legally manufactured, contain the drug in the form of the sulphate or phosphate salt. They are marketed in different countries as tablets, capsules, syrups or elixirs. In pure form all are white powders except pipradol which is found as white crystals. There are many hundreds of brand names. They are usually found in pill or tablet form or as capsules, but occasionally in ampoules for injection.

All are stimulant drugs, but fencamfamine has been decontrolled to prescription availability. Identification of individual pills and capsules is possible by consulting manufacturers' charts. Information such as the diameter of pill or tablet, colour, shape and markings can be radioed from the ship to the next port of call to obtain a tentative identification.

Illicit products vary in colour from a white or off-white powder to yellow or brown depending on the type and amount of impurities and adulterants. They are often damp, with a characteristic unpleasant odour due to the presence of solvent residues. They can be found as small gelatin capsules and as tablets.

All discoveries of apparently medical preparations outside their normal context should be regarded as suspicious.

Smell

All are normally odourless. Pure forms of amphetamine may smell faintly ammoniac or "fishy".

Administration

Pills are usually taken orally or as a powder either sniffed, smoked or dissolved in water and injected. They are frequently taken in association with alcohol. Dosages of 200 tablets a day are common among addicts.

Associated equipment

Usually none, except empty wrappings. Occasionally hypodermic syringes and needles.

Influence and symptoms

Amphetamines arouse and activate the user much as the body's natural adrenalin does. Breathing and heart rate speed up, the user will exhibit dilated pupils and a depressed appetite. The user feels more energetic, confident, excited and cheerful and will exhibit erratic behaviour and extreme sociability.

High doses can produce delirium, panic, hallucination and a feeling of persecution which, in the longer term, can develop into a psychotic state from which it can take several months to recover. Regular users of high dosages also risk damaged blood vessels or heart failure.

As the body's energy stores become depleted, the predominant feelings may become anxiety, irritability and restlessness and hunger.

Popular myths

Fiction: they are totally harmless. They just pep you up.

Fact: instances of renal failure have been reported and these substances are known to affect other internal organs.

Fiction: they are all different.

Fact: each of the types has many hundreds of brands. Often the addict will swear that only "Purple Hearts" will work whereas "Peaches" will not. Both contain the same quantity of the same drug. Only the colour and the presentation are different.

Quantities of shipment

Not usually found in commercial quantities in maritime freight.

SEDATIVE DRUGS

Sedatives depress the nervous system in the same way as alcohol, producing similar effects. They come in two forms: barbiturates and methaqualone.

In their pure form all are white powders. There are many hundreds of brand names when the substances are found as pills, tablets and capsules.

All discoveries of apparent medical preparations outside their normal context should be regarded as suspicious.

Smell

All forms are normally odourless.

Administration

Pills are usually taken orally, sometimes with alcohol. Occasionally the substances may be injected.

Associated equipment

Usually none, except empty wrappings. Occasionally hypodermic syringes and needles.

Note:

There are many other forms of sedative which are available on prescription. Although the above forms are controlled, numerous other sedatives can be equally abused (for example diazepam, marketed as Librium, etc.).

Degree of addiction

Psychological addiction:	strong
Environmental addiction:	fairly strong
Physical addiction:	fairly strong
Body tolerance:	fairly strong

Influence and symptoms

The user will exhibit dilated pupils, drowsy appearance and slurred speech. There can be extreme unpredictable emotional reactions and mental confusion. Large doses can produce unconsciousness, eventual respiratory failure and death.

Popular myths

Fiction: not a dangerous drug, easy to get hold of, cheaper than the hard drugs.

Fact: it is easily overdosed. Where prescription control exists, each illicit tablet may cost many times the "white" market price.

Synthetic or designer drugs: The United Nations uses this term to describe the illicit drugs deriving from chemical modification of matrix substances, the latter sometimes corresponding to pharmacological compounds.

This category includes MDMA (Ecstasy).

3,4 methylene-dioxymethamphetamine (MDMA), popularly known as “Ecstasy”, is a substance of abuse belonging to the group of so-called designer drugs. It was synthesized in 1910 by Manis and Jacobson and patented by Merck Laboratories in Germany in 1914 as an anorexic drug, but not marketed. Not until the 1970s and 1980s was it used again, this time for drug treatment testing, and in 1985 it was shown to have a neurotoxic effect on animals and classified as a restricted substance. It is made in clandestine laboratories for recreational use, and in the form known as MDMA it has given rise in Europe and the United States to the “rave” movement, which is characterized by high-tempo parties at which the drinks are mixed with amino-acids and caffeine to achieve a stimulant effect.

ANNEX 15**PLAN FOR THE PILOT PROJECT ON TRIAL APPLICATION OF THE
GBS TIER III VERIFICATION PROCESS USING THE IACS COMMON
STRUCTURAL RULES****A. Project objectives**

The objective of the pilot project is to conduct a trial application of Tier III of the GBS for oil tankers and bulk carriers with the intention of validating the Tier III verification framework, identifying shortcomings and making proposals for improvement.

B. Terms of reference

The terms of reference for the pilot project are as follows:

- .1 conduct a trial of the GBS Tier III evaluation process using the IACS Common Structural Rules (CSR);
- .2 examine and evaluate:
 - .1 the verification framework of Tier III (MSC 81/WP.7, annex 3);
 - .2 any necessary documentation and information needed to support Tier III, based on MSC 82/5 (annex 1), MSC 82/5/6, MSC 82/5/9 and any other relevant comments and proposals, including those submitted to previous MSC sessions;
 - .3 necessity, extent and proper location in the tier structure of evaluation criteria needed to support Tier III;
 - .4 criteria for the nomination of members to participate in the future IMO Group of Experts; and
 - .5 the reporting format of the future Group of Experts; and
- .3 prepare the report of the pilot project for MSC 83, containing the deliverables included in section C.

C. Deliverables of the pilot project

The deliverables from the pilot project should cover recommendations on the following key areas:

- .1 Procedures for how a Tier III verification process should be carried out.
- .2 Information and documentation requirements for the rules to be assessed.
- .3 Evaluation criteria to be used by the Group of Experts to determine if rules meet the goals and functional requirements of IMO GBS.

- .4 Criteria and procedures for nominating candidates for the future Group of Experts.
- .5 If identified, potential modifications of Tiers I and II.
- .6 Reporting format that should be used by the future Group of Experts.

D. Project organization

1 An IMO correspondence group is to be established to monitor the pilot project and disseminate relevant information. IMO Members and international organizations may follow the pilot project through this correspondence group.

2 Project Co-ordinator (PC): leads the pilot project; executes project plan; disseminates information to the above correspondence group; facilitates necessary meetings; assembles report of the pilot project for submission to MSC 83.

3 Pilot Panel (PP): consists of no more than 15 members; reviews information provided by IACS to the Pilot Panel and evaluates the submitted information according to the terms of reference.

4 IACS: demonstrates how CSR meet Tiers I and II, considering the provisional Tier III requirements; responds to inquiries from the Pilot Panel; submits lessons learned for inclusion in the report to MSC 83.

E. Pilot Panel membership

1 Members of the Pilot Panel (PP) will be determined as follows:

- .1 IMO members, non-governmental organizations and inter-governmental organizations in consultative status may nominate suitable experts by 15 January 2007* and include a statement on individuals' qualifications and ability to meet project milestones (see timetable in section F).
- .2 The MSC Chairman, in consultation with the Secretariat, will select the PP members and inform the selected members and the PC.

2 Nominated individuals should have adequate knowledge of rules and rule development and be able to correctly interpret the rules for correlation with relevant regulatory requirements and at least one of the following:

- .1 ship design and construction;
- .2 safety requirements;
- .3 environmental protection requirements;

* Nominations should be sent to the attention of Mr. K. Sekimizu, Director Maritime Safety Division, and copied by e-mail to hhoppe@imo.org.

- .4 ship operational efficiency; and
- .5 survey, inspection and maintenance regimes.

F. Provisional schedule of the pilot project

Date	Who	Comments
15 January 2007	Member States, NGOs, IGOs	Correspondence and e-mail Nominate member(s) for PP
End January 2007	MSC Chairman, IMO Secretariat	E-mail correspondence Inform CG, PC and PP of membership of PP
Beginning February 2007	IACS	E-mail correspondence IACS to provide document to PC, PP and CG
Beginning March 2007	PC, PP, IACS, CG	MEETING IACS presentation meeting + evaluation discussion + additional questions
Mid-March 2007	IACS	E-mail correspondence Submit clarifications and/or additional information as needed
Mid-April 2007	PP	E-mail correspondence Individual evaluations to submit to PC
End April 2007	PC	E-mail correspondence Summing up individual evaluations
Mid-May 2007	PC, PP, IACS, CG	MEETING Discussion of evaluation Summarize status of evaluation and decide whether further work is necessary to complete report Work on report to MSC or progress report, as appropriate
Mid-June 2007	PC, PP, IACS, CG	E-mail correspondence Prepare report
1 July 2007	PC	Submit report to IMO for MSC 83

G. Meetings

Meetings should be held in London, United Kingdom. The meeting venues will be advised by the Project Coordinator. Each attendee of the meetings shall pay their individual costs. The IMO Secretariat is invited to attend the meetings.

ANNEX 16**ROAD MAP FOR THE TIMELY IMPLEMENTATION OF THE LRIT SYSTEM**

It is clear that the arrangements for the timely establishment of the Long-Range Identification and Tracking (LRIT) System envisaged at MSC 81, as set out in operative paragraphs of resolution MSC.211(81), are behind schedule due to the lack of proposals on all of the issues that need to be considered.

In the absence of submissions with respect to advancement of the establishment of the LRIT System, the following road map is proposed:

1 COMSAR 11 should be instructed (deadlines for the submission of papers should be relaxed) to prepare:

- .1 templates of the various agreements using the guidance to be provided by the IMO Secretariat's Legal Division (such as between IMO and the LRIT Co-ordinator; between IMO and those providing the International LRIT Data Centre and Data Exchange) which should be provided to the intersessional MSC Working Group for additional work; and
- .2 a costing and billing framework using the input from CIRM and Contracting Governments who have been asked to submit papers to COMSAR 11 related to the costing and billing framework.

2 There is a requirement for an intersessional MSC Working Group Meeting on issues other than Engineering between COMSAR 11 and MSC 83 to prepare draft papers on the following issues with a view to approval at MSC 83 hence COMSAR 11 to prepare:

- .1 draft templates of LRIT agreements, including guidance provided by the IMO Secretariat's Legal Division;
- .2 options with pros and cons, assessment and recommendations related to the LRIT costing and billing options including guidance provided by the *Ad Hoc* Working Group on Engineering Aspects of LRIT; and
- .3 using the input of Contracting Governments, and the IMO Secretariat's Legal Division prepare a preliminary guidance for MSC 83 on the geographic location of the International LRIT Data Exchange and the International LRIT Data Centre.

3 The *Ad Hoc* Working Group on Engineering Aspects of LRIT should submit its final report to the IMO Secretariat 13 weeks prior to MSC 83, which will provide Contracting Governments with 9 weeks to comment on the report. All Members of the Committee are encouraged to participate in the correspondence of the *Ad Hoc* group.

4 Recalling that in resolution MSC.210(81), one of the LRIT Co-ordinator's roles was to participate in the development of any required technical specifications, in advance of issuing a request for the submission of proposals, IMSO is welcomed and encouraged to fully participate in the deliberations of the *Ad Hoc* Working Group on Engineering Aspects of LRIT, COMSAR 11, and any intersessional MSC Working Group meeting.

5 IMSO is requested to submit for the consideration of MSC 83, detailed plans and proposed arrangements on how IMSO envisages performing the duties and responsibilities of the LRIT Co-ordinator, including information on the business model that will be utilized.

6 MSC 83 authorizes the Secretary-General to conclude, on behalf of all SOLAS Contracting Governments, the required agreement with IMSO using the aforementioned draft agreement templates to be developed by COMSAR 11, reviewed at the intersessional MSC Working Group Meeting and approved by MSC 83.

7 To ensure the timely implementation of the International LRIT System the following decisions are required at MSC 83, including discussion and approval of the:

- .1 *Ad Hoc* Working Group on Engineering Aspects of LRIT's report;
- .2 recommended costing and billing framework using the input from the *Ad Hoc* Working Group on Engineering Aspects, COMSAR 11, and the intersessional MSC Working Group Meeting;
- .3 geographic location of the International LRIT Data Exchange and the International LRIT Data Centre using *inter alia* the input from the *Ad Hoc* Working Group on Engineering Aspects, COMSAR 11, IMO Secretariat's Legal Division, and the intersessional MSC Working Group Meeting;
- .4 templates of LRIT agreements, including guidance provided by COMSAR 11, IMO Secretariat's Legal Division, and the intersessional MSC Working Group Meeting; and
- .5 establishment of a MSC Working Group on LRIT during MSC 83.

8 Recalling resolution MSC.211(81) which called for the trials and testing of the LRIT system to start not later than the 1 July 2008 it is necessary that the request for the submission of proposals for the establishment and operation of the International LRIT Data Centre and International LRIT Data Exchange be issued in the Northern Autumn of 2007 by the LRIT Co-ordinator.

9 To ensure the timely implementation of the LRIT Data Distribution Plan it should be operational by 1 January 2008, which implies that the software development must begin by the end of August 2007.

10 It should be noted that, while the current performance standards and technical specifications have been developed with inherent flexibility, significant amendments and/or additions to existing LRIT policies at MSC 83 may result in delays and unanticipated costs as standards, specifications and draft request for proposals will have to be modified to reflect MSC 83 decisions.

11 Recalling resolution MSC.211(81) Contracting Governments should provide the information specified in the Performance standards to their selected LRIT Data Centre by 1 July 2008.

12 Contracting Governments are encouraged to take the opportunity to provide MSC 86 (May 2009) on their experiences with the operational (31 December 2008) International LRIT System.

ANNEX 17

DRAFT SOLAS REGULATION VI/5-1 (MATERIAL SAFETY DATA SHEETS)

**CHAPTER VI
CARRIAGE OF CARGOES**

The following new regulation 5-1 is added after the existing regulation 5:

**“Regulation 5-1
Material safety data sheets**

Ships carrying MARPOL Annex I cargoes, as defined in Appendix I to Annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973, and marine fuel oils shall be provided with a material safety data sheet prior to the loading of such cargoes based on the recommendations developed by the Organization.*”

* Refer to the Recommendation for material safety data sheets (MSDS) for MARPOL Annex I cargoes and marine fuel oils, adopted by resolution MSC.150(77).

ANNEX 18

**DRAFT AMENDMENTS TO THE PROTOCOL OF 1988 RELATING TO THE
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974**

ANNEX

**MODIFICATIONS AND ADDITIONS TO THE ANNEX TO THE INTERNATIONAL
CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974**

APPENDIX

**MODIFICATIONS AND ADDITIONS TO THE APPENDIX TO THE ANNEX TO THE
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974**

Form of Safety Certificate for Passenger Ships

1 In the form of Safety Certificate for Passenger Ships, the following subparagraphs are added at the end of the section commencing with the words “THIS IS TO CERTIFY:”:

“2.10 the ship was/was not ^{1/} subjected to an alternative design and arrangements in pursuance of SOLAS regulation II-2/17;

2.11 a Document of approval of alternative design and arrangements for fire safety is/is not ^{1/} appended to this Certificate.

^{1/} Delete as appropriate.”

Form of Safety Certificate for Cargo Ships

2 In the form of Safety Certificate for Cargo Ships, the following subparagraphs are added at the end of the section commencing with the words “THIS IS TO CERTIFY:”:

“2.11 the ship was/was not ^{4/} subjected to an alternative design and arrangements in pursuance of SOLAS regulation II-2/17;

2.12 a Document of approval of alternative design and arrangements for fire safety is/is not ^{4/} appended to this Certificate.

^{4/} Delete as appropriate.”

ANNEX 19

NEW AND AMENDED TRAFFIC SEPARATION SCHEMES AND ASSOCIATED ROUTEING MEASURES

NEW TRAFFIC SEPARATION SCHEMES OFF THE COAST OF NORWAY FROM VARDØ TO RØST

(Reference charts are Norwegian Hydrographic Service Fisheries Chart Series:

No.	Title	Scale	Datum	Published
551	Barentshavet, sørvestlige del	1:700 000	ED 50	1963
552	Vesterålen – Vest Finnmark – Bjørnøya	1:700 000	ED 50	1964
557	Haltenbanken – Vesterålen	1:700 000	ED 50	1966

Position co-ordinates referred to the WGS 84 Datum should be plotted direct on to these charts, as the difference between the WGS 84 and ED 50 Datums is of no practical significance at the actual scale.

Note: The geographical positions, (1) – (98), listed below are given in the WGS 84 Datum.)

Categories of ships to which the traffic separation schemes apply

Tankers of all sizes, including gas and chemical tankers, and all other cargo ships of 5,000 gross tonnage and upwards engaged on international voyages should follow the routeing system consisting of a series of traffic separation schemes joined by recommended routes off the coast of Norway from Vardø to Røst.

International voyages to or from ports in Norway from Vardø to Røst

Ships on international voyages to or from ports in Norway from Vardø to Røst should follow the ship's routeing system until a course to port can be clearly set. This also applies to ships calling at Norwegian ports for supplies or service.

Description of the traffic separation schemes

I Off Vardø

(a) A separation zone is bounded by a line connecting the following geographical positions:

(1) 70° 44'.55 N	031° 49'.52 E	(3) 70° 51'.05 N	031° 33'.87 E
(2) 70° 49'.44 N	031° 30'.08 E	(4) 70° 46'.20 N	031° 53'.31 E

(b) A traffic lane for westbound traffic is established between the separation zone described in paragraph (a) and a line connecting the following geographical positions:

(5) 70° 48'.59 N 031° 58'.90 E (6) 70° 53'.40 N 031° 39'.19 E

- (c) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (a) and a line connecting the following geographical positions:

(7) 70° 42'.22 N 031° 44'.20 E (8) 70° 47'.08 N 031° 24'.76 E

II Off Slettnes

- (d) A separation zone is bounded by a line connecting the following geographical positions:

(9) 71° 23'.01 N 029° 11'.08 E (12) 71° 29'.21 N 028° 44'.33 E
(10) 71° 26'.11 N 028° 58'.61 E (13) 71° 27'.86 N 029° 01'.25 E
(11) 71° 27'.26 N 028° 42'.95 E (14) 71° 24'.63 N 029° 14'.78 E

- (e) A traffic lane for westbound traffic is established between the separation zone described in paragraph (d) and a line connecting the following geographical positions:

(15) 71° 27'.06 N 029° 20'.38 E (17) 71° 32'.13 N 028° 46'.76 E
(16) 71° 30'.60 N 029° 05'.28 E

- (f) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (d) and a line connecting the following geographical positions:

(18) 71° 20'.58 N 029° 05'.48 E (20) 71° 24'.39 N 028° 40'.62 E
(19) 71° 23'.35 N 028° 54'.38 E

III Off North Cape

- (g) A separation zone is bounded by a line connecting the following geographical positions:

(21) 71° 40'.27 N 026° 08'.73 E (24) 71° 42'.53 N 025° 26'.58 E
(22) 71° 41'.78 N 025° 49'.27 E (25) 71° 43'.72 N 025° 49'.45 E
(23) 71° 40'.61 N 025° 27'.86 E (26) 71° 42'.19 N 026° 10'.46 E

- (h) A traffic lane for westbound traffic is established between the separation zone described in paragraph (g) and a line connecting the following geographical positions:

(27) 71° 45'.05 N 026° 13'.20 E (29) 71° 45'.39 N 025° 24'.48 E
(28) 71° 47'.03 N 025° 49'.12 E

- (i) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (g) and a line connecting the following geographical positions:

(30) 71° 37'.34 N 026° 06'.36 E (32) 71° 37'.60 N 025° 29'.77 E
(31) 71° 38'.80 N 025° 48'.40 E

IV **Off Sørøya**

(j) A separation zone is bounded by a line connecting the following geographical positions:

(33) 71° 30'.11 N	022° 39'.50 E	(36) 71° 28'.08 N	021° 59'.45 E
(34) 71° 28'.95 N	022° 20'.05 E	(37) 71° 30'.73 N	022° 18'.35 E
(35) 71° 26'.29 N	022° 01'.90 E	(38) 71° 32'.06 N	022° 38'.23 E

(k) A traffic lane for westbound traffic is established between the separation zone described in paragraph (j) and a line connecting the following geographical positions:

(39) 71° 35'.00 N	022° 36'.42 E	(41) 71° 30'.85 N	021° 55'.63 E
(40) 71° 33'.65 N	022° 15'.39 E		

(l) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (j) and a line connecting the following geographical positions:

(42) 71° 27'.17 N	022° 41'.31 E	(44) 71° 23'.55 N	022° 05'.83 E
(43) 71° 26'.00 N	022° 23'.00 E		

V **Off Torsvåg**

(m) A separation zone is bounded by a line connecting the following geographical positions:

(45) 71° 02'.07 N	019° 13'.93 E	(48) 70° 56'.51 N	018° 36'.45 E
(46) 70° 59'.63 N	018° 55'.90 E	(49) 71° 01'.26 N	018° 52'.77 E
(47) 70° 55'.07 N	018° 40'.45 E	(50) 71° 03'.97 N	019° 11'.40 E

(n) A traffic lane for westbound traffic is established between the separation zone described in paragraph (m) and a line connecting the following geographical positions:

(51) 71° 06'.72 N	019° 07'.81 E	(53) 70° 58'.73 N	018° 30'.34 E
(52) 71° 03'.77 N	018° 47'.82 E		

(o) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (m) and a line connecting the following geographical positions:

(54) 70° 59'.40 N	019° 17'.65 E	(56) 70° 52'.80 N	018° 46'.70 E
(55) 70° 56'.97 N	019° 00'.60 E		

VI **Off Andenes**

(p) A separation zone is bounded by a line connecting the following geographical positions:

(57) 69° 48'.74 N	015° 06'.86 E	(59) 69° 44'.77 N	014° 46'.12 E
(58) 69° 43'.32 N	014° 50'.07 E	(60) 69° 50'.22 N	015° 03'.14 E

- (q) A traffic lane for westbound traffic is established between the separation zone described in paragraph (p) and a line connecting the following geographical positions:

(61) 69° 52'.41 N 014° 57'.25 E (62) 69° 47'.00 N 014° 40'.38 E

- (r) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (p) and a line connecting the following geographical positions:

(63) 69° 46'.52 N 015° 12'.75 E (64) 69° 41'.09 N 014° 55'.85 E

VII **Off Røst (1)**

- (s) A separation zone is bounded by a line connecting the following geographical positions:

(65) 68° 12'.89 N 010° 16'.07 E (68) 68° 03'.57 N 009° 50'.12 E
(66) 68° 08'.36 N 010° 02'.92 E (69) 68° 09'.41 N 009° 58'.73 E
(67) 68° 02'.64 N 009° 54'.93 E (70) 68° 14'.26 N 010° 12'.03 E

- (t) A traffic lane for westbound traffic is established between the separation zone described in paragraph (s) and a line connecting the following geographical positions:

(71) 68° 16'.38 N 010° 06'.20 E (73) 68° 04'.83 N 009° 43'.01 E
(72) 68° 11'.32 N 009° 52'.34 E

- (u) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (s) and a line connecting the following geographical positions:

(74) 68° 10'.82 N 010° 21'.89 E (76) 68° 01'.24 N 010° 02'.10 E
(75) 68° 06'.71 N 010° 09'.50 E

VIII **Off Røst (2)**

- (v) A separation zone is bounded by a line connecting the following geographical positions:

(77) 67° 37'.66 N 009° 21'.34 E (79) 67° 31'.31 N 009° 07'.29 E
(78) 67° 30'.42 N 009° 12'.05 E (80) 67° 38'.55 N 009° 16'.66 E

- (w) A traffic lane for westbound traffic is established between the separation zone described in paragraph (v) and a line connecting the following geographical positions:

(81) 67° 40'.00 N 009° 09'.73 E (82) 67° 32'.64 N 009° 00'.28 E

- (x) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (v) and a line connecting the following geographical positions:

(83) 67° 36'.29 N 009° 28'.33 E (84) 67° 29'.06 N 009° 18'.88 E

Description of the recommended routes

- (y) A recommended route is established between the traffic separation schemes Off Vardø to Off Slettnes with a central line between the following geographical positions:

(85) 70° 50'.43 N 031° 31'.22 E (86) 71° 23'.64 N 029° 13'.67 E

- (z) A recommended route is established between the traffic separation schemes Off Slettnes to Off North Cape with a central line between the following geographical positions:

(87) 71° 28'.28 N 028° 42'.65 E (88) 71° 41'.20 N 026° 10'.59 E

- (aa) A recommended route is established between the traffic separation schemes Off North Cape to Off Sørøya with a central line between the following geographical positions:

(89) 71° 41'.50 N 025° 26'.81 E (90) 71° 31'.20 N 022° 39'.83 E

- (bb) A recommended route is established between the traffic separation schemes Off Sørøya to Off Torsvåg with a central line between the following geographical positions:

(91) 71° 27'.06 N 022° 00'.01 E (92) 71° 03'.18 N 019° 13'.28 E

- (cc) A recommended route is established between the traffic separation schemes Off Torsvåg to Off Andenes with a central line between the following geographical positions:

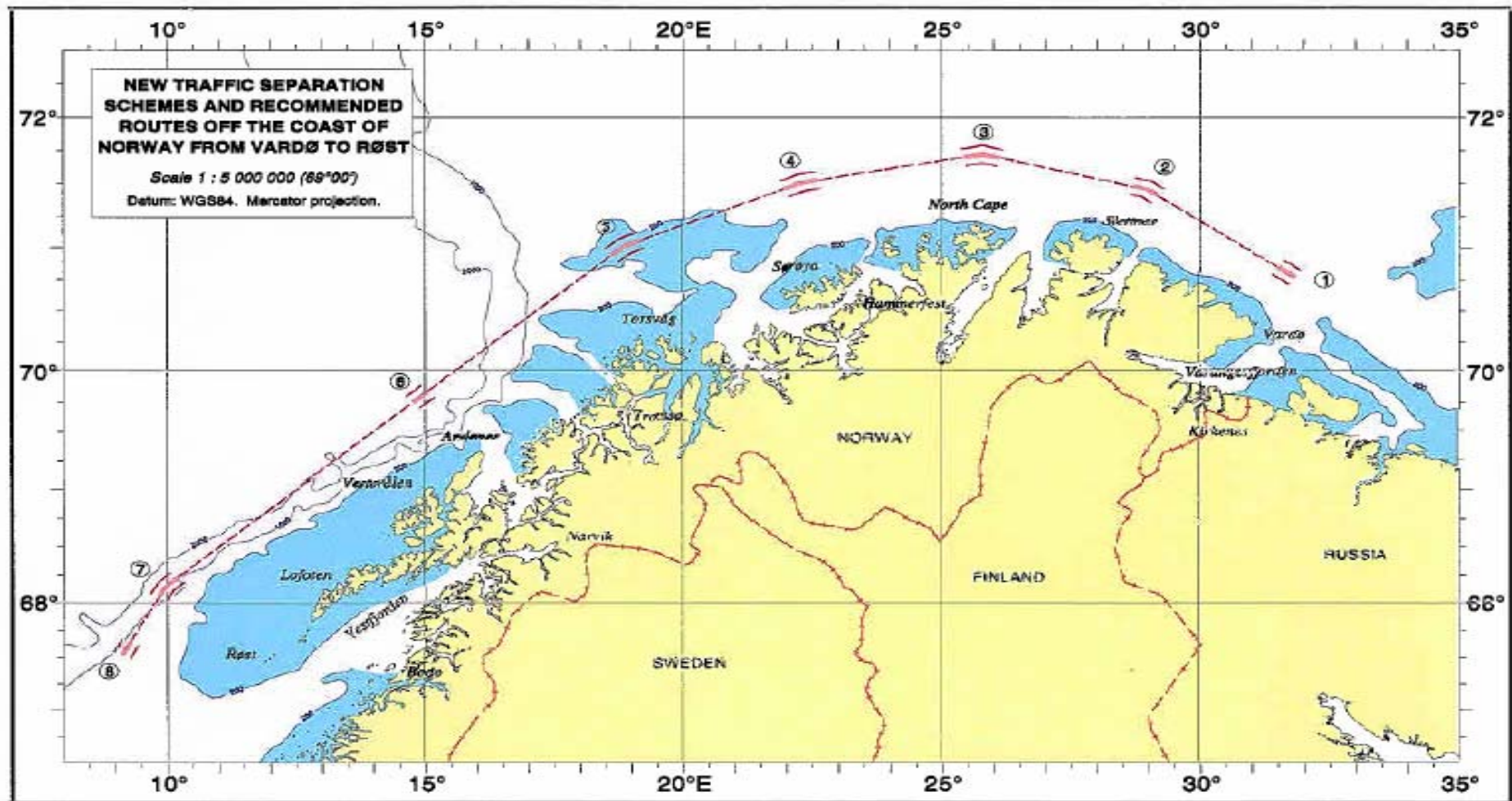
(93) 70° 55'.68 N 018° 38'.05 E (94) 69° 49'.78 N 015° 05'.38 E

- (dd) A recommended route is established between the traffic separation schemes Off Andenes to Off Røst (1) with a central line between the following geographical positions:

(95) 69° 43'.79 N 014° 47'.17 E (96) 68° 13'.89 N 010° 15'.05 E

- (ee) A recommended route is established between the traffic separation schemes Off Røst (1) to Off Røst (2) with a central line between the following geographical positions:

(97) 68° 02'.84 N 009° 52'.08 E (98) 67° 38'.34 N 009° 19'.26 E



NEW TRAFFIC SEPARATION SCHEMES IN THE SUNK AREA AND IN THE NORTHERN APPROACHES TO THE THAMES ESTUARY

(Reference Chart: British Admiralty 1183, 2005 edition;

Note: This chart is based on World Geodetic System 1984 Datum (WGS 84).)

A new integrated traffic routing scheme for the SUNK Area consists of several elements comprising:

- .1 One two-way route (Long Sand Head);
- .2 Two traffic lanes 1.9 miles wide in two parts (SUNK TSS North and South);
- .3 Two traffic lane 1.0 miles wide in one part (SUNK TSS East);
- .4 A new inner Precautionary Area, named SUNK Inner Precautionary Area;
- .5 A new precautionary area, adjacent to the SUNK Inner Precautionary Area, named SUNK Outer Precautionary Area;
- .6 A 1 nautical mile diameter Area to be Avoided in the SUNK Outer Precautionary Area; and
- .7 A recommended route (“Gallop” recommended route).

Description of the two-way route

Part I:

Long Sand Head two-way route is established. (Note that entry is restricted to piloted vessels, vessels operated under pilotage exemption certificate (PEC), and vessels exempt from pilotage under the destination ports pilotage directions.)

- (a) A boundary line connecting the following geographical positions:

(1)	51° 38'.09 N	001° 40'.43 E
(2)	51° 47'.90 N	001° 39'.42 E
(3)	51° 47'.77 N	001° 38'.16 E

- (b) A separation zone bounded by a line connecting the following geographical positions:

(4)	51° 38'.31 N	001° 43'.60 E
(5)	51° 38'.33 N	001° 43'.89 E
(6)	51° 42'.16 N	001° 43'.20 E
(7)	51° 48'.29 N	001° 42'.08 E
(8)	51° 48'.98 N	001° 41'.64 E
(9)	51° 49'.28 N	001° 40'.72 E
(10)	51° 49'.49 N	001° 40'.06 E
(11)	51° 49'.30 N	001° 38'.16 E
(12)	51° 49'.11 N	001° 38'.16 E
(13)	51° 49'.30 N	001° 40'.01 E
(14)	51° 48'.84 N	001° 41'.40 E
(15)	51° 48'.24 N	001° 41'.79 E

- (c) A two-way route bounded by the boundary line described in (a) above and the separation zone described in (b) above.

Part II:

Description of the traffic separation schemes

SUNK traffic separation scheme

South

- (d) A separation zone bounded by a line connecting the following geographical positions:

(16)	51° 38'.54 N	001° 46'.87 E
(17)	51° 38'.61 N	001° 47'.85 E
(18)	51° 42'.44 N	001° 47'.16 E
(19)	51° 42'.37 N	001° 46'.18 E

- (e) A traffic lane for northbound traffic between the separation zone described in (d) above and a line connecting the following geographical positions:

(20)	51° 38'.82 N	001° 50'.83 E
(21)	51° 42'.65 N	001° 50'.14 E

- (f) A traffic lane for southbound traffic between the separation zone described in (d) above and that portion of the separation zone described in (b) above connecting the following geographic positions:

(5)	51° 38'.33 N	001° 43'.89 E
(6)	51° 42'.16 N	001° 43'.20 E

SUNK traffic separation scheme

East

- (g) A separation zone bounded by a line connecting the following geographical positions:

(22)	51° 50'.91 N	002° 00'.00 E
(23)	51° 51'.21 N	002° 00'.00 E
(24)	51° 48'.84 N	001° 51'.86 E
(25)	51° 48'.54 N	001° 51'.85 E

- (h) A separation zone bounded by a line connecting the following geographical positions:

(26)	51° 52'.29 N	002° 00'.00 E
(27)	51° 49'.92 N	001° 51'.89 E
(28)	51° 52'.06 N	001° 49'.37 E
(29)	51° 53'.90 N	001° 49'.96 E
(30)	51° 55'.72 N	001° 50'.54 E
(31)	51° 55'.59 N	001° 51'.73 E
(32)	51° 52'.31 N	001° 50'.68 E
(33)	51° 50'.99 N	001° 52'.27 E
(34)	51° 53'.24 N	002° 00'.00 E

- (i) A traffic lane for eastbound traffic between the separation zone described in (g) above and a line connecting the following geographical positions:

(35)	51° 47'.45 N	001° 51'.82 E
(36)	51° 49'.84 N	002° 00'.00 E

- (j) A traffic lane for westbound traffic between the separation zone described in (g) above and that portion of the separation zone described in (h) above connecting the following geographical positions:

(26)	51° 52'.29 N	002° 00'.00 E
(27)	51° 49'.92 N	001° 51'.89 E

**SUNK traffic separation scheme
North**

- (k) A separation zone bounded by a line connecting the following geographical positions:

(37)	51° 56'.06 N	001° 47'.40 E
(38)	51° 56'.16 N	001° 46'.45 E
(39)	51° 54'.34 N	001° 45'.87 E
(40)	51° 54'.24 N	001° 46'.81 E

- (l) A traffic lane for northbound traffic between the separation zone described in (k) above and that portion of the separation zone described in (h) above connecting the following geographical positions:

(29)	51° 53'.90 N	001° 49'.96 E
(30)	51° 55'.72 N	001° 50'.54 E

- (m) A traffic lane for southbound traffic between the separation zone described in (k) above and a line connecting the following geographical positions:

(41)	51° 56'.50 N	001° 43'.31 E
(42)	51° 54'.68 N	001° 42'.72 E

SUNK Inner Precautionary area

- (n) A precautionary area will be established by a line connecting the following geographical positions:

(12)	51° 49'.11 N	001° 38'.16 E
(11)	51° 49'.30 N	001° 38'.16 E
(10)	51° 49'.49 N	001° 40'.06 E
(9)	51° 49'.28 N	001° 40'.72 E
(43)	51° 52'.61 N	001° 41'.12 E
(44)	51° 53'.03 N	001° 39'.03 E
(45)	51° 52'.73 N	001° 34'.26 E
(46)	51° 52'.46 N	001° 33'.20 E
(47)	51° 52'.46 N	001° 32'.35 E
(48)	51° 51'.59 N	001° 31'.32 E
(49)	51° 49'.61 N	001° 31'.32 E
(50)	51° 48'.51 N	001° 29'.50 E
(51)	51° 46'.07 N	001° 33'.42 E
(52)	51° 47'.50 N	001° 35'.64 E
(3)	51° 47'.77 N	001° 38'.16 E

SUNK Outer Precautionary area

- (o) A precautionary area will be established by a line connecting the following geographical positions:

(43)	51° 52'.61 N	001° 41'.12 E
(9)	51° 49'.28 N	001° 40'.72 E
(8)	51° 48'.98 N	001° 41'.64 E
(7)	51° 48'.29 N	001° 42'.08 E
(6)	51° 42'.16 N	001° 43'.20 E
(21)	51° 42'.65 N	001° 50'.14 E
(35)	51° 47'.45 N	001° 51'.82 E
(27)	51° 49'.92 N	001° 51'.89 E
(28)	51° 52'.06 N	001° 49'.37 E
(29)	51° 53'.90 N	001° 49'.96 E
(42)	51° 54'.68 N	001° 42'.72 E

Area to be avoided

- (p) An area to be avoided, 1 nautical mile in diameter, centred upon the following geographical position:

(53)	51° 50'.10 N	001° 46'.02 E
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Note: The flow of traffic around the ATBA is counter-clockwise as indicated by the recommended directions of traffic flow in the Precautionary area. All ships should avoid the area within a circle of radius 0.5 miles, centred upon the following geographical position: 51° 50'.10 N 001° 46'.02 E.

This area is established to avoid hazard to a navigational aid which is established at the geographical position listed above, and which is considered vital to the safety of navigation.

Part III:

Description of the recommended route

- (q) A recommended route (“Galopper” recommended route in the south-east sector of the scheme to enable regular ferry traffic sailing to and from the Port of Ostend to enter and leave the SUNK Outer Precautionary Area without deviating unnecessarily to use traffic separation lanes) connecting the following geographical positions:

(54)	51° 44'.93 N	001° 50'.93 E
(55)	51° 41'.33 N	002° 00'.03 E

NEW TRAFFIC SEPARATION SCHEME OFF NEIST POINT IN THE MINCHES

(Reference charts: British Admiralty Chart No.2635, 1794, 1795.

Note: These charts are based on the Ordnance Survey of Great Britain, 1936 (OSGB 36).)

Description of the traffic separation scheme

Little Minches traffic separation scheme

- (a) A separation zone bounded by a line connecting the following geographical positions:

(1)	57° 23'.90 N 57° 23'.84 N	006° 53'.40 W 006° 53'.33 W (WGS 84)
(2)	57° 26'.20 N 57° 26'.16 N	006° 52'.80 W 006° 52'.88 W (WGS 84)
(3)	57° 27'.90 N 57° 28'.02 N	006° 51'.60 W 006° 51'.42 W (WGS 84)
(4)	57° 28'.20 N 57° 28'.37 N	006° 53'.06 W 006° 52'.96 W (WGS 84)
(5)	57° 26'.50 N 57° 26'.39 N	006° 54'.40 W 006° 54'.52 W (WGS 84)
(6)	57° 24'.06 N 57° 23'.93 N	006° 55'.10 W 006° 54'.99 W (WGS 84)

- (b) A traffic lane for northbound traffic between the separation zone and a line connecting the following geographical positions:

(7)	57° 23'.70 N 57° 23'.68 N	006° 50'.50 W 006° 50'.56 W (WGS 84)
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(8) 57° 25'.80 N 006° 50'.10 W
57° 25'.78 N 006° 50'.16 W (WGS 84)

(9) 57° 27'.44 N 006° 48'.86 W
57° 27'.44 N 006° 48'.86 W (WGS 84)

(c) A traffic lane for southbound traffic between the separation zone and a line connecting the following geographical positions:

(10) 57° 24'.26 N 006° 57'.60 W
57° 24'.08 N 006° 57'.75 W (WGS 84)

(11) 57° 26'.94 N 006° 57'.08 W
57° 26'.76 N 006° 57'.24 W (WGS 84)

(12) 57° 28'.70 N 006° 55'.55 W
57° 28'.96 N 006° 55'.52 W (WGS 84)

AMENDMENTS TO THE EXISTING TSS “IN THE STRAIT OF GIBRALTAR”

(Reference chart is No.445 issued by the Hydrographic Institute of the Spanish Navy, Datum WGS-84, 3rd edition, December 2003, covering the south coast of Spain (from Punta Camariñal to Punta Europa) and north Morocco (from Cape Espartel to Punta Almina)).

Description of the amended traffic separation scheme

(a) A separation zone, half a mile wide, is centred upon the following geographical positions:

(1) 35° 59'.01 N 005° 25'.68 W
(2) 35° 58'.36 N 005° 28'.19 W

(b) A separation zone, half a mile wide, is centred upon the following geographical positions:

(3) 35° 57'.08 N 005° 33'.08 W
(4) 35° 56'.21 N 005° 36'.48 W
(5) 35° 56'.21 N 005° 44'.98 W

(c) A traffic lane for westbound traffic is established between the separation zone described in paragraph (a) and a line connecting the following geographical positions:

(7) 36° 01'.21 N 005° 25'.68 W
(8) 36° 00'.35 N 005° 28'.98 W

(d) A traffic lane for westbound traffic is established between the separation zone described in paragraph (b) and a line connecting the following geographical positions:

(9) 35° 59'.07 N 005° 33'.87 W
(10) 35° 58'.41 N 005° 36'.48 W
(11) 35° 58'.41 N 005° 44'.98 W

(e) A traffic lane for eastbound traffic is established between the separation zone described in paragraph (b) and a line connecting the following geographical positions:

(12)	35° 52'.51 N	005° 44'.98 W
(13)	35° 53'.81 N	005° 36'.48 W
(14)	35° 54'.97 N	005° 32'.25 W

(f) A traffic lane for eastbound traffic is established between the separation zone (described in paragraph (a)) and a line connecting the following geographical positions:

(15)	35° 56'.35 N	005° 27'.40 W
(16)	35° 56'.84 N	005° 25'.68 W

(g) A precautionary area is established on the eastern side of the Gibraltar TSS by the lines connecting the following geographical positions:

(6)	36° 02'.80 N	005° 19'.68 W
(7)	36° 01'.21 N	005° 25'.68 W
(16)	35° 56'.84 N	005° 25'.68 W
(17)	35° 58'.78 N	005° 18'.55 W

(h) A precautionary area with recommended directions of traffic flow is established off the Moroccan port of Tanger-Med in the Gibraltar TSS formed by the lines connecting the following geographical positions:

(8)	36° 00'.35 N	005° 28'.98 W
(9)	35° 59'.07 N	005° 33'.87 W
(14)	35° 54'.97 N	005° 32'.25 W
(15)	35° 56'.35 N	005° 27'.40 W

Inshore traffic zones

Description of the northern inshore traffic zone

(1) The area between the northern boundary of the scheme formed by the continuing line that links points 7, 8, 9, 10 and 11 and the Spanish coast, and lying between the following limits is designated as an inshore traffic zone:

(2) **Eastern limit:** That part of the meridian 005° 25'.68 W (23) between the northern boundary of the westbound traffic lane (latitude 36° 01'.21 N, corresponding to point (7) on the attached chartlet) and the Spanish coast.

(3) **Western limit:** That part of the meridian 005° 44'.98 W (22) between the northern boundary of the westbound traffic lane (latitude 35° 58'.41 N, corresponding to point (11) on the attached chartlet) and the Spanish coast.

Description of the south-eastern and the south-western inshore traffic zones

(1) The existing southern inshore traffic zone is divided into two inshore traffic zones to east and west, with a free navigational area between them, located between the southern limit of the TSS and the coast of Morocco; these are bounded by eight geographical positions.

(2) **South-eastern zone:** a traffic zone within the inshore traffic zone formed by the coast of Morocco, the external limit of the traffic lane for the traffic heading towards the eastern area of the current scheme and the lines connecting the following geographical positions:

(18)	35° 54'.45 N	005° 25'.68 W
(16)	35° 56'.84 N	005° 25'.68 W
(15)	35° 56'.35 N	005° 27'.40 W
(19)	35° 54'.88 N	005° 27'.40 W

(3) **South-western zone:** a traffic zone within the inshore zone formed by the coast of Morocco, the external limit of the traffic lane for the traffic heading towards the eastern area of the current scheme and the lines connecting the following geographical positions:

(20)	35° 51'.33 N	005° 32'.25 W
(14)	35° 54'.97 N	005° 32'.25 W
(12)	35° 52'.51 N	005° 44'.98 W
(21)	35° 49'.09 N	005° 44'.98 W

Notes:

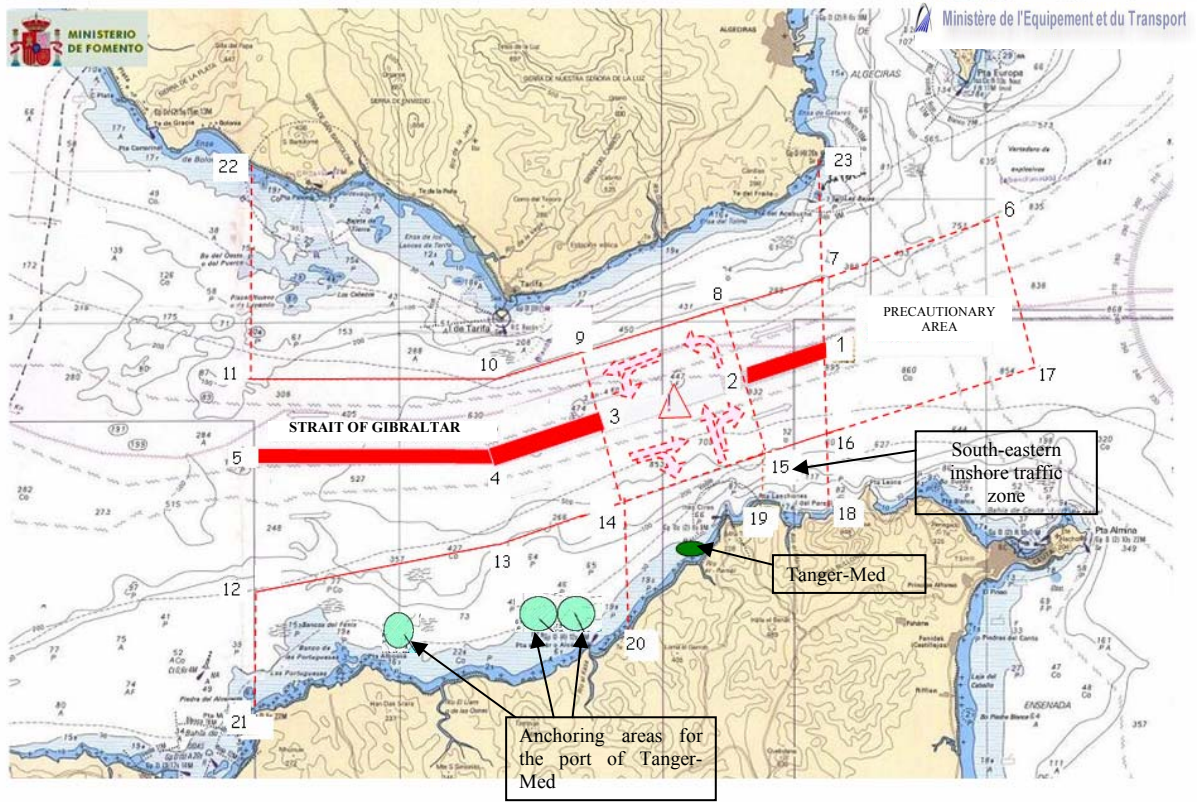
- 1 Within this zone are arranged three areas serving the port of Tanger-Med as anchoring areas.

These areas are configured as three circles centred on the following co-ordinates and having a radius of 0.4 miles.

First anchoring area	(A):	35° 51'.05 N	005° 40'.34 W
Second anchoring area	(B):	35° 52'.03 N	005° 34'.65 W
Third anchoring area	(C):	35° 52'.03 N	005° 33'.49 W

- 2 Ships heading for the anchorages indicated in the south-western inshore traffic zone must sail through that zone if coming from the Atlantic or from the port of Tanger or if proceeding from these areas to anchorages at Tanger-Med or *vice versa*.
- 3 Given the absence of ports or any type of facility in the south-eastern inshore traffic zone, ships entering or leaving the port of Tanger-Med must sail along the corresponding traffic lanes.
- 4 Ships sailing from the Atlantic Ocean or the Mediterranean Sea towards the port of Tanger-Med, or departing from it for the Atlantic or the Mediterranean Sea must sail along the corresponding traffic lanes.
- 5 Ships heading from the Atlantic to the anchoring areas of the south-western inshore traffic zone must sail, in accordance with rule 10 of the 1972 COLREGs, through that same inshore traffic zone.

- 6 Ships heading from the port of Tanger-Med to the anchoring areas of the south-western inshore traffic zone must sail, in accordance with rule 10 of the 1972 COLREGs, through that same inshore traffic zone.
- 7 Ships heading from the anchoring areas of the south-western inshore traffic zone towards the Atlantic must sail, in accordance with rule 10 of the 1972 COLREGs, through that same inshore traffic zone.



AMENDMENTS TO THE EXISTING TSS IN THE APPROACH TO BOSTON, MASSACHUSETTS

(Reference charts: United States 13009, 2004 edition; 13200, 2005 edition; 13246, 2003 edition; 13267, 2004 edition;

Note: These charts are based on North American 1983 Datum, which for charting purposes is considered equivalent to the WGS 84.)

Description of the amended traffic separation scheme

(a) A separation zone, one mile wide, is centred upon the following geographic positions:

- | | | | | | |
|-----|--------------|---------------|-----|--------------|---------------|
| (1) | 42° 20'.84 N | 070° 40'.70 W | (3) | 40° 49'.16 N | 068° 59'.97 W |
| (2) | 42° 18'.24 N | 070° 00'.40 W | | | |

(b) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | | | | | |
|-----|--------------|---------------|-----|--------------|---------------|
| (4) | 40° 50'.27 N | 068° 56'.97 W | (6) | 42° 22'.81 N | 070° 40'.22 W |
| (5) | 42° 20'.08 N | 069° 57'.92 W | | | |

(c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | | | | | |
|-----|--------------|---------------|-----|--------------|---------------|
| (7) | 42° 18'.95 N | 070° 42'.52 W | (9) | 40° 48'.03 N | 069° 02'.96 W |
| (8) | 42° 16'.39 N | 070° 02'.88 W | | | |

Precautionary areas

(a) A precautionary area of radius five miles is centred upon geographical position 42° 22'.71 N, 070° 46'.97 W.

(b) A precautionary area is bounded to the east by a circle of radius 15.5 miles, centred upon geographical position 40° 35'.01 N, 068° 59'.97 W, intersected by the traffic separation schemes “In the approach to Boston, Massachusetts” and “Eastern Approach, Off Nantucket” (part II of the traffic separation scheme “Off New York”) at the following geographical positions:

- | | | | | | |
|-----|--------------|---------------|------|--------------|---------------|
| (4) | 40° 50'.27 N | 068° 56'.97 W | (11) | 40° 23'.75 N | 069° 13'.95 W |
|-----|--------------|---------------|------|--------------|---------------|

The precautionary area is bounded to the west by a line connecting the two traffic separation schemes between the following geographical positions:

- | | | | | | |
|-----|--------------|---------------|------|--------------|---------------|
| (9) | 40° 48'.03 N | 069° 02'.96 W | (10) | 40° 36'.76 N | 069° 15'.13 W |
|-----|--------------|---------------|------|--------------|---------------|

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEMES IN THE ADRIATIC SEA

IN THE NORTH ADRIATIC SEA – WESTERN PART (amended)

Reference chart: No. 435 of the Italian Navy Hydrographical Institute, Edition 1993, Datum ED-50, and No. 101 of the Hydrographical Institute of the Republic of Croatia, Edition 1998, Datum Hermanskogel, Bessel Ellipsoid.

The co-ordinates listed below are in WGS 84 Datum

Description of the traffic separation scheme

8 A separation zone is bounded by a line connecting the following geographical positions:

(8a)	43° 54'.90 N	013° 49'.20 E	(8d)	44° 45'.50 N	013° 00'.00 E
(8b)	43° 56'.40 N	013° 50'.50 E	(8e)	44° 45'.40 N	012° 59'.40 E
(8c)	44° 17'.20 N	013° 12'.80 E	(8f)	44° 12'.10 N	013° 14'.50 E

9 A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

(9a)	43° 58'.40 N	013° 52'.70 E	(9c)	44° 46'.10 N	013° 03'.450 E
(9b)	44° 18'.80 N	013° 15'.90 E			

10 A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

(10a)	43° 53'.00 N	013° 47'.40 E	(10c)	44° 44'.70 N	012° 55'.80 E
(10b)	44° 10'.50 N	013° 11'.20 E			

The established directions of traffic flow are: 162° – 124° and 342° – 307°

PRECAUTIONARY AREA AT THE SOUTHERN LIMITS OF THE TRAFFIC SEPARATION SCHEME (amended)

Description of the precautionary area

A precautionary area is established by a line connecting the following geographical positions:

(3)	43° 47'.50 N	013° 58'.20 E	(6a)	44° 04'.40 N	014° 00'.97 E
(4)	43° 59'.85 N	014° 16'.61 E	(9a)	43° 58'.40 N	013° 52'.70 E
(5a)	44° 08'.20 N	014° 08'.77 E	(10a)	43° 53'.00 N	013° 47'.40 E

APPROACHES TO GULF OF VENICE (amended)

Reference chart: No 435 of the Italian Hydrographical Institute, Edition 1993, Datum ED-50, and No.101 of the Hydrographical Institute of the Republic of Croatia, Edition 1998, Datum Hermanskogel, Bessel Ellipsoid.

The co-ordinates listed below are in WGS 84 Datum

Description of the traffic separation scheme approaches to Gulf of Venice

The separation zone in the approaches to Gulf of Venice is amended with the establishments of a new scheme consisting of two new separation schemes connected by a precautionary area for the transversal traffic from and to the LNG platform.

14 NORTHERN PART

A separation zone is bounded by a line connecting the following geographical positions:

- | | | | | | |
|-----|--------------|--------------|-----|--------------|--------------|
| (1) | 45° 09'.10 N | 12° 38'.50 E | (2) | 45° 10'.50 N | 12° 40'.40 E |
| (3) | 45° 14'.30 N | 12° 34'.00 E | (4) | 45° 12'.00 N | 12° 31'.50 E |

A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | | | | | |
|-----|--------------|--------------|-----|--------------|--------------|
| (5) | 45° 12'.00 N | 12° 42'.40 E | (6) | 45° 15'.70 N | 12° 35'.70 E |
|-----|--------------|--------------|-----|--------------|--------------|

A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | | | | | |
|-----|--------------|--------------|-----|--------------|--------------|
| (7) | 45° 07'.70 N | 12° 36'.50 E | (8) | 45° 10'.30 N | 12° 29'.50 E |
|-----|--------------|--------------|-----|--------------|--------------|

The established directions of traffic flow are: 120° – 309°

15 SOUTHERN PART

A separation zone is bounded by a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|--------------|------|--------------|--------------|
| (9) | 44° 57'.20 N | 12° 50'.30 E | (10) | 44° 57'.90 N | 12° 53'.00 E |
| (11) | 45° 07'.80 N | 12° 47'.10 E | (12) | 45° 06'.80 N | 12° 43'.80 E |

A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|-------------|------|--------------|-------------|
| (13) | 44° 58'.50 N | 12°55'.60 E | (14) | 45° 08'.50 N | 12°49'.50 E |
|------|--------------|-------------|------|--------------|-------------|

A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|-------------|------|--------------|-------------|
| (15) | 44° 56'.50 N | 12°47'.60 E | (16) | 45° 06'.00 N | 12°40'.50 E |
|------|--------------|-------------|------|--------------|-------------|

The established directions of traffic flow are: 337° – 154°

16 PRECAUTIONARY AREA

Description of the precautionary area connecting the southern and northern part of the separation scheme in the approaches to Gulf of Venice.

A precautionary area is established by a line connecting the following geographical positions:

(16)	45° 06'.00 N	12°40'.50 E	(7)	45° 07'.70 N	12°36'.50 E
(5)	45° 12'.00 N	12°42'.40 E	(14)	45° 08'.50 N	12°49'.50 E

AREA TO BE AVOIDED IN THE NORTH ADRIATIC SEA – Northern Part (amended)

Reference chart: No. 435 of the Italian Navy Hydrographical Institute, Edition 1993, Datum ED-50, and No. 101 of the Hydrographical Institute of the Republic of Croatia, Edition 1998, Datum Hermanskogel, Bessel Ellipsoid.

The co-ordinates listed below are in WGS 84 Datum

Description of the area to be avoided (amended)

7 In order to avoid the risk of pollution due to damage of oil rigs, oil and gas pipelines in this area the area described below should be avoided by ships of more than 200 gross tonnage. The area to be avoided is bounded by a line connecting the following geographical positions:

(7a)	44° 12'.80 N	013° 37'.50 E	(7f)	44° 52'.00 N	013° 17'.07 E
(7b)	44° 17'.00 N	013° 43'.77 E	(7g)	44° 52'.00 N	013° 05'.77 E
(7c)	44° 25'.30 N	013° 37'.47 E	(7h)	44° 37'.70 N	013° 07'.90 E
(7d)	44° 34'.50 N	013° 25'.47 E	(7i)	44° 23'.00 N	013° 14'.30 E
(7e)	44° 41'.90 N	013° 24'.97 E			

AREA TO BE AVOIDED IN THE NORTH ADRIATIC SEA – Southern Part (new)

Reference chart: No. 435 of the Italian Navy Hydrographical Institute, Edition 1993, Datum ED-50, and No. 101 of the Hydrographical Institute of the Republic of Croatia, Edition 1998, Datum Hermanskogel, Bessel Ellipsoid.

The co-ordinates listed below are in WGS 84 Datum

Description of the area to be avoided (new)

7 In order to avoid the risk of pollution due to damage of oil rigs, oil and gas pipelines in this area the area described below should be avoided by ships of more than 200 gross tonnage. The area to be avoided is bounded by a line connecting the following geographical positions:

(7l)	43° 58'.40 N	013° 52'.70 E	(7n)	44° 09'.00 N	013° 40'.50 E
(7m)	44° 01'.40 N	013° 56'.80 E	(7o)	44° 06'.60 N	013° 37'.90 E

AMENDMENT TO THE TRAFFIC SEPARATION SCHEME NORTH OF CANI ISLAND

(Reference chart: The nautical chart used is No. 150-DST from the catalogue of the Tunisian Hydrographic and Oceanographic Service, WGS 84, scale: 1/150000, published in 2006 (1st edition), covering the area from Ras Enghela to Ras Mostapha.)

Description of the amended traffic separation scheme

The proposed new traffic separation scheme will comprise:

- Two traffic lanes, three miles wide.
 - A separation zone between the two above-mentioned lanes, two miles wide.
 - Another separation zone, one mile wide, separating the eastbound traffic lane and the inshore traffic zone.
 - An inshore traffic zone in the form of a triangle, whose base is the separation zone located to the south of the scheme and whose apex is represented on the chart by the Cani Islands light (Lat: 37° 21' 19.8" N; Long: 010° 07' 33.7" E).
- (a) To the south of the TSS, a separation zone is established between the inshore traffic zone and the eastbound traffic lane, bounded by the following geographical positions:
- | | |
|--|---|
| 1: Lat : 37° 31' 25.9" N
Long: 010° 02' 27.7" E | 2: Lat: 37° 31' 25.9" N
Long: 010° 13' 22.7" E |
| 3: Lat: 37° 32' 25.9" N
Long: 010° 02' 27.7" E | 4: Lat: 37° 32' 25.9" N
Long: 010° 13' 22.7" E |
- (b) In the centre of the TSS, a separation zone is established between the eastbound and westbound traffic lanes, bounded by the following geographical positions:
- | | |
|---|---|
| 5: Lat: 37° 35' 25.9" N
Long: 010° 02' 27.7" E | 6: Lat: 37° 35' 25.9" N
Long: 010° 13' 22.7" E |
| 7: Lat: 37° 37' 25.9" N
Long: 010° 02' 27.7" E | 8: Lat: 37° 37' 25.9" N
Long: 010° 13' 22.7" E |
- (c) To the north of the TSS, a separation line is established between the westbound traffic lane and the open sea, bounded by the following geographical positions:
- | | |
|---|--|
| 9: Lat: 37° 40' 25.9" N
Long: 010° 02' 27.7" E | 10: Lat: 37° 40' 25.9" N
Long: 010° 13' 22.7" E |
|---|--|

Inshore traffic zone

- (a) The inshore traffic zone to be established to the south of the TSS will form a triangle whose base will be a line joining the following geographical positions:

1: Lat: 37° 31' 25.9" N Long: 010° 02' 27.7" E	2: Lat: 37° 31' 25.9" N Long: 010° 13' 22.7" E
---	---

and whose apex will be represented on chart 150-DST by the Cani Islands light, with the co-ordinates: Lat: 37° 21' 19.8" N; Long: 010° 07' 33.7" E.

AMENDMENT TO THE TRAFFIC SEPARATION SCHEME NORTH OF CAPE BON

(Reference chart: The nautical chart used is No. 150-DST from the catalogue of the Tunisian Hydrographic and Oceanographic Service, WGS 84 Datum, scale: 1/150000, published in 2006 (1st edition), covering the area from Ras Enghela to Ras Mostapha.)

Description of the amended traffic separation scheme

The proposed new traffic separation scheme will comprise:

- Two traffic lanes, three miles wide.
- A separation zone between the two above-mentioned lanes, two miles wide.
- Another separation zone, one mile wide, separating the eastbound traffic lane and the inshore traffic zone.
- An inshore traffic zone in the form of a triangle, whose base is the separation zone located to the south of the scheme and whose apex is represented on the chart by the Cape Bon light (Lat: 37° 04' 43.8" N; Long: 011° 02' 33.8" E).

(a) To the south of the TSS, a separation zone is established between the inshore traffic zone and the eastbound traffic lane, bounded by the following geographical positions:

1:	Lat : 37° 21' 03.9" N Long: 011° 06' 30.8" E	2:	Lat: 37° 16' 45.9" N Long: 011° 15' 42.8" E
3:	Lat: 37° 21' 55.9" N Long: 011° 07' 07.8" E	4:	Lat: 37° 17' 40.9" N Long: 011° 16' 22.8" E

(b) In the centre of the TSS, a separation zone is established between the eastbound and westbound traffic lanes, bounded by the following geographical positions:

5:	Lat: 37° 24' 31.9" N Long: 011° 09' 00.8" E	6:	Lat: 37° 20' 15.9" N Long: 011° 18' 17.8" E
7:	Lat: 37° 26' 15.9" N Long: 011° 10' 15.8" E	8:	Lat: 37° 22' 00.9" N Long: 011° 19' 27.8" E

(c) To the north of the TSS, a separation line is established between the westbound traffic lane and the open sea, bounded by the following geographical positions:

9:	Lat: 37° 28' 55.9" N Long: 011° 12' 09.8" E	10:	Lat: 37° 24' 36.9" N Long: 011° 21' 23.8" E
----	--	-----	--

Inshore traffic zone

(a) The inshore traffic zone to be established to the south of the TSS will form a triangle whose base will be a line joining the following geographical positions:

1:	Lat: 37° 21' 03.9" N Long: 011° 06' 30.8" E	2:	Lat: 37° 16' 45.9" N Long: 011° 15' 42.8" E
----	--	----	--

and whose apex will be represented on chart 150-DST by the Cape Bon light, with the co-ordinates: Lat: 37° 04' 43.8" N; Long: 011° 02' 33.8" E.

AMENDMENT TO THE TRAFFIC SEPARATION SCHEME OFF BOTNEY GROUND

(Reference Chart: British Admiralty 1632, 2005 edition)

Note: This chart is based on World Geodetic System 1984 Datum (WGS 84))

The proposed amendment consists of three distinct elements:

- Extension of the existing separation zone of the Off Botney Grounds TSS to the south west;
- Extension of the existing south west traffic lane of the Off Botney Grounds TSS to the south west; and
- Extension of the existing north east traffic lane of the Off Botney Grounds TSS to the south west.

Note: Certain geographical positions for the revised scheme also correspond to positions found in both the “Off Friesland” DWR and “Off Botney Ground” TSS. Such positions are identified below (e.g. equates to existing (46)) and any positional discrepancy is due to the use of the WGS 84 Datum for the revised scheme, as opposed to the ED 50 Datum for the original schemes.

a) An extension to the separation zone extension is bounded by the following geographical positions:

- | | | | |
|-----|--------------|---------------|--------------------------|
| (1) | 53° 35'.25 N | 003° 03'.05 E | Equates to existing (46) |
| (2) | 53° 36'.22 N | 002° 58'.80 E | Equates to existing (47) |
| (3) | 53° 21'.38 N | 002° 49'.20 E | |
| (4) | 53° 20'.69 N | 002° 52'.13 E | |
| (5) | 53° 29'.82 N | 002° 58'.05 E | |

b) An extension to the traffic lane for south west bound traffic is bounded by the extended separation zone in (a) above and a line connecting the following geographical positions:

- | | | | |
|-----|--------------|---------------|--------------------------|
| (6) | 53° 36'.70 N | 002° 56'.40 E | Equates to existing (53) |
| (7) | 53° 21'.88 N | 002° 46'.88 E | |

c) An extension to the traffic lane for north east bound traffic is bounded by the extended separation zone in (a) above and a line joining the following geographic positions:

- | | | | |
|------|--------------|---------------|--------------------------|
| (8) | 53° 20'.15 N | 002° 54'.48 E | |
| (9) | 53° 29'.40 N | 003° 00'.60 E | Equates to existing (61) |
| (10) | 53° 34'.66 N | 003° 05'.40 E | Equates to existing (54) |

ANNEX 20**ROUTEING MEASURES OTHER THAN TRAFFIC SEPARATION SCHEMES****ESTABLISHMENT OF AN AREA TO BE AVOIDED/MANDATORY NO ANCHORING AREA IN THE APPROACHES TO THE GULF OF VENICE**

(Reference chart: Italy 924, 2005 edition.

Note: This chart is based on DATUM Rome 1940.)

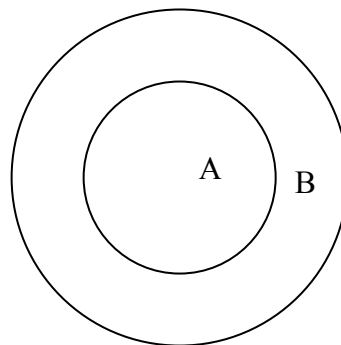
Description of an Area to be Avoided and Mandatory No Anchoring Area

(The co-ordinates listed below are in WGS 84 Datum)

Area to be Avoided and Mandatory No Anchoring Area

The area within the circle of 1.5 nautical miles centred on the following geographical position:

(1) 45° 05'.30 N 012° 35'.10 E

**Notes:**

A = Safety zone within a circle of 2,000 metres radius from the centre of the terminal.

B = Area to be Avoided/Mandatory No Anchoring Area within a circle of 1.5 nautical miles radius from the centre of the terminal (overlapping the safety zone).

ESTABLISHMENT OF A PRECAUTIONARY AREA OFF WEST COAST OF THE NORTH ISLAND OF NEW ZEALAND

(Reference Charts: New Zealand North Island NZ23. April 2005 Edition. (WGS 84 Datum).
Western Approaches to Cook Strait NZ48. April 2000 Edition. (WGS 84 Datum)).

Description of Precautionary Area

The precautionary area is defined by a line connecting the following geographical positions, the landward extent of which is determined by Mean High Water Springs (MHWS):

- (1) The charted line of MHWS at approximately 38° 31'.00 S 174° 37'.80 E
- (2) 39° 18'.50 S 173° 05'.00 E
- (3) 39° 26'.00 S 173° 01'.00 E
- (4) 40° 03'.00 S 173° 04'.00 E
- (5) 40° 10'.00 S 173° 16'.00 E
- (6) The charted line of MHWS at approximately 39° 53'.50 S 174° 54'.50 E

Note: All ships should navigate with particular caution in order to reduce the risk of a maritime casualty and resulting marine pollution in the precautionary area.

AMENDMENTS TO THE EXISTING DEEP-WATER ROUTE WEST OF THE HEBRIDES

(Reference Chart: British Admiralty 2635, 1996 edition.

Note: This chart is based on Ordnance Survey of Great Britain (1936) Datum.)

Description of the amended Deep Water Route west of the Hebrides

The amended deep water route is bounded by a line connecting the following geographical positions:

- (1) 56° 46'.75 N 008° 03'.00 W
56° 46'.74 N 008° 03'.05 W (WGS 84)
- (2) 57° 36'.80 N 008° 03'.00 W
57° 36'.78 N 008° 03'.05 W (WGS 84)
- (3) 58° 21'.40 N 007° 08'.00 W
58° 21'.37 N 007° 08'.06 W (WGS 84)
- (4) 58° 37'.40 N 006° 26'.00 W
58° 37'.37 N 006° 26'.07 W (WGS 84)
- (5) 58° 40'.54 N 006° 30'.76 W
58° 40'.51 N 006° 30'.83 W (WGS 84)

- (6) 58° 24'.23 N 007° 13'.58 W
58° 24'.20 N 007° 13'.64 W (WGS 84)
- (7) 57° 37'.97 N 008° 10'.50 W
57° 37'.94 N 008° 10'.55 W (WGS 84)
- (8) 56° 46'.75 N 008° 10'.29 W
56° 46'.74 N 008° 10'.34 W (WGS 84)

ESTABLISHMENT OF RECOMMENDED ROUTES IN THE MINCHES

(Reference charts: British Admiralty Chart No.2635, 1794, 1795.

Note: These charts are based on Ordnance Survey of Great Britain, 1936 (Datum).)

Description of recommended routes in the Minches

Recommended route for south-bound traffic is defined by a line connecting the following geographical positions:

- (1) 57° 58'.00 N 006° 17'.00 W (2) 57° 54'.00 N 006° 30'.00 W
57° 57'.98 N 006° 17'.07 W (WGS 84) 57° 53'.98 N 006° 30'.06 W (WGS 84)
- (3) 57° 47'.00 N 006° 41'.00 W
57° 46'.98 N 006° 41'.06 W (WGS 84)

Recommended route for north-bound traffic is defined by a line connecting the following geographical positions:

- (4) 57° 40'.00 N 006° 32'.14 W (5) 57° 45'.00 N 006° 16'.00 W
57° 40'.35 N 006° 32'.20 W (WGS 84) 57° 44'.98 N 006° 16'.06 W (WGS 84)
- (6) 57° 52'.00 N 006° 03'.00 W
57° 51'.98 N 006° 03'.07 W (WGS 84)

AMENDMENTS TO THE RECOMMENDATIONS ON NAVIGATION AROUND THE UNITED KINGDOM COAST

1 Amend resolution A.768(18), annex as follows:

Section 3.2 Reporting requirements

Amend Route "The Minches" to read as follows:

“

Route	Ship condition	Report to Coastguard	Report on VHF channel
The Minches	All Ships over 300 GT	Stornoway	16

”

2 Additionally, increase the number of reporting points (B, C, E and F) as detailed below.

	Reporting Reference	Latitude	Longitude
South Bound			
Initial report	When passing	58° 30'.00 N	
	B	57° 58'.00 N	006° 17'.00 W
	C	57° 28'.50 N	006° 54'.40 W
Final Report	When passing	57° 00'.00 N	
North Bound			
Initial Report	When passing	57° 00'.00 N	
	E	57° 23'.80 N	006° 51'.80 W
	F	57° 40'.40 N	006° 32'.00 W
Final Report	When passing	58° 30'.00 N	

ABOLITION OF THE AREA TO BE AVOIDED AROUND THE EC 2 LIGHTED BUOY

Amend resolution A.475 (XII) on Ships' Routeing as follows:

ANNEX 1

ROUTEING SYSTEMS OTHER THAN TRAFFIC SEPARATION SCHEMES

2 AREAS TO BE AVOIDED

2.1 IN THE ENGLISH CHANNEL AND ITS APPROACHES (new areas)

The area to be avoided (7) centred on geographical position 50° 12'.10 N, 001° 12'.40 W is abolished as a result of the discontinuation of the EC 2 Lighted Buoy in March 2007.

3 OTHER ROUTEING MEASURES

3.1 RECOMMENDED DIRECTIONS OF TRAFFIC FLOW IN THE ENGLISH CHANNEL

The recommended directions of traffic flow in the English Channel given in section 3.1 (as shown below) are cancelled as a result of the abolition of the area to be avoided.

~~“Ships proceeding from the traffic separation scheme “Off Casquets” to the traffic separation scheme “In the Dover Strait and Adjacent Waters” or vice versa are recommended to leave the mid-Channel areas to be avoided to port (see paragraph 2.1 of this Annex) proceeding parallel to a line connecting the centre of those areas.”~~

ANNEX 21

RESOLUTION MSC.229(82)

(adopted on 5 December 2006)

**ADOPTION OF A NEW MANDATORY SHIP REPORTING SYSTEM
“IN THE GALAPAGOS PARTICULARLY SENSITIVE SEA AREA (PSSA) (GALREP)”**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, in relation to the adoption of mandatory ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the Guidelines and criteria for ship reporting systems, adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety on Navigation at its fifty-second session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the new mandatory ship reporting system “In the Galapagos Particularly Sensitive Sea Area (PSSA) (GALREP)”, set out in the Annex to the present resolution;
2. DECIDES that the mandatory ship reporting system “In the Galapagos Particularly Sensitive Sea Area (PSSA) (GALREP)” will enter into force at 0000 hours UTC on 1 July 2007;
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of the Member Governments and SOLAS Contracting Governments to the 1974 SOLAS Convention.

ANNEX

**MANDATORY SHIP REPORTING SYSTEM
“IN THE GALAPAGOS PARTICULARLY SENSITIVE SEA AREA (PSSA) (GALREP)”**

1 Categories of ships required to participate in the system

1.1 All ships are required to participate in the mandatory ship reporting system.

2 Geographical coverage of the system and the number and edition of the reference chart used for delineation of the system

2.1 The operational area of GALREP covers the Galapagos Area to be Avoided and the Particularly Sensitive Sea Area as shown on the chartlet given in appendix 1.

2.1.1 The co-ordinates of the mandatory ship reporting system are as follows:

Point	Latitude	Longitude
A	02° 30' N	092° 21' W
D1	01° 26' N	089° 03' W
E1	00° 01' S	088° 06' W
F1	00° 12' S	088° 01' W
G1	00° 35' S	087° 54' W
H1	01° 02' S	087° 53' W
I1	02° 34' S	088° 48' W
J1	02° 46' S	089° 30' W
K1	02° 42' S	090° 42' W
L1	02° 05' S	092° 18' W
M1	01° 32' S	092° 44' W
L	01° 49' N	092° 40' W

2.2 The reference chart is I.O.A 20 (2nd edition 1992, updated and reprinted in 2006), issued by the Ecuadorean Navy Oceanography Institute (INOCAR), based on WGS 84 Datum.

3 Format and content of report, times and geographical positions for submitting reports, Authority to whom reports should be sent and available services

3.1 Reports may be sent by any modern means of communication, including Inmarsat C, telephone, fax and e-mail, and other available means as described in appendix 2.

3.2 *Format*

3.2.1 The ship report shall be drafted in accordance with the format shown in appendix 3. The information requested from ships is derived from the Standard Reporting Format shown in paragraph 2 of the appendix to IMO resolution A.851(20).

3.3 *Content*

3.3.1 A full report from a ship should contain the following information:

- A: Ship identification (name, call sign, IMO number, MMSI number or registration number)
- B: Date/time group
- C: Position
- E: True course
- F: Speed
- G: Name of last port of call
- I: Destination and expected time of arrival
- P: Type(s) of oil cargo, and quantity, quality and density. If these tankers are also carrying other hazardous material, the type, quantity and IMO classification should be stated, as appropriate.
- Q: Used in the event of defects or deficiencies which affect normal navigation
- T: Address for communication of information concerning cargo
- W: Number of persons on board
- X: Miscellaneous information concerning ships:
 - estimated quantity and characteristics of liquid fuel
 - navigational status (*e.g.*, moving under own propulsion, limited manoeuvrability, etc.)

3.3.2 Every reporting message must begin with the word GALREP and include a two-letter prefix to enable identification, *i.e.*, sailing plan “SP”, final report “FR” or deviation report “DR”. Messages using these prefixes will be cost-free to ships.

3.3.3 The reports must be written in accordance with the following table:

- .1 Designators A, B, C, E, F, G, I, P, T, W and X are compulsory for sailing plans;
- .2 Designators A, B, C, E and F must be used for final reports;
- .3 Designators A, B, C, E, F and I must be used for deviation reports; and
- .4 Designator Q is included whenever a problem arises in the reporting area, whether defects, damage, deficiencies or circumstances that affect normal navigation in the reporting area.

3.4 *Geographical position for submitting reports*

3.4.1 A ship must give a full report at the following positions:

- .1 on entering the reporting area;
- .2 immediately after leaving a port or anchorage located in the Galapagos PSSA (the co-ordinates of which are at appendix 4);
- .3 when deviating from the route leading to the port of destination or anchorage reported originally;

- .4 when it is necessary to deviate from the planned route owing to weather conditions, damaged equipment or a change in navigational status; and
- .5 on finally leaving the reporting area.

3.5 *Authority*

3.5.1 On entering the GALREP mandatory reporting area, ships must send a message to notify the Santa Cruz Maritime Rescue Sub-Centre via Puerto Ayora Radio or Baquerizo Moreno Radio. The Maritime Rescue Sub-Centres and coastal radio stations to which reports must be sent are shown in appendix 2.

3.5.2 If a ship is not able to send a message to Puerto Ayora Radio, it must send one to Baquerizo Moreno Radio, in accordance with the information given in appendix 2.

4 Information to be provided to ships and procedures to be followed

4.1 Ships are required to keep a continuous listening watch in the area.

4.2 The Puerto Ayora Maritime Rescue Sub-Centre will provide ships with the information necessary for safe navigation in the reporting area as required, using the radio transmission resources available in the area.

4.3 If necessary, a specific ship may be informed individually about particular local weather conditions.

5 Communication required for the system, frequencies on which reports should be transmitted and information reported

5.1 Radiocommunications required for the system is as follows:

The reports can be made by any modern means of communication, including Inmarsat C, telephone, fax, and email, and other available means as described in appendix 2.

5.2 Information of commercial confidential nature may be transmitted by non-verbal means.

5.3 The languages of communication used in this system are Spanish or English, using IMO Standard Marine Communication Phrases, where necessary.

6 Rules and regulations in force in the area of the system

6.1 *Vessel Traffic Services (VTS)*

Vessel traffic services are available at Puerto Ayora through Puerto Ayora Radio, which provides information for shipping in the Galapagos Particularly Sensitive Sea Area.

6.2 *SAR Plan*

6.2.1 The national maritime SAR plan establishes the Coast Guard Command as the maritime rescue co-ordination centre and DIGMER as the SAR co-ordination centre, with its headquarters under the supervision of the Director General for the Merchant Marine. The Galapagos PSSA comes under the jurisdiction of the Galapagos Archipelago administrative area, at the SAR co-ordination sub-centre for the island region, which is responsible for deploying coast guard units operating in that area.

6.2.2 The National Maritime Authority is responsible for prevention and control of pollution produced by oil and other harmful substances in Ecuador's waters and along its coasts. Given the extent of the damage that can be caused by oil spills, there is a national contingency plan to deal with them, whether at sea or along the coasts or rivers. The plan covers the mainland waters, the Galapagos island waters and the rivers of the western region. With regards to planning, implementation and control, geographical areas have been established corresponding to the maritime section of the island region, which includes the Galapagos PSSA, under the responsibility of the island naval operations command in co-ordination with the harbour masters' offices at Puerto Ayora, Puerto Baquerizo Moreno, Puerto Villamil and Seymour, and supported by the fleet air arm, the coast guard and the Galapagos National Park.

7 Shore-based facilities to support the operation of the system

7.1 *System capability*

7.1.1 The VTS, Maritime Rescue Sub-Centres, and coastal radio stations are shown in appendix 2; all have skilled personnel constantly on duty.

7.1.2 The accepted means of radiocommunication that are available are listed in appendix 2.

8 Information concerning the applicable procedures if the communication facilities of shore based Authority fail

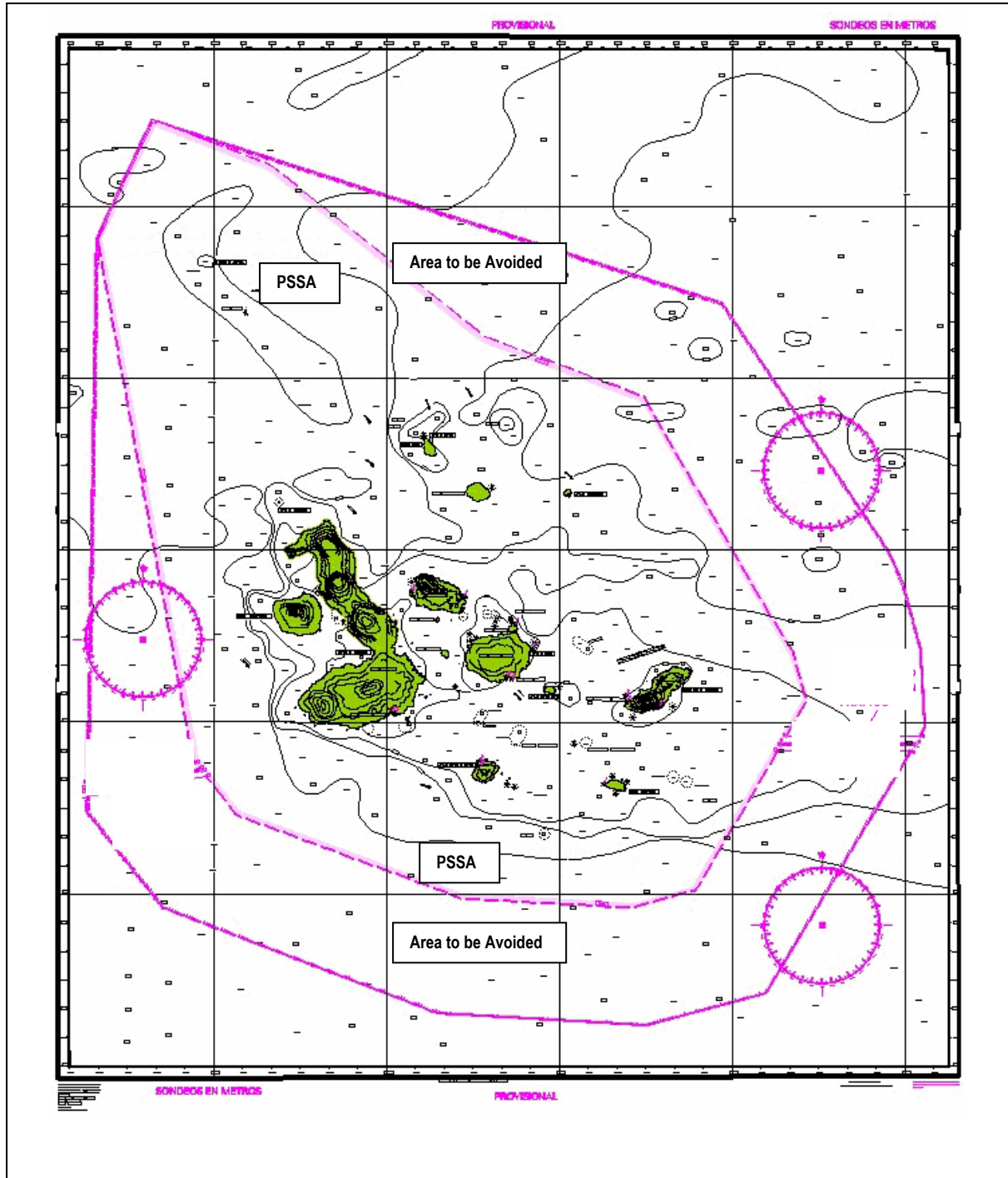
If a ship is not able to send a message to Puerto Ayora Radio, it must send one to Baquerizo Moreno Radio, in accordance with the information given in appendix 2.

9 Measures to be taken if a ship fails to comply with the requirements of the system

If a ship in breach of the mandatory ship reporting system can be identified, any enforcement actions taken shall not be incompatible with international law.

APPENDIX 1

Chart of area covered by the mandatory ship reporting system



APPENDIX 2

Vessel traffic services, maritime rescue sub-centres, coastal radio stations and other establishments to which reports must be sent.

ECUADOR – GALAPAGOS ISLANDS

SANTA CRUZ: PUERTO AYORA RADIO

Name: HCY

Geographical co-ordinates: 00° 44'.59 S, 090° 28'.29 W

MRSC – SAR Puerto Ayora: 00° 44'.59 S, 090° 28'.29 W

Tel. : + 593 5 2527473

Fax : + 593 5 2527473

E-mail: ayoraradio@islasantacruz.com

Inmarsat-C: 473575713

Inmarsat Mini – M:

Voice : 761609548

Fax : 761609549

Data : 761609550

VHF channels:

156.800 MHZ H-24 SIMPLEX C-16

156.525 MHZ H-24 SIMPLEX C-70

MF channels:

4125.0 KHZ H-24 SIMPLEX C-421

2182.0 KHZ H-24 SIMPLEX

2187.5 KHZ H-24 DSC SIMPLEX

MMSI: 007354757.

PUERTO BAQUERIZO MORENO: BAQUERIZO MORENO RADIO

Name: HCW

Geographical co-ordinates: 00° 54' S, 089° 37' W

MRSC – SAR Puerto Baquerizo Moreno: 00° 54' S, 089° 37' W

Tel. : +593 5 2520346

Fax : +593 5 2520346

E-mail : capbaq@digmer.org

VHF channels :

156.800 MHZ H-24 SIMPLEX C-16

156.525 MHZ H-24 SIMPLEX C-70

MF channels:

4125.0 KHZ H-24 SIMPLEX C-421

2182.0 KHZ H-24 SIMPLEX

2187.5 KHZ H-24 DSC SIMPLEX

MMSI: 007350090

APPENDIX 3

Designator	Function	Text
System name	Code word	GALREP
	Type of report: Sailing plan: Final report: Deviation report	One of the following 2-letter identifiers: SP FR (on <u>finally</u> leaving reporting area) to include only A, B, C, E and F . DR to include only A, B, C, E, F and I .
A	Ship	Name and call sign (Name of ship, call sign, IMO No. and MMSI No.), (e.g., TAURUS/HC4019/T-04-0561)
B	Date and time corresponding to position at C, expressed as UTC.	A six-digit group followed by a Z. The first two digits indicate day of the month, the second two the hours and the last two the minutes. The Z indicates that the time is given in UTC (e.g., 081340Z).
C	Position (latitude and longitude)	A 4-digit group giving latitude in degrees and minutes, with the suffix N or S, and a 5-digit group giving longitude in degrees and minutes, with the suffix W (e.g., 0030S 08805W).
E	Course	True course. A 3-digit group (e.g., 270).
F	Speed	Speed in knots. A 2-digit group (e.g., 14).
G	Name of last port of call	Name of the last port of call (e.g., Guayaquil)
I	Destination and ETA (UTC)	Name of destination and date and time group as expressed in B (e.g., Puerto Ayora 082200Z)
P	Cargo	Type(s) of oil cargo, quantity, quality and density of heavy crude, heavy fuel, asphalt and coal tar. If the ships are carrying other potentially hazardous cargoes, indicate type, quantity and IMO classification (e.g., 10,000 TN DIESEL OIL).
Q	Defects, damage, deficiencies, limitations.	Brief details of defects, including damage, deficiencies and other circumstances that impair normal navigation.
T	Address for the communication of cargo information	Name, telephone no., and either fax or e-mail
W	Total no. of people on board	State how many
X	Miscellaneous	Miscellaneous information concerning these ships: Characteristics and approximate quantity of bunker fuel for tankers carrying an amount of it greater than 5,000 tonnes. Navigational status (e.g., at anchor, moving under own propulsion, no steering, limited manoeuvrability, depth restriction, moored, aground, etc.)

APPENDIX 4

Particularly Sensitive Sea Area (PSSA)

Point	Latitude	Longitude
A	02° 30' N	092° 21' W
B	02° 14' N	091° 40' W
C	01° 14' N	090° 26' W
D	00° 53' N	089° 30' W
E	00° 35' S	088° 38' W
F	00° 52' S	088° 34' W
G	01° 59' S	089° 13' W
H	02° 05' S	089° 34' W
I	02° 01' S	090° 35' W
J	01° 32' S	091° 52' W
K	01° 13' S	092° 07' W
L	01° 49' N	092° 40' W

ANNEX 22

RESOLUTION MSC.230(82)

(adopted on 5 December 2006)

**ADOPTION OF AMENDMENTS TO THE EXISTING MANDATORY SHIP
REPORTING SYSTEM “IN THE STOREBÆLT (GREAT BELT) TRAFFIC AREA”**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, in relation to the adoption of mandatory ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the Guidelines and criteria for ship reporting systems, adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety on Navigation, at its fifty-second session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the amendments to the existing mandatory ship reporting system “In the Great Belt Traffic Area”, set out in the Annex to the present resolution;
2. DECIDES that the said amendments to the existing mandatory ship reporting system “In the Storebælt (Great Belt) Traffic Area (BELTREP)” will enter into force at 0000 hours UTC on 1 July 2007;
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of the Member Governments and SOLAS Contracting Governments to the 1974 SOLAS Convention.

ANNEX

MANDATORY SHIP REPORTING SYSTEM “IN THE STOREBÆLT (GREAT BELT) TRAFFIC AREA (BELTREP)”

1 Categories of ships required to participate in the system

1.1 Ships required to participate in the ship reporting system:

1.1.1 ships with a gross tonnage of 50 and above; and

1.1.2 all ships with an air draught of 15 m or more.

2 Geographical coverage of the system and the number and edition of the reference chart used for delineation of the system

2.1 The operational area of BELTREP covers the central and northern part of the Storebælt (Great Belt) and the Hatter Barn area north of Storebælt (Great Belt) as shown below and on the chartlet given in Appendix 1. The area includes the routeing systems in the Storebælt (Great Belt) area and at Hatter Barn.

2.1.1 Northern borderlines

Fyn: 55° 36'.00 N, 010° 38'.00 E (Korshavn)

Samsø: 55° 47'.00 N, 010° 38'.00 E (East coast of Samsø)

56° 00'.00 N, 010° 56'.00 E (At sea near Marthe Flak)

Sjælland: 56° 00'.00 N, 011° 17'.00 E (Sjællands Odde)

2.1.2 Southern borderlines

Stignæs: 55° 12'.00 N, 011° 15'.40 E (Gulf Oil's Pier)

Omø: 55° 08'.40 N, 011° 09'.00 E (Ørespids, Omø)

55° 05'.00 N, 011° 09'.00 E (At sea South of Ørespids)

Langeland E: 55° 05'.00 N, 010° 56'.10 E (Snøde Øre)

Langeland W: 55° 00'.00 N, 010° 48'.70 E (South of Korsebølle Rev)

Thurø Rev: 55° 01'.20 N, 010° 44'.00 E (Thurø Rev Light buoy)

2.1.3 The area is divided into two sectors at latitude 55° 35'.00 N; each sector has an assigned VHF channel as shown in appendix 2.

2.2 The reference charts which include the operational areas of BELTREP are Danish charts Nos. 112 (11th edition 2005), 128 (8th edition 2005) 141 (18th edition 2006), 142 (15th edition 2006), 143 (16th edition 2005) and 160 (6th edition 2006) (Datum: World Geodetic System 1984, WGS 84), which provide large-scale coverage of the VTS area.

3 Format, content of reports, times and geographical positions for submitting reports, Authority of whom reports should be sent and available services

3.1 Reports to the VTS authority should be made using VHF voice transmissions. However ships equipped with AIS (automatic identification system) can fulfil certain reporting requirements of the system through the use of AIS approved by the Organization.

3.2 A ship must give a full report when entering the mandatory ship reporting area. The full report may be combined by voice or by non-verbal means. A ship may select, for reason of commercial confidentiality, to communicate that section of the report, which provides information on next port of call by non-verbal means prior to entering the ship reporting area.

3.3 Format

3.3.1 The ship report shall be drafted in accordance with the format shown in appendix 3. The information requested from ships is derived from the Standard Reporting Format shown in paragraph 2 of the appendix to IMO resolution A.851(20).

3.4 Content

3.4.1 A full report from a ship to the VTS Authority by voice or by non-verbal means should contain the following information:

- A Name of the ship, call sign and IMO identification number (if available)
- C Position expressed in latitude and longitude
- I Next port of call
- L Route information on the intended track through the Storebælt (Great Belt) area.
- O Maximum present draught
- Q Defects and deficiencies
- U Deadweight tonnage and air draught

3.4.2 A short report by voice from a ship to the VTS authority should contain the following information:

- A Name of the ship, call sign and IMO identification number (if available)
- C Position expressed in latitude and longitude

Note: On receipt of a report, operators of the VTS Authority will establish the relation to the ship's position and the information supplied by the facilities available to them. Information on position will help operators to identify a ship. Information on current in specific parts of the VTS area will be provided to the ship.

3.5 Geographical position for submitting reports

3.5.1 Ships entering the VTS area shall submit a full report when crossing the lines mentioned in paragraph 2.1, 2.1.1 and 2.1.2 or on departure from a port within the VTS area.

3.5.2 Ships passing the reporting line between sector 1 and sector 2 at latitude 55° 35'.00 N. shall submit a short report.

3.5.3 Further reports should be made whenever there is a change in navigational status or circumstance, particularly in relation to item Q of the reporting format.

3.6 *Crossing traffic*

3.6.1 Recognizing that ferries crossing Samsø Bælt from Århus, Ebeltoft and Samsø to Odde and Kalundborg generally operate in accordance with published schedules special reporting arrangements can be made on a ship-to-ship basis.

3.7 *Authority*

3.7.1 The VTS Authority for the BELTREP is Great Belt VTS.

4 Information to be provided to ships and procedures to be followed

4.1 Ships are required to keep a continuous listening watch in the area.

4.2 BELTREP provides information to shipping about specific and urgent situations, which could cause conflicting traffic movements as well as other information concerning safety of navigation for instance, information about weather, current, ice, water level, navigational problems or other hazards.

4.2.1 Information of general interest to shipping in the area will be given by request or will be broadcasted by BELTREP on VHF channel as specified by the VTS operator. A broadcast will be preceded by an announcement on VHF channel 16. All ships navigating in the area should listen to the announced broadcast.

4.2.2 If necessary BELTREP can provide individual information to a ship particularly in relation to positioning and navigational assistance or local conditions.

4.3 If a ship needs to anchor due to breakdown, low visibility, adverse weather, changes in the indicated depth of water, etc. BELTREP can recommend suitable anchorages and place of refuge within the VTS area. The anchorages are marked on the nautical charts covering the area and are shown on the chartlet in appendix 1.

5 Communication required for the system, frequencies on which reports should be transmitted and information reported

5.1 *Radio communications required for the system is as follows:*

5.1.1 The reports to the VTS authority can be made by voice on VHF radio using:

- In sector 1: Channel 74
- In sector 2: Channel 11

5.1.2 Information of commercial confidential nature may be transmitted by non-verbal means.

5.1.3 Broadcast by BELTREP and individual assistance to ships will be made on channel 10 or on any other available channel as assigned by BELTREP.

5.2 BELTREP is monitoring VHF channels 10, 11, 74 and 16.

5.3 The language used for communication shall be English, using IMO Standard Marine Communication Phrases, where necessary.

6 Rules and regulations in force in the area of the system

6.1 Regulations for preventing collisions at sea

6.1.1 The International Regulations for Preventing Collisions at sea are applicable throughout the operational area of BELTREP.

6.2 Traffic separation scheme "Between Korsoer and Sprogø"

6.2.1 The Traffic separation scheme "Between Korsoer and Sprogø", situated in the narrows of the Eastern Channel between the islands of Fyn and Sjælland, has been adopted by IMO, and rule 10 of the International Regulations for Preventing Collisions at Sea therefore applies.

6.3 Traffic separation scheme "At Hatter Barn"

6.3.1 The separation scheme "At Hatter Barn" situated north of the Storebælt (Great Belt) between the islands of Sjælland and Samsø, has been adopted by IMO, and rule 10 of the International Regulations for Preventing Collisions at Sea therefore applies.

6.3.2 The minimum depth in the traffic separation scheme is 15 metres at mean sea level. Ships with a draught of more than 13 meters should use the deep-water route, which lies west of the traffic separation scheme.

6.4 The Great Belt Bridges

6.4.1 Passage through the marked spans at the West Bridge is allowed only for ships below 1,000 tonnes deadweight and with an air draught of less than 18 metres.

6.4.2 Passage through the traffic separation scheme under the East Bridge is allowed only for ships with an air draught of less than 65 metres. There is a recommended speed limit of 20 knots in the traffic separation scheme.

6.5 IMO resolution MSC.138(76)

6.5.1 IMO resolution MSC.138(76) on Recommendation on Navigation through the entrances to the Baltic Sea, adopted on 5 December 2002, recommends that ships with a draught of 11 metres or more or ships irrespective of size or draught, carrying a shipment of irradiated nuclear fuel, plutonium and high-level radioactive wastes (INF-cargoes) should use the pilotage services locally established by the coastal States.

6.6 Mandatory pilotage

6.6.1 Harbours within the BELTREP area are covered by provisions about mandatory pilotage for certain ships bound for or coming from Danish harbours.

7 Shore based facilities to support the operation of the system

7.5.1 System capability

7.1.1 The control centre is situated at the Naval Regional Centre at Korsør. The VTS system comprises several remote sensor sites. The sites provide surveillance of the VTS area using a combination of radar, radio direction finding, Automatic Identification System (AIS) and electro-optic sensors. An integrated network of seven radar systems integrated with AIS provides surveillance of the VTS area.

7.1.2 All the sensors mentioned will be controlled or monitored by the VTS operators.

7.1.3 There are five operator consoles in the control centre, one of which is intended for system maintenance and diagnostic purposes, which allows these activities to be carried out without disruption of the normal operations. The operator can from each of the consoles control and display the status of the sensors. The VTS centre will at all times be manned with a duty officer and three operators.

7.1.4 Recording equipment automatically stores information from all tracks, which can be replayed. In case of incidents the VTS authority can use records as evidence. VTS operators have access to different ship registers, pilot information and hazardous cargo data.

7.2 Radar, electro-optic facilities and other sensors

7.5.2 Information necessary to evaluate the traffic activities within the operational area of BELTREP is compiled via VTS area remote controlled sensors comprising:

- High-resolution radar systems;
- infra-red sensor systems;
- daylight TV systems;
- VHF communications systems; and
- DF systems.

7.3 Radio communication facilities

7.5.3 Radio communication equipment in the control centre consists of six VHF radios including DSC facilities. The VHF channels used are:

- Channel 74 Working channel
- Channel 11 Working channel
- Channel 10 Broadcast channel and reserve channel

7.4 AIS facilities

7.4.1 BELTREP is linked to the national shore based AIS network and can continually receive messages broadcast by ships with transponders to gain information on their identity and position. The information is displayed as part of the VTS system and is covering the VTS area.

7.5 *Personnel qualifications and training*

7.5.4 The VTS centre is staffed with civilian personnel all experienced as officers at a competency level required in the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers chapter II, section A-II/1 or A-II/2.

7.5.2 Training of personnel will meet the standards recommended by IMO. Furthermore it will comprise an overall study of the navigation safety measures established in Danish waters and in particular the operational area of BELTREP including a study of relevant international and national provisions with respect to safety of navigation. The training also includes real-time training in simulators.

7.5.5 Refresher training is carried out at least every third year.

8 Information concerning the applicable procedures if the communication facilities of shore-based Authority fail

8.1 The system is designed with sufficient system redundancy to cope with normal equipment failure.

8.2 In the event that the radio communication system or the radar system at the VTS centre breaks down, the communications will be maintained via a standby VHF system. To continue the VTS operation in order to avoid collisions in the bridge area, Great Belt VTS has two options. Either to man the VTS emergency centre at Sprogø or to hand over the responsibility to the VTS Guard vessel, which at all times is stationed in the BELTREP operational area.

8.3 The VTS emergency centre is equipped with radar, VHF radio sets and CCTV cameras.

8.4 The VTS Guard vessel is equipped with VHF and radars with ARPA and AIS. Furthermore, it is equipped with ECDIS, which displays radar targets.

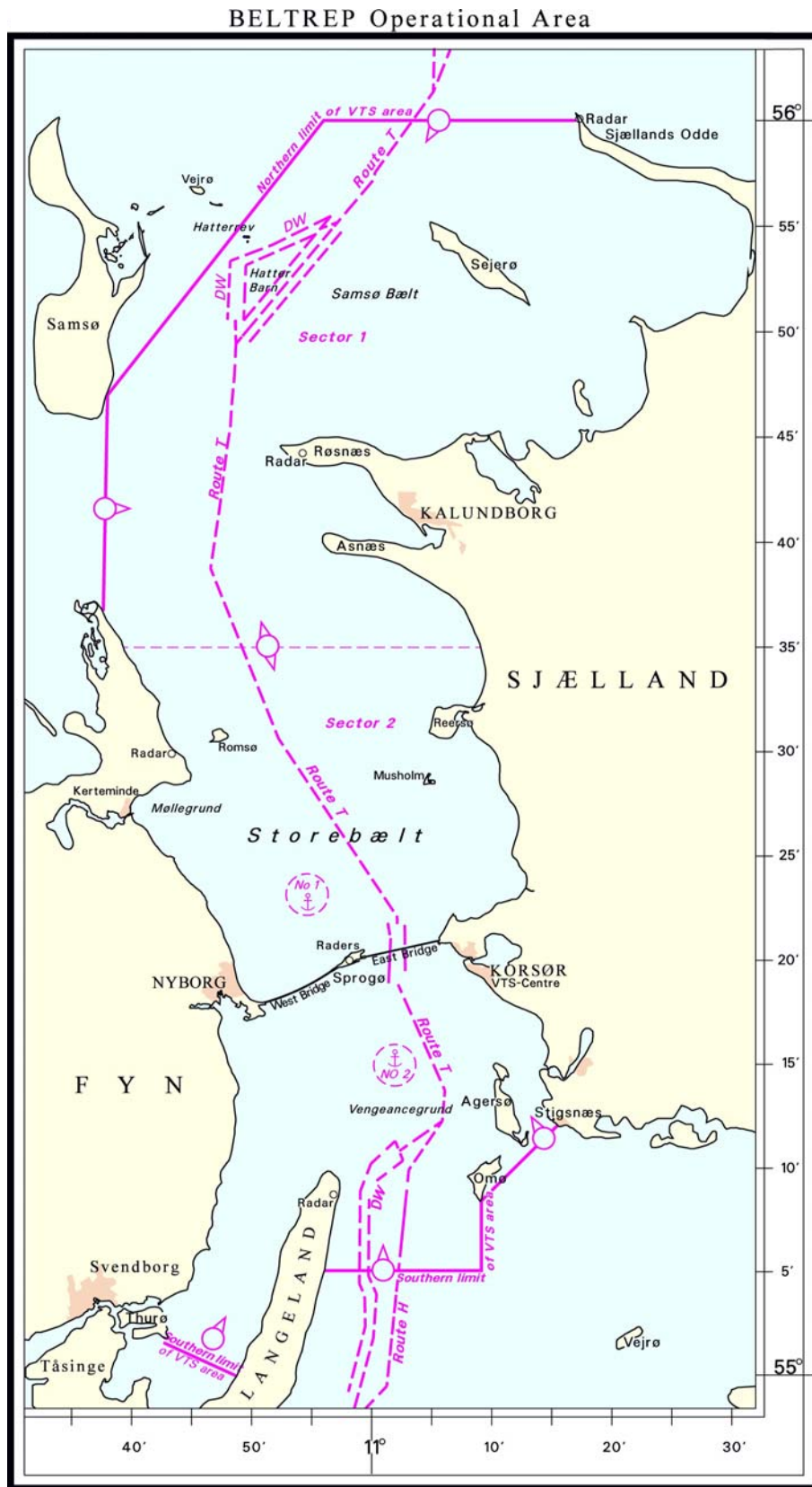
9 Measures to be taken if a ship fails to comply with the requirements of the system

9.1 The objective of the VTS Authority is to facilitate the exchange of information between the shipping and the shore in order to ensure safe passages of the bridges, support safety of navigation and protection of the marine environment.

9.2 The VTS Authority seeks to prevent collisions with the bridges crossing Storebælt (Great Belt). When a ship appears to be on a collision course with one of the bridges, the VTS guard vessel will be sent out to try to prevent such a collision.

9.3 All means will be used to encourage and promote the full participation of ships required to submit reports under SOLAS regulation V/11. If reports are not submitted and the offending ship can be positively identified, then information will be passed to the relevant Flag State Authority for investigation and possible prosecution in accordance with national legislation. Information will also be made available to Port State Control inspectors.

Appendix 1



Appendix 2

Assigned VHF channels for sectors in the mandatory reporting system

IN THE STOREBÆLT (GREAT BELT) AREA (BELTREP)

Sector	VHF Channel	Authority receiving the report
Sector 1	VHF Channel 74	Great Belt VTS
Sector 2	VHF Channel 11	Great Belt VTS

Appendix 3

Drafting of radio reports to the mandatory ship reporting system
In the Storebælt (Great Belt) Area (BELTREP)

Designator	Function	Information required
A	Ship	Name of the ship, call sign and IMO identification number (if available)
C	Position	A 4-digit group giving latitude in degrees and minutes suffixed with N and a 5-digit group giving longitude in degrees and minutes suffixed with E
I	Next port of call	The name of the expected destination
L	Route	A brief description of the intended route as planned by the master (see below)
O	Draught	A 2 or 3-digit group giving the present maximum draught in metres (E.g.: 8.7 metres or 10.2 metres)
Q	Defects and deficiencies	Details of defects and deficiencies affecting the equipment of the ship or any other circumstances affecting normal navigation and manoeuvrability
U	Deadweight tonnage and air draught	

Examples of routes as given under designator L

Example 1. A southbound ship with a draught of 13.2 metres:
DW route at Hatter Barn
Route T
DW route off east coast of Langeland

Example 2. A northbound ship with a draught of 5.3 metres:
Route H
Route T at Agersø Flak
TSS at Hatter Barn

Example 3. A small southbound ship:
Coastal east of Fyn
West Bridge
Between Fyn and Langeland

ANNEX 23

RESOLUTION MSC.231(82)

(adopted on 5 December 2006)

**ADOPTION OF AMENDMENTS TO THE EXISTING MANDATORY SHIP
REPORTING SYSTEM “IN THE GULF OF FINLAND”**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, in relation to the adoption of mandatory ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the Guidelines and criteria for ship reporting systems, adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety on Navigation, at its fifty-second session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the amendments to the existing mandatory ship reporting system “In the Gulf of Finland”, set out in the Annex to the present resolution;
2. DECIDES that the said amendments to the existing mandatory ship reporting system “In the Gulf of Finland Traffic Area ” will enter into force at 0000 hours UTC on 1 July 2007;
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of the Member Governments and SOLAS Contracting Governments to the 1974 SOLAS Convention.

ANNEX

**AMENDMENTS TO THE EXISTING MANDATORY SHIP REPORTING SYSTEM
“IN THE GULF OF FINLAND”**

Amend sub-section 1.1 to read as follows:

1.1 Ships of 300 gross tonnage and over are required to participate in the mandatory ship reporting system. Ships under 300 gross tonnage should make reports in circumstances where they:

- .1 are not under command or at anchor in the TSS;
- .2 are restricted in their ability to manoeuvre; and
- .3 have defective navigational aids.

Amend sub-section 2.1 to read as follows:

2.1 The mandatory ship reporting system in the Gulf of Finland covers the international waters in the Gulf of Finland. In addition, Estonia and Finland have implemented mandatory ship reporting systems to their national water areas outside VTS areas. These reporting systems provide same services and make same requirements to shipping as the system operating in the international waters. The mandatory ship reporting system and the Estonian and Finnish national mandatory ship reporting systems are together referred as the GOFREP and their area of coverage respectively as the GOFREP area.

Amend sub-section 2.2 to read as follows:

2.2 The reference charts are:

- .1 Finnish Maritime Administration chart 901 (2006 edition, scale 1:200 000), Geodetic datum is the national geodetic chart coordinate system (KKJ). WGS 84 latitude correction is -0'.01 and the longitude correction +0'.19. Finnish Maritime Administration charts 952 (2004 edition, scale 1:250 000) and 953 (2004 edition, scale 1:250 000). Geodetic datum for charts 952 and 953 is WGS 84.
- .2 Head Department of Navigation and Oceanography RF Ministry of Defence charts 22060-INT1213 (edition 2000, scale 1:250000). Geodetic datum of year 1942 (Pulkovo). For obtaining position in WGS 84 datum such positions should be moved 0,12' westward. 22061-INT1214 (edition 2002, scale 1:250000). For obtaining position in WGS 84 datum such positions should be moved 0,14' westward.
- .3 Estonian Maritime Administration updated charts 502, 504, 507, 509, 511 (all charts in scale 1:100 000, WGS 84 Datum).

Borderline point by point of the Gulf of Finland ship reporting area

(The co-ordinates below are in WGS 84 Datum)

1)	59° 33'.30 N	022° 30'.00 E	26)	60° 08'.50 N	026° 57'.50 E
2)	59° 36'.50 N	022° 38'.10 E	27)	60° 08'.20 N	026° 54'.50 E
3)	59° 38'.10 N	022° 51'.40 E	28)	60° 05'.00 N	026° 49'.00 E
4)	59° 39'.40 N	023° 21'.10 E	29)	60° 08'.90 N	026° 49'.00 E
5)	59° 47'.00 N	024° 12'.40 E	30)	60° 06'.50 N	026° 38'.00 E
6)	59° 47'.80 N	024° 19'.90 E	31)	60° 06'.10 N	026° 32'.20 E
7)	59° 49'.00 N	024° 29'.30 E	32)	60° 05'.00 N	026° 30'.00 E
8)	59° 53'.50 N	024° 47'.10 E	33)	59° 57'.00 N	026° 30'.00 E
9)	59° 55'.30 N	024° 55'.80 E	34)	59° 56'.30 N	026° 26'.10 E
10)	59° 56'.60 N	025° 10'.20 E	35)	59° 54'.00 N	026° 09'.10 E
11)	59° 55'.90 N	025° 28'.30 E	36)	59° 48'.90 N	026° 01'.20 E
12)	59° 55'.70 N	025° 35'.00 E	37)	59° 49'.60 N	025° 34'.60 E
13)	59° 55'.90 N	025° 37'.20 E	38)	59° 42'.20 N	024° 28'.80 E
14)	59° 58'.60 N	026° 01'.00 E	39)	59° 34'.60 N	023° 57'.10 E
15)	60° 00'.80 N	026° 04'.50 E	40)	59° 28'.90 N	023° 31'.20 E
16)	60° 02'.30 N	026° 11'.30 E	41)	59° 29'.00 N	023° 11'.40 E
17)	60° 02'.80 N	026° 17'.70 E	42)	59° 28'.20 N	023° 08'.50 E
18)	60° 09'.20 N	026° 29'.50 E	43)	59° 27'.40 N	023° 06'.40 E
19)	60° 09'.70 N	026° 36'.70 E	44)	59° 17'.50 N	022° 43'.90 E
20)	60° 11'.40 N	026° 44'.50 E	45)	59° 17'.70 N	022° 36'.10 E
21)	60° 12'.00 N	026° 45'.90 E	46)	59° 16'.20 N	022° 23'.80 E
22)	60° 12'.00 N	027° 13'.40 E	47)	59° 14'.70 N	022° 18'.40 E
23)	60° 12'.00 N	027° 17'.60 E	48)	59° 03'.40 N	021° 50'.90 E
24)	60° 10'.30 N	027° 10'.90 E	49)	59° 02'.10 N	021° 49'.00 E
25)	60° 08'.50 N	027° 04'.20 E	50)	59° 10'.0 N	021° 30'.00 E

Amend section 3 to read as follows:

Short report is always reported verbally on VHF. The short title for ship report is GOFREP. Vessels are urged to update their AIS information before entering the Gulf of Finland since they may fulfil the Full Report reporting requirements through the use of AIS. In cases where it is not possible to transmit the report fully with AIS additional information may be reported by other means.

Amend sub-section 3.2.1 to read as follows:

3.2.1 A short report by voice from a ship to the shore-based Authorities should contain the following information:

- A Vessel's name, call sign and IMO identification. MMSI may be reported.
- C Geographical position by two 6-digit groups; or
- D Bearing and distance in nautical miles from a clearly identified landmark and
- E True course in three (3) digit group.

Amend sub-section 3.2.2 to read as follows:

3.2.2 A full report from a ship to the shore-based Authorities by voice or by non-verbal means should contain the following information:

- A Vessel's name, call sign and IMO identification. MMSI may be reported.
- C Geographical position by two 6-digit groups; or
- D Bearing and distance in nautical miles from a clearly identified landmark and
- E True course in three (3) digit group.
- F Speed in knots with one decimal.
- H Time (UTC) and point of entry into the GOFREP area.
- I Destination and ETA.
- O Vessel's present draught in metres with one decimal.
- P Dangerous goods on board, main classes and total quantity in metric tons with up to two decimals. The amount of classes 1 and 7, if any, shall be reported separately.*)
- Q Brief details of defects or restrictions of manoeuvrability.
- R Description of pollution or dangerous goods lost overboard.
- T Address for the communication of cargo information.
- U Ship's type and length in meters.
- W Total number of persons onboard.
- X Characteristics and estimated quantity of bunker fuel for ships carrying more than 5,000 tons of bunker and navigational status.

*) In addition to designator P report, information on cargo other than dangerous goods is collected from all ships entering or leaving the ports of European Union countries in the Gulf of Finland. Ships are not required to report the information on cargo other than dangerous goods. Information is asked from ships only if it can not be obtained by other means.

All VHF, telephone, radar, AIS and other relevant information will be recorded and the records stored for 30 days.

Amend sub-section 3.3 to read as follows:

3.3.1 The Gulf of Finland mandatory Ship Reporting System area is divided into three areas of monitoring responsibility with a borderline. This borderline is referred as Central Reporting Line and it consists of two parts.

The western part is drawn through the midpoints of the separation zones of the traffic separation schemes off Kõpu, Hankoniemi, Porkkala and Kalbådagrund to 59° 59'.15 N 026°30'.00 E.

The eastern part of the Central Reporting Line is drawn from the point 59° 57'.0 N 026° 30'.00 E to 60° 05'.00 N 026° 30'.00 E and further through the borderline of the Russian territorial sea and the outer limit of the Finnish Exclusive Economic Zone eastwards until the point 60° 08'.90 N 026° 49'.00 E. From this point the Central Reporting Line continues through the limit of the Exclusive Economical Zone (EEZ) of Finland and the EEZ of Russia further to the point 60° 10'.30 N 026° 57'.50 E to 60° 10'.30 N 027° 10'.90 E and to 60° 12'.00 N 027°17'.60 E.

Monitoring of the GOFREP area north of the Central Reporting Line is the responsibility of the Helsinki Traffic and, south of the Central Reporting Line in the area west of longitude 26° 30'.00 E is the monitoring area of the Tallinn Traffic and east of the longitude 26° 30'.00 E south of the Central Reporting Line is the monitoring area of St. Petersburg Traffic. Thus,

- the vessels entering the mandatory ship reporting area north of the Central Reporting Line report to Helsinki Traffic,
- south of the Central Reporting Line east of longitude 26° 30'.00 E report to St. Petersburg Traffic, and
- south of the Central Reporting Line west of longitude 26° 30'.00 E or from Väinameri report to Tallinn Traffic.

3.3.2 Ships shall submit a Full Report:

1. when entering the GOFREP area from the west or from Väinameri,
2. on departure from a port or latest before entering the reporting area,
3. on departure from a port if it shall not enter the reporting area at all,
4. before departing from Russian Port areas.

A Full Report on departure from a port is given to the Traffic Centre of the country whose port the vessel is departing in the Gulf of Finland traffic area.

3.3.3 Ships that are registered in domestic traffic navigating exclusively inside the inner territorial waters are not required to make a Full Report when departing from a port in the Gulf of Finland.

3.3.4 Ships shall submit a Short Report:

1. on entering the GOFREP area from the Estonian or Finnish VTS areas in the Gulf of Finland,
2. on crossing the Western or Väinameri Reporting Line inward-bound to Gulf of Finland,
3. on crossing the Central Reporting Line,
4. whenever there is a change in the vessel's navigational status excluding the change of status when berthing or unberthing.

Short Report is given on VHF when crossing the Central Reporting Line to the Traffic Centre of the country to which monitoring area the vessel is proceeding.

Amend sub-section 4.1.1 to read as follows:

4.1.1 Each Authority provides information to shipping about specific and urgent situations which could cause conflicting traffic movements and other information concerning safety of navigation, for instance information about weather, ice, water level, navigational problems or other hazards. Information is broadcast on the following frequencies when necessary or on request.

Station	Frequency	Times	Additional broadcasts in wintertime
Tallinn	Main channel 61 Reserve channel 81	on request or when needed	on request or when needed
Helsinki	Main channel 60 Reserve channel 80	on request or when needed	on request or when needed
St. Petersburg	Main channel 74 Reserve channel 10	on request or when needed	on request or when needed

Amend sub-section 5.4 to read as follows:

5.4 The reports can be made verbally on VHF, by AIS or by facsimile as follows:

- Full Report in advance is to be sent by facsimile or e-mail.
- Short Report is to be made verbally on VHF.
- Full Report is made by non-verbal means (facsimile, AIS or e-mail) or verbally on VHF.

Delete sub-section 5.5.

Replace term “working channel” with term “reserve channel” in sub-sections 7.1.3.1 and 7.3.3.1.

Amend sub-section 7.2.1.1 to read as follows:

7.2.1.1 The system is managed from the Tallinn VTS Centre. There are two operator’s positions with expansion capabilities and equipment for technical supervision of the systems.

Amend sub-section 7.2.3.1 to read as follows:

7.2.3.1 VHF radio transceivers cover all the TALLINN TRAFFIC area of responsibility. The working channels are as follows:

- Channel 61 main channel
- Channel 81 reserve channel

Delete sub-section 7.2.3.2.

Amend sub-section 7.2.4 to read as follows:

7.2.4 AIS facilities

7.2.4.1 AIS system covers all the TALLINN TRAFFIC area of responsibility. The relevant information can be displayed at the operators working positions on the screens and database.

Add a new sub-section 7.2.5:

7.2.5 Personnel qualifications and training

7.2.5.1 TALLINN TRAFFIC is staffed with personnel trained according to national and international recommendations.

7.2.5.2 The training of the personnel comprises an overall study of the navigation safety measures, the relevant international (IMO) and national provisions with respect to safety of navigation. The training also includes thorough real-time simulations.

Delete sub-section Summary of Ship reporting System in the Gulf of Finland.

Amend Appendix 1 to read as follows:

Designators used in the Gulf of Finland mandatory ship reporting system and the format of the reports

Designator	Function	Information required
A	Ship	Vessel's name, call sign and IMO identification. MMSI may be reported.
C	Position	Geographical position by two 6 digit groups; or
D	Position	Bearing and distance in nautical miles from a clearly identified landmark
E	Course	True course in three (3) digit group
F	Speed	Speed in knots with one decimal
H	Entry	Time (UTC) and point of entry into the GOFREP area
I	Destination and ETA	Destination and expected time of arrival
O	Draught	Vessel's present draught in metres with one decimal
P	Cargo	Dangerous goods on board, main classes and total quantity in metric tons with up to two decimals. The amount of classes 1 and 7, if any, shall be reported separately. *)
Q	Deficiencies	Brief details of defects or restrictions of manoeuvrability
R	Pollution	Description of pollution or dangerous goods lost overboard
T	Owner or agent	Contact information of agent in the Gulf of Finland
U	Size and type	Ship's type and length in meters
W	Persons	Total number of persons onboard
X	Bunkers and navigational status	Characteristics and estimated quantity of bunker fuel for ships carrying more than 5,000 tons of bunker and navigational status

*) In addition to designator P report, information on cargo other than dangerous goods is collected from all ships entering or leaving the ports of European Union countries in the Gulf of Finland. Ships are not required to report the information on cargo other than dangerous goods. Information is asked from ships only if it can not be obtained by other means.

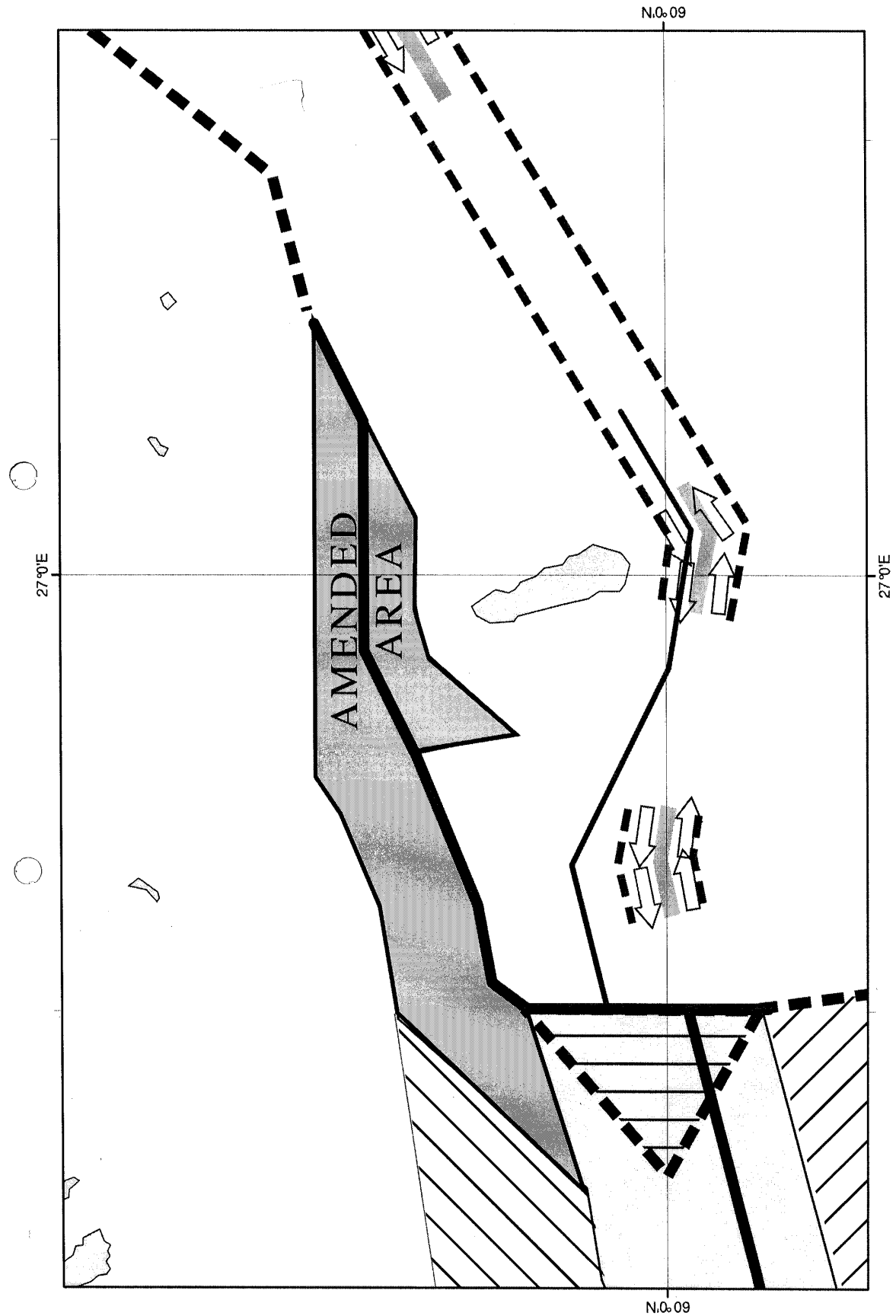
A Short Report consists of designators A, C or D and E. Vessels may additionally be requested to report designator F.

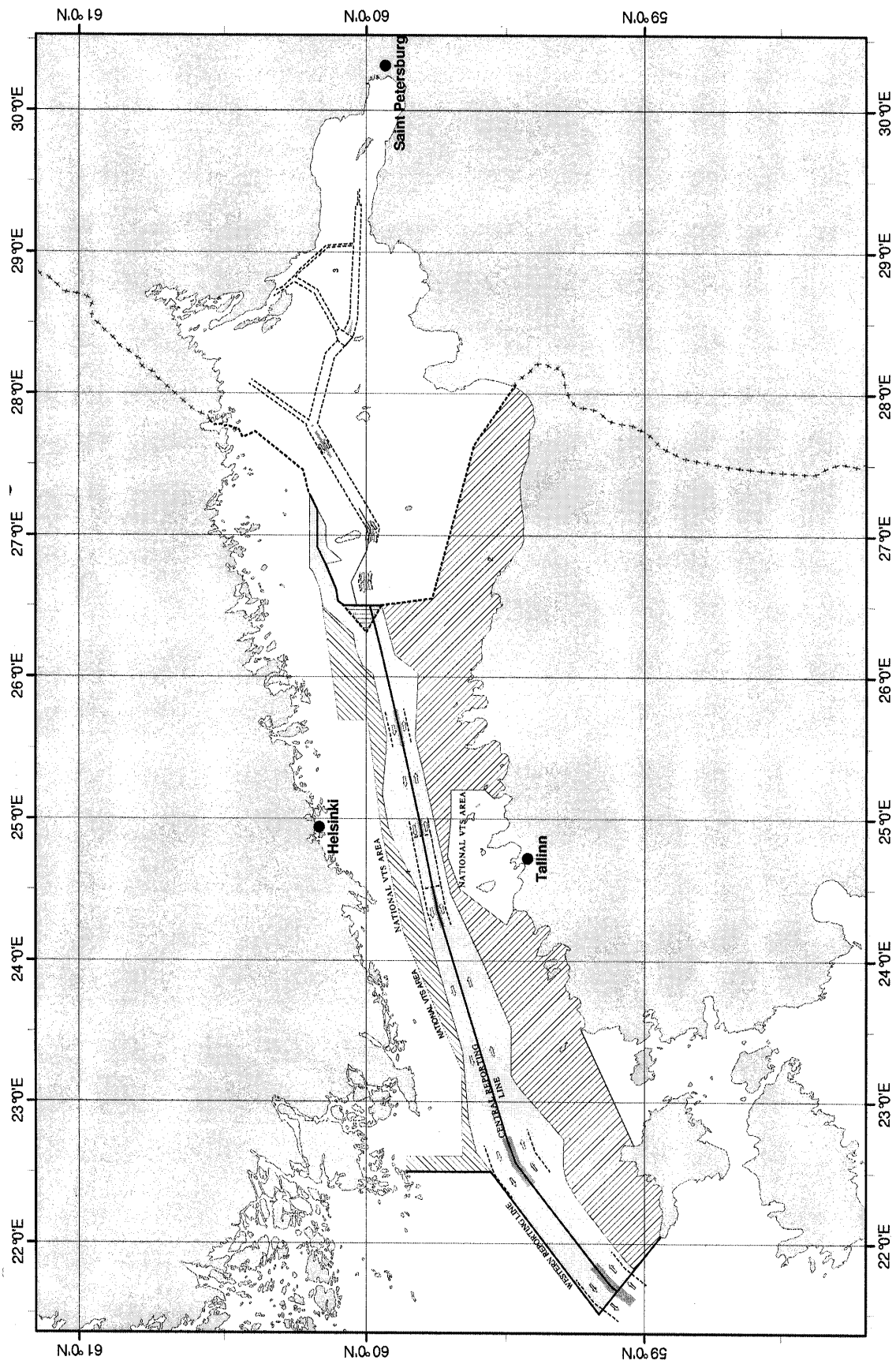
A Full Report consists of designators A, C or D, E, I, O, P, T, U, W and X. Vessels may additionally be requested to report designators F or H.

Vessels not equipped with AIS entering the GOFREP area from the Northern Baltic or Väinameri, are recommended to give a Full Report to the relevant Traffic Centre by fax or e-mail at least one hour before entering the area. In any case, a Full Report shall be given prior to entering the GOFREP area.

If there are any circumstances affecting normal navigation in accordance with the provisions of the SOLAS and MARPOL Conventions, the Master of the vessel in question is obliged to report designator Q or R, whichever is relevant under the prevailing circumstances. This report shall be made without delay.

Appendix 2





ANNEX 24**RESOLUTION MSC.232(82)****(adopted on 5 December 2006)****ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR
ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee and/or the Marine Environment Protection Committee, as appropriate, on behalf of the Organization,

RECALLING ALSO regulations V/19 and V/27 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, which requires all ships to carry adequate and up-to-date charts, sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage,

NOTING that the up-to-date charts required by SOLAS regulations V/19 and V/27 can be provided and displayed electronically on board ships by electronic chart display and information systems (ECDIS), and that the other nautical publications required by regulation V/27 may also be so provided and displayed,

RECOGNIZING the need to improve the previously adopted, by resolution A.817(19), as amended, performance standards for ECDIS in order to ensure the operational reliability of such equipment and taking into account the technological progress and experience gained,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Safety of Navigation, at its fifty-second session,

1. ADOPTS the Revised performance standards for electronic chart display and information systems (ECDIS), set out in the Annex to the present resolution;
2. RECOMMENDS Governments ensure that ECDIS equipment:
 - (a) if installed on or after 1 January 2009, conform to performance standards not inferior to those specified in the Annex to the present resolution; and
 - (b) if installed on or after 1 January 1996 but before 1 January 2009, conform to performance standards not inferior to those specified in the Annex to resolution A.817(19), as amended by resolutions MSC.64(67) and MSC.86(70).

ANNEX

REVISED PERFORMANCE STANDARDS FOR ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)

1 SCOPE OF ECDIS

- 1.1 The primary function of the ECDIS is to contribute to safe navigation.
- 1.2 ECDIS with adequate back-up arrangements may be accepted as complying with the up-to-date charts required by regulations V/19 and V/27 of the 1974 SOLAS Convention, as amended.
- 1.3 ECDIS should be capable of displaying all chart information necessary for safe and efficient navigation originated by, and distributed on the authority of, government authorized hydrographic offices.
- 1.4 ECDIS should facilitate simple and reliable updating of the electronic navigational chart.
- 1.5 ECDIS should reduce the navigational workload compared to using the paper chart. It should enable the mariner to execute in a convenient and timely manner all route planning, route monitoring and positioning currently performed on paper charts. It should be capable of continuously plotting the ship's position.
- 1.6 The ECDIS display may also be used for the display of radar, radar tracked target information, AIS and other appropriate data layers to assist in route monitoring.
- 1.7 ECDIS should have at least the same reliability and availability of presentation as the paper chart published by government authorized hydrographic offices.
- 1.8 ECDIS should provide appropriate alarms or indications with respect to the information displayed or malfunction of the equipment (see appendix 5).
- 1.9 When the relevant chart information is not available in the appropriate form (see section 4), some ECDIS equipment may operate in the Raster Chart Display System (RCDS) mode as defined in appendix 7. RCDS mode of operation should conform to performance standards not inferior to those set out in appendix 7.

2 APPLICATION OF THESE STANDARDS

- 2.1 These performance standards should apply to all ECDIS equipment carried on all ships, as follows:
 - dedicated standalone workstation.
 - a multifunction workstation as part of an INS.
- 2.2 These performance standards apply to ECDIS mode of operation, ECDIS in RCDS mode of operation as specified in appendix 7 and ECDIS backup arrangements as specified in appendix 6.

- 2.3 Requirements for structure and format of the chart data, encryption of chart data as well as the presentation of chart data are within the scope of relevant IHO standards, including those listed in appendix 1.
- 2.4 In addition to the general requirements set out in resolution A.694(17)*, the presentation requirements set out in resolution MSC.191(79), ECDIS equipment should meet the requirements of these standards and follow the relevant guidelines on ergonomic principles adopted by the Organization¹.

3 DEFINITIONS

For the purpose of these performance standards:

- 3.1 *Electronic Chart Display and Information System (ECDIS)* means a navigation information system which with adequate back-up arrangements can be accepted as complying with the up-to-date chart required by regulations V/19 and V/27 of the 1974 SOLAS Convention, as amended, by displaying selected information from a system electronic navigational chart (SENC) with positional information from navigation sensors to assist the mariner in route planning and route monitoring, and if required display additional navigation-related information.
- 3.2 *Electronic Navigational Chart (ENC)* means the database, standardized as to content, structure and format, issued for use with ECDIS by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution, and conform to IHO standards. The ENC contains all the chart information necessary for safe navigation and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions) which may be considered necessary for safe navigation.
- 3.3 *System Electronic Navigational Chart (SENC)* means a database, in the manufacturer's internal ECDIS format, resulting from the lossless transformation of the entire ENC contents and its updates. It is this database that is accessed by ECDIS for the display generation and other navigational functions, and is equivalent to an up-to-date paper chart. The SENC may also contain information added by the mariner and information from other sources.
- 3.4 *Standard Display* is the display mode intended to be used as a minimum during route planning and route monitoring. The chart content is listed in appendix 2.
- 3.5 *Display Base* means the chart content as listed in appendix 2 and which cannot be removed from the display. It is not intended to be sufficient for safe navigation.
- 3.6 Further information on ECDIS definitions may be found in IHO Hydrographic Dictionary Special Publication S-32 (see appendix 1).

* Refer to Publication IEC 60945.

¹ MSC/Circ.982.

MODULE A - DATABASE

4 PROVISION AND UPDATING OF CHART INFORMATION

- 4.1** The chart information to be used in ECDIS should be the latest edition, as corrected by official updates, of that issued by or on the authority of a Government, government-authorized Hydrographic Office or other relevant government institution, and conform to IHO standards².
- 4.2** The contents of the SENC should be adequate and up-to-date for the intended voyage to comply with regulation V/27 of the 1974 SOLAS Convention as amended.
- 4.3** It should not be possible to alter the contents of the ENC or SENC information transformed from the ENC.
- 4.4** Updates should be stored separately from the ENC.
- 4.5** ECDIS should be capable of accepting official updates to the ENC data provided in conformity with IHO standards. These updates should be automatically applied to the SENC. By whatever means updates are received, the implementation procedure should not interfere with the display in use.
- 4.6** ECDIS should also be capable of accepting updates to the ENC data entered manually with simple means for verification prior to the final acceptance of the data. They should be distinguishable on the display from ENC information and its official updates and not affect display legibility.
- 4.7** ECDIS should keep and display on demand a record of updates including time of application to the SENC. This record should include updates for each ENC until it is superseded by a new edition.
- 4.8** ECDIS should allow the mariner to display updates in order to review their contents and to ascertain that they have been included in the SENC.
- 4.9** ECDIS should be capable of accepting both non-encrypted ENCs and ENCs encrypted in accordance with the IHO Data Protection Scheme³.

² IHO Special Publication S-52 and S-57 (see appendix 1).

³ IHO Special Publication S-63 (see appendix 1).

MODULE B – OPERATIONAL AND FUNCTIONAL REQUIREMENTS

5 DISPLAY OF SENC INFORMATION

- 5.1** ECDIS should be capable of displaying all SENC information. An ECDIS should be capable of accepting and converting an ENC and its updates into a SENC. The ECDIS may also be capable of accepting a SENC resulting from conversion of ENC to SENC ashore, in accordance with IHO TR 3.11⁴. This method of ENC supply is known as SENC delivery.
- 5.2** SENC information available for display during route planning and route monitoring should be subdivided into the following three categories, Display Base, Standard Display and All Other Information (see appendix 2).
- 5.3** ECDIS should present the Standard Display at any time by a single operator action.
- 5.4** When an ECDIS is switched on following a switch off or power failure, it should return to the most recent manually selected settings for display.
- 5.5** It should be easy to add or remove information from the ECDIS display. It should not be possible to remove information contained in the Display Base.
- 5.6** For any operator identified geographical position (e.g. by cursor picking) ECDIS should display on demand the information about the chart objects associated with such a position.
- 5.7** It should be possible to change the display scale by appropriate steps e.g. by means of either chart scale values or ranges in nautical miles.
- 5.8** It should be possible for the mariner to select a safety contour from the depth contours provided by the SENC. ECDIS should emphasize the safety contour over other contours on the display, however:
- .1 if the mariner does not specify a safety contour, this should default to 30m. If the safety contour specified by the mariner or the default 30 m contour is not in the displayed SENC, the safety contour shown should default to the next deeper contour;
 - .2 if the safety contour in use becomes unavailable due to a change in source data, the safety contour should default to the next deeper contour; and
 - .3 in each of the above cases, an indication should be provided.
- 5.9** It should be possible for the mariner to select a safety depth. ECDIS should emphasize soundings equal to or less than the safety depth whenever spot soundings are selected for display.
- 5.10** The ENC and all updates to it should be displayed without any degradation of their information content.

⁴ IHO Miscellaneous Publication M-3.
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5.11 ECDIS should provide a means to ensure that the ENC and all updates to it have been correctly loaded into the SENC.

5.12 The ENC data and updates to it should be clearly distinguishable from other displayed information, including those listed in appendix 3.

6 SCALE

6.1 ECDIS should provide an indication if:

- .1 the information is displayed at a larger scale than that contained in the ENC; or
- .2 own ship's position is covered by an ENC at a larger scale than that provided by the display.

7 DISPLAY OF OTHER NAVIGATIONAL INFORMATION

7.1 Radar information and/or AIS information may be transferred from systems compliant with the relevant standards of the Organization. Other navigational information may be added to the ECDIS display. However, it should not degrade the displayed SENC information and it should be clearly distinguishable from the SENC information.

7.2 It should be possible to remove the radar information, AIS information and other navigational information by single operator action.

7.3 ECDIS and added navigational information should use a common reference system. If this is not the case, an indication should be provided.

7.4 Radar

7.4.1 Transferred radar information may contain a radar image and/or tracked target information.

7.4.2 If the radar image is added to the ECDIS display, the chart and the radar image should match in scale, projection and in orientation.

7.4.3 The radar image and the position from the position sensor should both be adjusted automatically for antenna offset from the conning position.

8 DISPLAY MODE AND GENERATION OF THE NEIGHBOURING AREA

8.1 It should always be possible to display the SENC information in a "north-up" orientation. Other orientations are permitted. When such orientations are displayed, the orientation should be altered in steps large enough to avoid unstable display of the chart information.

8.2 ECDIS should provide for true motion mode. Other modes are permitted.

8.3 When true motion mode is in use, reset and generation of the chart display of the neighbouring area should take place automatically at own ship's distance from the edge of the display as determined by the mariner.

- 8.4** It should be possible to manually change the displayed chart area and the position of own ship relative to the edge of the display.
- 8.5** If the area covered by the ECDIS display includes waters for which no ENC at a scale appropriate for navigation is available, the areas representing those waters should carry an indication (see appendix 5) to the mariner to refer to the paper chart or to the RCDS mode of operation (see appendix 7).

9 COLOURS AND SYMBOLS

- 9.1** IHO recommended colours and symbols should be used to represent SENC information⁵.
- 9.2** The colours and symbols other than those mentioned in 9.1 should comply with the applicable requirements contained in the IMO standards for navigational symbols⁶.
- 9.3** SENC information displayed at the scale specified in the ENC should use the specified size of symbols, figures and letters⁵.
- 9.4** ECDIS should allow the mariner to select whether own ship is displayed in true scale or as a symbol.

10 DISPLAY REQUIREMENTS

- 10.1** ECDIS should be capable of displaying information for:
- .1 route planning and supplementary navigation tasks; and
 - .2 route monitoring.
- 10.2** The effective size of the chart presentation for route monitoring should be at least 270 mm x 270 mm.
- 10.3** The display should be capable of meeting colour and resolution recommendations of IHO⁵.
- 10.4** The method of presentation should ensure that the displayed information is clearly visible to more than one observer in the conditions of light normally experienced on the bridge of the ship by day and by night.
- 10.5** If information categories included in the Standard Display (See appendix 2) are removed to customize the display, this should be permanently indicated. Identification of categories which are removed from the Standard Display should be shown on demand.

⁵ Special Publication S-52, Appendix 2 (see appendix 1)
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11 ROUTE PLANNING, MONITORING AND VOYAGE RECORDING

- 11.1** It should be possible to carry out route planning and route monitoring in a simple and reliable manner.
- 11.2** The largest scale data available in the SENC for the area given should always be used by the ECDIS for all alarms or indications of crossing the ship's safety contour and of entering a prohibited area, and for alarms and indications according to appendix 5.

11.3 Route Planning

- 11.3.1** It should be possible to carry out route planning including both straight and curved segments.
- 11.3.2** It should be possible to adjust a planned route alphanumerically and graphically including:
- .1** adding waypoints to a route;
 - .2** deleting waypoints from a route; and
 - .3** changing the position of a waypoint.
- 11.3.3** It should be possible to plan one or more alternative routes in addition to the selected route. The selected route should be clearly distinguishable from the other routes.
- 11.3.4** An indication is required if the mariner plans a route across an own ship's safety contour.
- 11.3.5** An indication should be given if the mariner plans a route closer than a user-specified distance from the boundary of a prohibited area or a geographic area for which special conditions exist (see appendix 4). An indication should also be given if the mariner plans a route closer than a user-specified distance from a point object, such as a fixed or floating aid to navigation or isolated danger.
- 11.3.6** It should be possible for the mariner to specify a cross track limit of deviation from the planned route at which an automatic off-track alarm should be activated.

11.4 Route monitoring

- 11.4.1** For route monitoring the selected route and own ship's position should appear whenever the display covers that area.
- 11.4.2** It should be possible to display a sea area that does not have the ship on the display (e.g. for look ahead, route planning), while route monitoring. If this is done on the display used for route monitoring, the automatic route monitoring functions (e.g. updating ship's position, and providing alarms and indications) should be continuous. It should be possible to return to the route monitoring display covering own ship's position immediately by single operator action.
- 11.4.3** ECDIS should give an alarm if, within a specified time set by the mariner, own ship will cross the safety contour.

- 11.4.4** ECDIS should give an alarm or indication, as selected by the mariner, if, within a specified time set by the mariner, own ship will cross the boundary of a prohibited area or of a geographical area for which special conditions exist (see appendix 4).
- 11.4.5** An alarm should be given when the specified cross track limit for deviation from the planned route is exceeded.
- 11.4.6** An indication should be given to the mariner if, continuing on its present course and speed, over a specified time or distance set by the mariner, own ship will pass closer than a user-specified distance from a danger (e.g. obstruction, wreck, rock) that is shallower than the mariner's safety contour or an aid to navigation.
- 11.4.7** The ship's position should be derived from a continuous positioning system of an accuracy consistent with the requirements of safe navigation. Whenever possible, a second independent positioning source, preferably of a different type, should be provided. In such cases ECDIS should be capable of identifying discrepancies between the two sources.
- 11.4.8** ECDIS should provide an alarm when the input from position, heading or speed sources is lost. ECDIS should also repeat, but only as an indication, any alarm or indication passed to it from position, heading or speed sources.
- 11.4.9** An alarm should be given by ECDIS when the ship reaches a specified time or distance, set by the mariner, in advance of a critical point on the planned route.
- 11.4.10** The positioning system and the SENC should be on the same geodetic datum. ECDIS should give an alarm if this is not the case.
- 11.4.11** It should be possible to display alternative routes in addition to the selected route. The selected route should be clearly distinguishable from the other routes. During the voyage, it should be possible for the mariner to modify the selected sailing route or change to an alternative route.
- 11.4.12** It should be possible to display:
- .1 time-labels along a ship's track manually on demand and automatically at intervals selected between 1 and 120 minutes; and
 - .2 an adequate number of: points, free movable electronic bearing lines, variable and fixed range markers and other symbols required for navigation purposes and specified in appendix 3.
- 11.4.13** It should be possible to enter the geographical co-ordinates of any position and then display that position on demand. Also, it should be possible to select any point (features, symbol or position) on the display and read its geographical co-ordinates on demand.
- 11.4.14** It should be possible to adjust the displayed geographic position of the ship manually. This manual adjustment should be noted alpha-numerically on the screen, maintained until altered by the mariner and automatically recorded.

11.4.15.1 ECDIS should provide the capability to enter and plot manually obtained bearing and distance lines of position (LOP), and calculate the resulting position of own ship. It should be possible to use the resulting position as an origin for dead-reckoning.

11.4.15.2 ECDIS should indicate discrepancies between the positions obtained by continuous positioning systems and positions obtained by manual observations.

11.5 Voyage recording

11.5.1 ECDIS should store and be able to reproduce certain minimum elements required to reconstruct the navigation and verify the official database used during the previous 12 hours. The following data should be recorded at one minute intervals:

- .1 to ensure a record of own ship's past track: time, position, heading, and speed; and
- .2 to ensure a record of official data used: ENC source, edition, date, cell and update history.

11.5.2 In addition, ECDIS should record the complete track for the entire voyage, with time marks at intervals not exceeding 4 hours.

11.5.3 It should not be possible to manipulate or change the recorded information.

11.5.4 ECDIS should have a capability to preserve the record of the previous 12 hours and of the voyage track.

12 CALCULATIONS AND ACCURACY

12.1 The accuracy of all calculations performed by ECDIS should be independent of the characteristics of the output device and should be consistent with the SENC accuracy.

12.2 Bearings and distances drawn on the display or those measured between features already drawn on the display should have accuracy no less than that afforded by the resolution of the display.

12.3 The system should be capable of performing and presenting the results of at least the following calculations:

- .1 true distance and azimuth between two geographical positions;
- .2 geographic position from known position and distance/azimuth; and
- .3 geodetic calculations such as spheroidal distance, rhumb line, and great circle.

13 PERFORMANCE TESTS, MALFUNCTIONS ALARMS AND INDICATIONS

- 13.1** ECDIS should be provided with means for either automatically or manually carrying out on-board tests of major functions. In case of a failure, the test should display information to indicate which module is at fault.
- 13.2** ECDIS should provide a suitable alarm or indication of system malfunction.

14 BACK-UP ARRANGEMENTS

Adequate back-up arrangements should be provided to ensure safe navigation in case of an ECDIS failure; see appendix 6.

- .1** Facilities enabling a safe take-over of the ECDIS functions should be provided in order to ensure that an ECDIS failure does not develop into a critical situation.
- .2** A back-up arrangement should provide means of safe navigation for the remaining part of a voyage in the case of an ECDIS failure.

MODULE C – INTERFACING AND INTEGRATION

15 CONNECTIONS WITH OTHER EQUIPMENT ⁷

- 15.1** ECDIS should not degrade the performance of any equipment providing sensor inputs. Nor should the connection of optional equipment degrade the performance of ECDIS below this standard.
- 15.2** ECDIS should be connected to the ship's position fixing system, to the gyro compass and to the speed and distance measuring device. For ships not fitted with a gyro compass, ECDIS should be connected to a marine transmitting heading device.
- 15.3** ECDIS may provide a means to supply SENC information to external equipment.

16 POWER SUPPLY

- 16.1** It should be possible to operate ECDIS and all equipment necessary for its normal functioning when supplied by an emergency source of electrical power in accordance with the appropriate requirements of chapter II-1 of the 1974 SOLAS Convention, as amended.
- 16.2** Changing from one source of power supply to another or any interruption of the supply for a period of up to 45 seconds should not require the equipment to be manually re-initialized.

⁷ Publication IEC 61162.

Appendix 1

REFERENCE DOCUMENTS

The following international organizations have developed technical standards and specifications, as listed below, for use in conjunction with this standard. The latest edition of these documents should be obtained from the organization concerned:

INTERNATIONAL MARITIME ORGANIZATION (IMO)

Address: International Maritime Organization	Phone: +44 207 735 76 11
4 Albert Embankment	Fax: +44 207 587 32 10
London SE1 7SR	E-mail: info@imo.org
United Kingdom	Web: http://www.imo.org

Publications

IMO resolution MSC.191(79) on Performance Standards for the presentation of navigation related information on shipborne navigational displays

IMO resolution A.694(17) on Recommendations on general requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for electronic navigational aids

SN.Circ/207 (1999) on Differences between RCDS and ECDIS

IMO SN/Circ.243 (2004) on Guidelines for the Presentation of Navigation-related Symbols, Terms and Abbreviations

IMO MSC/Circ.982 (2000) on Guidelines on ergonomic criteria for bridge equipment and layout

INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO)

Address: Directing Committee	Phone: +377 93 10 81 00
International Hydrographic Bureau	Fax: +377 93 10 81 40
BP 445	E-mail: info@ihb.mc
MC 98011 Monaco Cedex	Web: http://www.iho.shom.fr
Principality of Monaco	

Publications

Special Publication No. S-52, Specifications for Chart Content and Display Aspects of ECDIS

Special Publication No. S-52 appendix 1, Guidance on Updating the Electronic Navigational Chart

Special Publication No. S-52 appendix 2, Colour and Symbol Specifications for ECDIS

Special Publication No. S-32, Hydrographic Dictionary

Special Publication No. S-57, IHO Transfer Standard for Digital Hydrographic Data

Special Publication No. S-61, IHO Product specification for Raster Navigational Charts (RNC)

Special Publication No. S-63, IHO Data Protection Scheme

Miscellaneous Publication No. M-3, *Resolutions of the IHO*

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

Address: IEC Central Office
3 rue de Varembé
PO Box 131
CH-1211 Geneva 20
Switzerland

Phone: +41 22 734 01 50
Fax: +41 22 733 38 43

Publications

IEC Publication 61174, Electronic Chart Display and Information Systems (ECDIS) - Operational and Performance Requirements, Method of Testing and Required Test Results.

IEC Publication 60945, General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System and Marine Navigational Equipment.

IEC Publication 61162, *Digital Interfaces - Navigation and Radiocommunication Equipment On board Ship.*

[IEC Publication 62288, Maritime Navigation and Radiocommunication Equipment and Systems – Presentation of navigation related information – General requirements, methods of test and required test results.]

Appendix 2

SENC INFORMATION AVAILABLE FOR DISPLAY DURING ROUTE PLANNING AND ROUTE MONITORING

- 1 Display base to be permanently shown on the ECDIS display, consisting of:
 - .1 coastline (high water);
 - .2 own ship's safety contour;
 - .3 isolated underwater dangers of depths less than the safety contour which lie within the safe waters defined by the safety contour;
 - .4 isolated dangers which lie within the safe water defined by the safety contour, such as fixed structures, overhead wires, etc.;
 - .5 scale, range and north arrow;
 - .6 units of depth and height; and
 - .7 display mode.

- 2 Standard display consisting of:
 - .1 display base
 - .2 drying line
 - .3 buoys, beacons, other aids to navigation and fixed structures
 - .4 boundaries of fairways, channels, etc.
 - .5 visual and radar conspicuous features
 - .6 prohibited and restricted areas
 - .7 chart scale boundaries
 - .8 indication of cautionary notes
 - .9 ships' routing systems and ferry routes
 - .10 archipelagic sea lanes.

- 3 All other information, to be displayed individually on demand, for example:
 - .1 spot soundings
 - .2 submarine cables and pipelines
 - .3 details of all isolated dangers
 - .4 details of aids to navigation
 - .5 contents of cautionary notes
 - .6 ENC edition date
 - .7 most recent chart update number
 - .8 magnetic variation
 - .9 graticule
 - .10 place names.

Appendix 3

NAVIGATIONAL ELEMENTS AND PARAMETERS

- 1 Own ship.
 - .1 Past track with time marks for primary track.
 - .2 Past track with time marks for secondary track.
- 2 Vector for course and speed made good.
- 3 Variable range marker and/or electronic bearing line.
- 4 Cursor.
- 5 Event.
 - .1 Dead reckoning position and time (DR).
 - .2 Estimated position and time (EP).
- 6 Fix and time.
- 7 Position line and time.
- 8 Transferred position line and time.
 - .1 Predicted tidal stream or current vector with effective time and strength.
 - .2 Measured tidal stream or current vector with effective time and strength.
- 9 Danger highlight.
- 10 Clearing line.
- 11 Planned course and speed to make good.
- 12 Waypoint.
- 13 Distance to run.
- 14 Planned position with date and time.
- 15 Visual limits of lights arc to show rising/dipping range.
- 16 Position and time of “wheel over”.

Appendix 4

AREAS FOR WHICH SPECIAL CONDITIONS EXIST

The following are the areas which ECDIS should detect and provide an alarm or indication under sections 11.3.5 and 11.4.4:

- Traffic separation zone
- Inshore traffic zone
- Restricted area
- Caution area
- Offshore production area
- Areas to be avoided
- User defined areas to be avoided
- Military practise area
- Seaplane landing area
- Submarine transit lane
- Anchorage area
- Marine farm/aquaculture
- PSSA (Particularly Sensitive Sea Area)

Appendix 5

ALARMS AND INDICATORS

Section	Requirements	Information
11.4.3	Alarm	Crossing safety contour
11.4.4	Alarm or Indication	Area with special conditions
11.4.5	Alarm	Deviation from route
11.4.8	Alarm	Positioning system failure
11.4.9	Alarm	Approach to critical point
11.4.10	Alarm	Different geodetic datum
13.2	Alarm or Indication	Malfunction of ECDIS
5.8.3	Indication	Default safety contour
6.1.1	Indication	Information overscale
6.1.2	Indication	Larger scale ENC available
7.3	Indication	Different reference system
8.5	Indication	No ENC available
10.5	Indication	Customized display
11.3.4	Indication	Route planning across safety contour
11.3.5	Indication	Route planning across specified area
11.4.6	Indication	Crossing a danger in route monitoring mode
13.1	Indication	System test failure

In this Performance Standard the definitions of Indicators and Alarms provided in the IMO resolution A.830(19) "Code on Alarms and Indicators, 1995" apply.

Alarm: An alarm or alarm system which announces by audible means, or audible and visual means, a condition requiring attention.

Indicator: Visual indication giving information about the condition of a system or equipment.

Appendix 6

BACK-UP REQUIREMENTS

1 INTRODUCTION

As prescribed in section 14 of this performance standard, adequate independent back-up arrangements should be provided to ensure safe navigation in case of ECDIS failure. Such arrangements include:

- .1 facilities enabling a safe take-over of the ECDIS functions in order to ensure that an ECDIS failure does not result in a critical situation;
- .2 a means to provide for safe navigation for the remaining part of the voyage in case of ECDIS failure.

2 PURPOSE

The purpose of an ECDIS back-up system is to ensure that safe navigation is not compromised in the event of ECDIS failure. This should include a timely transfer to the back-up system during critical navigation situations. The back-up system shall allow the vessel to be navigated safely until the termination of the voyage.

3 FUNCTIONAL REQUIREMENTS

3.1 Required functions and their availability

3.1.1 Presentation of chart information

The back-up system should display in graphical (chart) form the relevant information of the hydrographic and geographic environment which are necessary for safe navigation.

3.1.2 Route planning

The back-up system should be capable of performing the route planning functions, including:

- .1 taking over of the route plan originally performed on the ECDIS;
- .2 adjusting a planned route manually or by transfer from a route planning device.

3.1.3 Route monitoring

The back-up system should enable a take-over of the route monitoring originally performed by the ECDIS, and provide at least the following functions:

- .1 plotting own ship's position automatically, or manually on a chart;
- .2 taking courses, distances and bearings from the chart;
- .3 displaying the planned route;

- .4 displaying time labels along ship's track;
- .5 plotting an adequate number of points, bearing lines, range markers, etc., on the chart.

3.1.4 Display information

If the back-up is an electronic device, it should be capable of displaying at least the information equivalent to the standard display as defined in this performance standard.

3.1.5 Provision of chart information

- .1 The chart information to be used in the backup arrangement should be the latest edition, as corrected by official updates, of that issued by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution, and conform to IHO standards.
- .2 It should not be possible to alter the contents of the electronic chart information.
- .3 The chart or chart data edition and issuing date should be indicated.

3.1.6 Updating

The information displayed by the ECDIS back-up arrangements should be up-to-date for the entire voyage.

3.1.7 Scale

If an electronic device is used, it should provide an indication:

- .1 if the information is displayed at a larger scale than that contained in the database;
and
- .2 if own ship's position is covered by a chart at a larger scale than that provided by the system.

3.1.8 If radar and other navigational information are added to an electronic back-up display, all the corresponding requirements for radar information and other navigation information of this performance standard should be met.

3.1.9 If an electronic device is used, the display mode and generation of the neighbouring area should be in accordance with section 8 of this performance standard.

3.1.10 Voyage recording

The back-up arrangements should be able to keep a record of the ship's actual track, including positions and corresponding times.

3.2 Reliability and accuracy

3.2.1 Reliability

The back-up arrangements should provide reliable operation under prevailing environmental and normal operating conditions.

3.2.2 Accuracy

Accuracy should be in accordance with section 12 of this performance standard.

3.3 Malfunctions, warnings, alarms and indications

If an electronic device is used, it should provide a suitable alarm or indication of system malfunction.

4 OPERATIONAL REQUIREMENTS

4.1 Ergonomics

If an electronic device is used, it should be designed in accordance with the ergonomic principles of ECDIS.

4.2 Presentation of information

If an electronic device is used:

- .1 Colours and symbols should be in accordance with the colours and symbols requirements of ECDIS.
- .2 The effective size of the chart presentation should be not less than 250 mm x 250 mm or 250 mm diameter.

5 POWER SUPPLY

If an electronic device is used:

- .1 the back-up power supply should be separate from the ECDIS; and
- .2 conform to the requirements in this ECDIS performance standard.

6 CONNECTIONS WITH OTHER EQUIPMENT

6.1 If an electronic device is used, it should:

- .1 be connected to systems providing continuous position-fixing capability; and
- .2 not degrade the performance of any equipment providing sensor input.

6.2 If radar with selected parts of the ENC chart information overlay is used as an element of the back-up, the radar should comply with resolution MSC.192(79).

Appendix 7

RCDS MODE OF OPERATION

Whenever in this appendix reference is made to any provisions of the annex related to ECDIS, the term ECDIS should be substituted by the term RCDS, SENC by SRNC and ENC by RNC, as appropriate.

This appendix refers to each paragraph of the performance standards for ECDIS (i.e. the Annex to which this part is appendix 7) and specifies which paragraphs of the Annex either:

- .1 apply to RCDS; or
- .2 do not apply to RCDS; or
- .3 are modified or replaced as shown in order to apply to RCDS.

Any additional requirements applicable to RCDS are also described.

1 SCOPE

1.1 Paragraph applies to RCDS.

1.2 When operating in RCDS-mode, an appropriate portfolio of up-to-date paper charts (APC) should be carried on board and be readily available to the mariner.

1.3 - 1.7 Paragraphs apply to RCDS.

1.8 RCDS should provide appropriate alarms or indications with respect to the information displayed or malfunction of the equipment (see Table 1 of this appendix).

1.9 Refers to Appendix 7 and applies to RCDS.

2 APPLICATION OF THESE STANDARDS

2.1 – 2.4 Paragraphs apply to RCDS.

3 DEFINITIONS

3.1 *Raster Chart Display System (RCDS)* means a navigation information system displaying RNCs with positional information from navigation sensors to assist the mariner in route planning and route monitoring, and if required, display additional navigation-related information.

3.2 *Raster Navigational Chart (RNC)* means a facsimile of a paper chart originated by, or distributed on the authority of, a government-authorized hydrographic office. RNC is used in these standards to mean either a single chart or a collection of charts.

- 3.3** *System Raster Navigational Chart Database (SRNC)* means a database resulting from the transformation of the RNC by the RCDS to include updates to the RNC by appropriate means.
- 3.4-3.5** Paragraphs do not apply to RCDS.
- 3.6** Paragraph applies to RCDS.
- 3.7** Appropriate Portfolio of up to date paper Charts (APC) means a suite of paper charts of a scale to show sufficient detail of topography, depths, navigational hazards, aids to navigation, charted routes, and routing measures to provide the mariner with information on the overall navigational environment. The APC should provide adequate look-ahead capability. Coastal States will provide details of the charts which meet the requirement of this portfolio, and these details are included in a worldwide database maintained by the IHO. Consideration should be given to the details contained in this database when determining the content of the APC.

MODULE A - DATABASE

4 PROVISION AND UPDATING OF CHART INFORMATION

- 4.1** The RNC used in RCDS should be the latest edition of that originated by, or distributed on the authority of, a government authorized hydrographic office and conform to IHO standards. RNCs not on WGS 84 or PE-90 should carry meta-data (i.e., additional data) to allow geo-referenced positional data to be displayed in the correct relationship to SRNC data.
- 4.2** The contents of the SRNC should be adequate and up-to-date for that part of the intended voyage not covered by ENC.
- 4.3** It should not be possible to alter the contents of the RNC.
- 4.4 – 4.8** All paragraphs apply to RCDS.
- 4.9** Paragraph does not apply to RCDS

MODULE B – OPERATIONAL AND FUNCTIONAL REQUIREMENTS

5 DISPLAY OF SRNC INFORMATION

- 5.1** RCDS should be capable of displaying all SRNC information.
- 5.2** SRNC information available for display during route planning and route monitoring should be subdivided into two categories:
- .1 the RCDS standard display consisting of RNC and its updates, including its scale, the scale at which it is displayed, its horizontal datum, and its units of depths and heights; and
 - .2 any other information such as mariner's notes.

- 5.3- 5.4** Paragraphs apply to RCDS.
- 5.5** It should be easy to add to, or remove from; the RCDS display any information additional to the RNC data, such as mariner's notes. It should not be possible to remove any information from the RNC.
- 5.6 – 5.9** Paragraphs do not apply to RCDS.
- 5.10 – 5.12** Paragraphs apply to RCDS.
- 5.13** There should always be an indication if the ECDIS equipment is operating in RCDS mode.
- 6** **SCALE**
- This section applies to RCDS.
- 7** **DISPLAY OF OTHER NAVIGATIONAL INFORMATION**
- 7.1 - 7.4** All paragraphs apply to RCDS.
- 8** **DISPLAY MODE AND GENERATION OF THE NEIGHBOURING AREA**
- 8.1** It should always be possible to display the SRNC in “chart-up” orientation. Other orientations are permitted.
- 8.2 - 8.4** All paragraphs apply to RCDS.
- 8.5** Paragraph refers to RCDS mode of operation.
- 9** **COLOURS AND SYMBOLS**
- 9.1** IHO recommended colours and symbols should be used to represent SRNC information.
- 9.2** Paragraph applies to RCDS.
- 9.3** Paragraph does not apply to RCDS.
- 9.4** Paragraph applies to RCDS.
- 10** **DISPLAY REQUIREMENTS**
- 10.1-10.2** Paragraphs apply to RCDS.
- 10.3** Paragraph does not apply to RCDS.

- 10.4** Paragraph applies to RCDS.
- 10.5** Paragraph does not apply to RCDS.
- 10.6** RCDS should be capable of displaying, simply and quickly, chart notes which are not located on the portion of the chart currently being displayed.
- 11** **ROUTE PLANNING, MONITORING AND VOYAGE RECORDING**
- 11.1** Paragraphs apply to RCDS.
- 11.2** Paragraph does not apply to RCDS.
- 11.3** **Route Planning**
- 11.3.1-11.3.3** Paragraphs apply to RCDS.
- 11.3.4-11.3.5** Paragraphs do not apply to RCDS.
- 11.3.6** Paragraph applies to RCDS.
- 11.3.7** It should be possible for the mariner to enter points, lines and areas which activate an automatic alarm. The display of these features should not degrade the SRNC information and it should be clearly distinguishable from the SRNC information.
- 11.4** **Route monitoring**
- 11.4.1** Paragraph applies to RCDS.
- 11.4.2** It should be possible to display a sea area that does not have the ship on the display (e.g. for look ahead, route planning), while route monitoring. If this is done on the display used for route monitoring, the automatic route monitoring functions in 10.4.6 and 10.4.7 should be continuous. It should be possible to return to the route monitoring display covering own ship's position immediately by single operator action.
- 11.4.3-11.4.4** Paragraphs do not apply to RCDS.
- 11.4.5** Paragraph apply to RCDS.
- 11.4.6** Paragraphs do not apply to RCDS.
- 11.4.7-11.4.9** Paragraphs apply to RCDS.
- 11.4.10** The RCDS should only accept positional data referenced to the WGS 84 or PE-90 geodetic datum. RCDS should give an alarm if the positional data is not referenced to one of these datum. If the displayed RNC cannot be referenced to the WGS 84 or PE-90 datum then a continuous indication should be provided.

11.4.11-11.4.15 Paragraphs apply to RCDS.

11.4.16 RCDS should allow the user to manually align the SRNC with positional data. This can be necessary, for example, to compensate for local charting errors.

11.4.17 It should be possible to activate an automatic alarm when the ship crosses a point, line, or is within the boundary of a mariner entered feature within a specified time or distance.

11.5 Voyage recording

11.5.1-11.5.4 All paragraphs apply to RCDS.

12 CALCULATIONS AND ACCURACY

12.1-12.3 All paragraphs apply to RCDS.

12.4 RCDS should be capable of performing transformations between a local datum and WGS 84 Datum.

13 PERFORMANCE TESTS, MALFUNCTION ALARMS AND INDICATIONS

13.1-13.2 All paragraphs apply to RCDS.

14 BACK-UP ARRANGEMENTS

All paragraphs apply to RCDS.

MODULE C – INTERFACING AND INTEGRATION

15 CONNECTIONS WITH OTHER EQUIPMENT

15.1-15.3 All paragraphs apply to RCDS.

16 POWER SUPPLY

16.1-16.2 All paragraphs apply to RCDS.

Table 1

ALARMS AND INDICATORS IN THE RCDS MODE OF OPERATION

Paragraph	Requirement	Information
11.4.5	Alarm	Deviation from route
11.4.17	Alarm	Approach to mariner entered feature, e.g. area, line
11.4.8	Alarm	Position system failure
11.4.9	Alarm	Approach to critical point
11.4.10	Alarm or indication	Different geodetic datum
13.2	Alarm or indication	Malfunction of RCDS mode
5.13	Indication	ECDIS operating in the raster mode
6.1	Indication	Larger scale information available, or overscale
6.1.2	Indication	Larger scale RNC available for the area of the vessel

Note: The definitions of alarms and indicators are given in appendix 5.

ANNEX 25

RESOLUTION MSC.233(82)

(adopted on 5 December 2006)

**ADOPTION OF THE PERFORMANCE STANDARDS FOR SHIPBORNE
GALILEO RECEIVER EQUIPMENT**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee and/or the Marine Environment Protection Committee, as appropriate, on behalf of the Organization,

RECALLING FURTHER that, in accordance with resolution A.815(19) by which the Assembly adopted the IMO policy for the recognition and acceptance of suitable radionavigation systems intended for international use to provide ships with navigational position-fixing throughout their voyages, the GALILEO satellite system may be recognized as a possible component of the world-wide radionavigation system,

NOTING that shipborne receiving equipment for the world-wide radionavigation system should be designed to satisfy the detailed requirements of the particular system concerned,

RECOGNIZING the need to develop performance standards for shipborne GALILEO receiver equipment in order to ensure the operational reliability of such equipment and taking into account the technological progress and experience gained,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Safety of Navigation, at its fifty-second session,

1. ADOPTS the Performance standards for Shipborne GALILEO receiver equipment, set out in the Annex to the present resolution;
2. RECOMMENDS Governments ensure that GALILEO receiver equipment installed on or after 1 January 2009 conform to performance standards not inferior to those specified in the Annex to the present resolution.

ANNEX

PERFORMANCE STANDARDS FOR SHIPBORNE GALILEO RECEIVER EQUIPMENT

1 INTRODUCTION

- 1.1 Galileo is the European satellite navigation system. Galileo is designed as a wholly civil system, operated under public control. Galileo comprises 30 medium earth orbit (MEO) satellites in 3 circular orbits. Each orbit has an inclination of 56° and contains 9 operational satellites plus one operational spare. This geometry ensures that a minimum of 6 satellites are in view to users world-wide with a position dilution of precision (PDOP) ≤ 3.5 .
- 1.2 Galileo transmits 10 navigation signals and 1 search and rescue (SAR) signal. The SAR signal is broadcast in one of the frequency bands reserved for the emergency services (1544-1545 MHz) whereas the 10 navigation signals are provided in the radio-navigation satellite service (RNSS) allocated bands:
- 4 signals occupy the frequency range 1164-1215 MHz (E5a-E5b).
 - 3 signals occupy the frequency range 1260-1300 MHz (E6).
 - 3 signals occupy the frequency range 1559-1591 MHz (E2, L1, E1).

Each frequency carries two signals; the first is a tracking signal – the so-called pilot signal – that contains no data but increases the tracking robustness at the receiver whereas the other carries a navigation data message.

Galileo provides two different services of use for the maritime community.

- 1.3 The Galileo Open Service provides positioning, navigation and timing services, free of direct user charges. The Open Service can be used on one (L1), two (L1 and E5a or L1 and E5b) or three (L1, E5a and E5b) frequencies.
- 1.4 The Galileo Safety of Life Service can be used on one (L1 **or** E5b) or two (L1 and E5b) frequencies¹. Each of the L1 and E5b frequencies carries a navigation data message that includes integrity information. The E5a frequency does not include integrity data.
- 1.5 Galileo receiver equipment intended for navigation purposes on ships of speeds not exceeding 70 knots, in addition to the general requirements specified in resolution A.694(17)², should comply with the following minimum performance requirements.

¹ The integrity parameters broadcast by the Galileo Safety of Life service will be unencrypted and therefore fully accessible. Service Guarantees and Authentication services can be made available, at a charge, through contractual means if desired.

² Refer to publication IEC 60945.

- 1.6 These standards cover the basic requirements of position fixing, determination of course over ground (COG), speed over ground (SOG) and timing, either for navigation purposes or as input to other functions. The standards do not cover the other computational facilities which may be in the equipment nor cover the requirements for any other systems that may take input from the Galileo receiver.

2 GALILEO RECEIVER EQUIPMENT

- 2.1 The words “*Galileo receiver equipment*” as used in these performance standards include all the components and units necessary for the system properly to perform its intended functions. The Galileo receiver equipment should include the following minimum facilities:

- .1 antenna capable of receiving Galileo signals;
- .2 Galileo receiver and processor;
- .3 means of accessing the computed latitude/longitude position;
- .4 data control and interface; and
- .5 position display and, if required, other forms of output.

Note: If Galileo forms part of an approved Integrated Navigation System, requirements of 2.1.3, 2.1.4, 2.1.5 may be provided within the INS.

- 2.2 The antenna design should be suitable for fitting at a position on the ship which ensures a clear view of the satellite constellation, taking into consideration any obstructions that might exist on the ship.

3 PERFORMANCE STANDARDS FOR GALILEO RECEIVER EQUIPMENT

The Galileo receiver equipment should:

- .1 be capable of receiving and processing the Galileo positioning and velocity, and timing signals on:
 - i) for a single frequency receiver, the L1 frequency alone. The receiver should use the ionospheric model broadcast to the receiver by the constellation to generate ionospheric corrections;
 - ii) for a dual frequency receiver, **either** the L1 and E5b frequencies **or** the L1 and E5a frequencies. The receiver should use dual frequency processing to generate ionospheric corrections;
- .2 provide position information in latitude and longitude in degrees, minutes and thousandths of minutes³;

³ Galileo uses Galileo Terrestrial Frame System (GTRF) datum which is a realization of the International Terrestrial Frame Reference (ITRF) system and differs from WGS 84 by less than 5 cm worldwide.

- .3 provide time referenced to universal time coordinated UTC (BIPM)*;
- .4 be provided with at least two outputs from which position information, UTC, course over ground (COG), speed over ground (SOG) and alarms can be supplied to other equipment. The output of position information should be based on the WGS84 datum and should be in accordance with international standards⁴. The output of UTC, course over ground (COG), speed over ground (SOG) and alarms should be consistent with the requirements of 3.16 and 3.18;
- .5 have static accuracy such that the position of the antenna is determined to within:
 - i) 15 m horizontal (95%) and 35 m vertical (95%) for single frequency operations on the L1 frequency;
 - ii) 10 m horizontal (95%) and 10 m vertical (95%) for dual frequency operations on L1 and E5a or L1 and E5b frequencies⁵;
- .6 have dynamic accuracy equivalent to the static accuracy specified in .5 above under the sea states and motion experienced in ships⁶;
- .7 have position resolution equal or better than 0.001 minutes of latitude and longitude;
- .8 have timing accuracy such that time is determined within 50ns of UTC;
- .9 be capable of selecting automatically the appropriate satellite-transmitted signals to determine the ship's position and velocity, and time with the required accuracy and update rate;
- .10 be capable of acquiring satellite signals with input signals having carrier levels in the range of -128dBm to -118dBm. Once the satellite signals have been acquired, the equipment should continue to operate satisfactorily with satellite signals having carrier levels down to -131dBm;
- .11 be capable of operating satisfactorily under normal interference conditions consistent with the requirements of resolution A.694(17);

* Bureau International des poids et mesures.

⁴ Publication IEC 61162.

⁵ The minimum accuracy requirements specified for dual frequency processing are based on the performance requirements established by the Organization in resolution A.915(22) and resolution A.953(23) for navigation in harbour entrances, harbour approaches and coastal waters.
The Galileo satellite navigation system will be able to provide better accuracy (4 m horizontal 95% and 8 m vertical 95%).

⁶ Refer to resolution A.694(17), publications IEC 6721-3-6 and IEC 60945.

- .12 be capable of acquiring position, velocity and time to the required accuracy within 5 min when there is no valid almanac data (cold start);
- .13 be capable of acquiring position, velocity and time to the required accuracy within 1 min when there is valid almanac data (warm start);
- .14 be capable of re-acquiring position, velocity and time to the required accuracy within 1 minute when there has been a service interruption of 60 s or less;
- .15 generate and output to a display and digital interface⁷ a new position solution at least once every 1 s for conventional craft and at least once every 0.5 s for high-speed craft;
- .16 provide the COG, SOG and UTC outputs, with a validity mark aligned with that on the position output. The accuracy requirements for COG and SOG should not be inferior to the relevant performance standards for heading⁸ and speed and distance measuring equipment (SDME)⁹ and the accuracy should be obtained under the various dynamic conditions that could be experienced onboard ships;
- .17 provide at least one normally closed contact, which should indicate failure of the Galileo receiver equipment;
- .18 have a bidirectional interface to facilitate communication so that alarms can be transferred to external systems and so that audible alarms from the Galileo receiver can be acknowledged from external systems; the interface should comply with the relevant international standards;¹⁰ and
- .19 have the facilities to process differential Galileo (dGalileo) data fed to it in accordance with the standards of ITU-R¹¹ and the appropriate RTCM¹² standard and provide indication of the reception of dGalileo signals and whether they are being applied to the ship's position.

4 INTEGRITY CHECKING, FAILURE WARNINGS AND STATUS INDICATIONS

- 4.1 The Galileo receiver equipment should also indicate whether the performance of Galileo is outside the bounds of requirements for general navigation in the ocean, coastal, port approach and restricted waters, and inland waterway phases of the voyage as specified in either resolution A.953(23) or Appendix 2 to resolution A.915(22) and any subsequent amendments as appropriate. The Galileo receiver equipment should as a minimum:

⁷ Conforming to the IEC 61162 series.

⁸ Resolution A.424 (XI) for conventional craft and resolution A.821(19) for high-speed craft.

⁹ Resolution A.824(19).

¹⁰ Publication IEC 61162.

¹¹ ITU-R Recommendation M.823.

¹² RTCM 10402 or 10403.

- .1 provide a warning within 5 s of loss of position or if a new position based on the information provided by the Galileo constellation has not been calculated for more than 1 s for conventional craft and 0.5 s for high-speed craft. Under such conditions the last known position and the time of last valid fix, with the explicit indication of the state so that no ambiguity can exist, should be output until normal operation is resumed;
 - .2 use receiver autonomous integrity monitoring (RAIM) to provide integrity performance appropriate to the operation being undertaken;
 - .3 provide a self-test function.
- 4.2 For receivers having the capability to process the Galileo Safety of Life Service, integrity monitoring and alerting algorithms should be based on a suitable combination of the Galileo integrity message and receiver autonomous integrity monitoring (RAIM). The receiver should provide an alarm within 10 s Time to Alarm (TTA) of the start of an event if an alert limit of 25 m Horizontal Alert Limit (HAL) is exceeded for a period of at least 3 s. The probability of detection of the event should be better than 99.999% over a 3-h period (integrity risk $\leq 10^{-5}/3$ h).

5 PROTECTION

Precautions should be taken to ensure that no permanent damage can result from an accidental short circuit or grounding of the antenna or any of its input or output connections or any of the Galileo receiver equipment inputs or outputs for a duration of 5 min or less.

ANNEX 26**DRAFT ASSEMBLY RESOLUTION
ADOPTION OF AMENDMENTS TO THE INTERNATIONAL REGULATIONS FOR
PREVENTING COLLISIONS AT SEA, 1972, AS AMENDED**

THE ASSEMBLY,

RECALLING article VI of the Convention on the International Regulations for Preventing Collisions at Sea, 1972, on amendments to the Regulations,

HAVING CONSIDERED the amendments to the International Regulations for Preventing Collisions at Sea, 1972, adopted by the Maritime Safety Committee at its eighty-second session and communicated to all Contracting Parties in accordance with paragraph 2 of article VI of that Convention and also the recommendations of the Maritime Safety Committee concerning entry into force of these amendments,

1. ADOPTS, in accordance with paragraph 3 of article VI of the Convention, the amendments set out in the Annex to the present resolution;
2. DECIDES, in accordance with paragraph 4 of article VI of the Convention, that the amendments shall enter into force on [... November 2009] unless by [... May 2008] more than one third of the Contracting Parties have notified their objection to the amendments;
3. REQUESTS the Secretary-General, in conformity with paragraph 3 of article VI, to communicate this resolution to all Contracting Parties to the Convention for acceptance;
4. INVITES Contracting Parties to notify any objections to the amendments not later than [... May 2008], whereafter the amendments will be deemed to have been accepted to enter into force as determined in the present resolution.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL REGULATIONS FOR
PREVENTING COLLISIONS AT SEA, 1972, AS AMENDED**

Annex IV

Distress signals

1 The following signals, used or exhibited either together or separately, indicate distress and need of assistance:

- (a) a gun or other explosive signals fired at intervals of about a minute;
- (b) a continuous sounding with any fog-signalling apparatus;
- (c) rockets or shells, throwing red stars fired one at a time at short intervals;
- (d) a signal made by any signalling method consisting of the group . . . --- . . . (SOS) in the Morse Code;
- (e) a signal sent by radiotelephony consisting of the spoken word "MAYDAY";
- (f) the International Code Signal of distress indicated by N.C.;
- (g) a signal consisting of a square flag having above or below it a ball or anything resembling a ball;
- (h) flames on the vessel (as from a burning tar barrel, oil barrel, etc.);
- (i) a rocket parachute flare or a hand-flare showing a red light;
- (j) a smoke signal giving off orange-coloured smoke;
- (k) slowly and repeatedly raising and lowering arms outstretched to each side;
- (l) a distress alert by means of digital selective calling (DSC) transmitted on:
 - (a) VHF channel 70, or
 - (b) MF/HF on the frequencies 2187,5 kHz, 8414,5 kHz, 4207,5 kHz, 6312 kHz, 12577 kHz or 16804,5 kHz.
- (m) a ship-to-shore distress alert transmitted by the ship's Recognized Mobile Satellite Service Provider (RMSSP) ship earth station;
- (n) signals transmitted by emergency position-indicating radio beacons;
- (o) approved signals transmitted by radiocommunications systems, including survival craft radar transponders.

2 The use or exhibition of any of the foregoing signals except for the purpose of indicating distress and need of assistance and the use of other signals which may be confused with any of the above signals is prohibited.

3 Attention is drawn to the relevant sections of the International Code of Signals, the International Aeronautical and Maritime Search and Rescue Manual, Volume III and the following signals:

- (a) a piece of orange-coloured canvas with either a black square and circle or other appropriate symbol (for identification from the air);
- (b) a dye marker.

ANNEX 27

**DRAFT AMENDMENTS TO THE INTERNATIONAL CODE FOR THE SAFE
CARRIAGE OF PACKAGED IRRADIATED NUCLEAR FUEL, PLUTONIUM AND
HIGH-LEVEL RADIOACTIVE WASTES ON BOARD SHIPS**

**CHAPTER 2
DAMAGE STABILITY**

- 1 In paragraph 2.2.1, the words “Part B” are replaced by the words “Part B-1”.
- 2 In paragraphs 2.2.2 and 2.3.2, the following new sentence is added at the end of the paragraphs:

“For ships less than 80 m in length, the subdivision index R at 80 m shall be used.”

ANNEX 28**RESOLUTION MSC.234(82)****RECOMMENDATIONS CONCERNING TONNAGE MEASUREMENT OF
OPEN-TOP CONTAINERSHIPS**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING FURTHER the relevant provisions of the International Convention on Tonnage Measurement of Ships, 1969,

RECALLING ALSO circular TM.5/Circ.4 on Provisional formula to calculate a reduced gross tonnage of open-top containerships, whereby the Committee, being concerned with the economic disadvantages caused by the use of greater gross tonnage in comparison with gross tonnage of conventional containerships for the assessment of fees, agreed to recommend a reduced gross tonnage for open-top containerships based on a provisional formula,

RECALLING ALSO circular TM.5/Circ.5 on Interpretations of the provisions of the International Convention on Tonnage Measurement of Ships, 1969, in particular section 3 entitled "Open-top containerships",

NOTING that, by the aforementioned circular TM.5/Circ.4, Governments were invited to submit to the Organization information on open-top containerships in operation and under consideration which would enable the assessment of the final coefficients in the formula, including principal dimensions, gross tonnage underdeck and ondeck carrying capacities of containers, deadweight etc.,

HAVING RECOGNIZED that based on the provisions included in circular MSC/Circ.608/Rev.1, open-top containerships are designed and constructed to a high safety level in particular. This applies to improved protection and securing of containers,

NOTING that, in view of the explicit amendment procedure of the 1969 Tonnage Measurement Convention, it may require a significant period of time for any amendment to become effective,

REALIZING the need for the establishment of the principles for the treatment and unified application of tonnage measurement of open-top containerships,

HAVING CONSIDERED, at its eighty-second session, the recommendation made by the Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety, at its forty-ninth session,

1. **ADOPTS** the Recommendations concerning tonnage measurement of open-top containerships, the text of which is set out in the Annex to the present resolution;

2. AGREES that Governments which are Contracting Governments to the 1969 Tonnage Measurement Convention should use these Recommendations when applying the provisions of the Convention;
3. INVITES Governments to advise the ports and harbours authorities to apply the Recommendations when assessing fees based on reduced gross tonnage for open-top containerships;
4. REVOKES circular TM.5/Circ.4 and section 3 entitled “Open-top containerships” of circular TM.5/Circ.5.

ANNEX

RECOMMENDATIONS CONCERNING TONNAGE MEASUREMENT OF OPEN-TOP CONTAINERSHIPS

1 In order to use a unified base for the application of tonnage measurement of open-top containerships, the Administrations are recommended to accept the following.

Definition of open-top containership

2 *An open-top containership*, for the purpose of application of the 1969 Tonnage Measurement Convention, means a ship which is designed for the carriage of containers and which is constructed like an open “U”, with not less than 66.7% of the total cargo hatchway clear opening area in an “open-top” configuration, with a double bottom and above this, high-sided erections without hatch covers on the upper deck and without a complete deck above the moulded draught (refer to the figure), and needs to be regarded as a ship of a novel type as referred to in regulation 1(3) of the Convention.

Interpretations of the provisions of the 1969 Tonnage Measurement Convention

3 The provisions of the 1969 Tonnage Measurement Convention for treatment of enclosed spaces should be applied to open-top containerships subject to the following unified interpretations:

.1 ***Upper deck (regulation 2(1))***

In a ship which is exempted by the Administration from the requirements to fit weathertight hatch covers on the uppermost deck exposed to weather and sea, as in an open-top containership, the upper deck should be taken as that deck which would have been determined by regulation 2(1) as if such hatch covers had been fitted.

.2 ***Enclosed spaces (regulation 2(4))***

In open-top containerships, an opening in a deck such as the absence of hatch covers should not preclude a space from being included in the enclosed space.

.3 ***Shelter above container stacks***

In the case of open-top containerships having movable non-load-bearing covers (shelter) of light construction resting on the container-guides, the space above the hatch coamings up to the covers does not qualify as an excluded space according to regulation 2(5). For this particular design, however, an exception can be made in accordance with regulation 1(3). The space can be excluded provided that this type of ship meets the requirements of an open-top containership without such covers.

Reduced gross tonnage of open-top containerships

4 To reduce the disadvantages caused by the use of a greater gross tonnage in comparison with a gross tonnage of conventional containerships for assessing fees, a reduced gross tonnage for open-top containerships, without limitation in size, based on a simplified formula is recommended as follows:

$$GT_R = 0.9 \times GT$$

where:

GT_R = the reduced gross tonnage

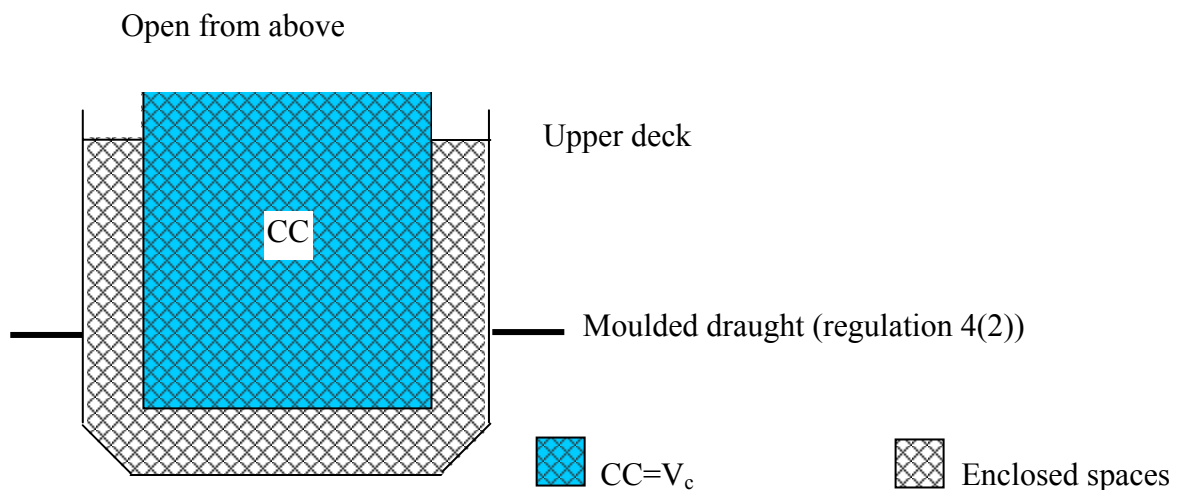
GT = the gross tonnage calculated in accordance with the 1969 Tonnage Measurement Convention

Entry into the International Tonnage Certificate (1969)

5 In the International Tonnage Certificate (1969), under "Remarks", an entry should be made for the tonnage of the open-top containership as follows:

"In accordance with resolution MSC.234(82), the reduced gross tonnage which should be used for the calculation of tonnage-based fees is....."

Figure referred to in paragraph 2



ANNEX 29

RESOLUTION MSC.235(82)

(adopted on 1 December 2006)

**ADOPTION OF THE GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF
OFFSHORE SUPPLY VESSELS, 2006**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.469(XII) by which the Assembly adopted the Guidelines for the design and construction of offshore supply vessels (OSV Guidelines),

NOTING that the Assembly, by the aforementioned resolution, authorized the Committee to amend the Guidelines, as may be necessary, to incorporate new features of offshore supply vessels,

RECOGNIZING that the OSV Guidelines had been adopted in 1981 and were based on the requirements of the 1974 SOLAS Convention, as amended in that year, while a number of amendments to the Convention and other IMO instruments (such as the Intact Stability Code) have since been adopted which might affect the Guidelines,

BEING DESIROUS of keeping the OSV Guidelines up to date,

HAVING CONSIDERED, at its eighty-second session, the revised OSV Guidelines proposed by the Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety, at its forty-eighth session, which was contributed by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers,

1. ADOPTS the Guidelines for the design and construction of offshore supply vessels, 2006, the text of which is set out in the Annex to the present resolution;
2. INVITES Governments to take appropriate steps to give effect to the annexed Guidelines for the design and construction of offshore supply vessels, 2006;
3. SUPERSEDES resolution A.469(XII).

ANNEX

**GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF OFFSHORE SUPPLY
VESSELS, 2006**

CONTENTS

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PREAMBLE

- 1 These Guidelines have been developed for the design and construction of new offshore supply vessels with a view to promoting the safety of such vessels and their personnel, recognizing the unique design features and service characteristics of these vessels.
- 2 These Guidelines furthermore provide a standard of safety equivalent to the relevant requirements of the International Convention for the Safety of Life at Sea, 1974, as amended, and in particular to the stability criteria of the Code on Intact Stability for all Types of Ships Covered by IMO Instruments (IS Code), as amended.
- 3 Recognizing that for certain limited areas of operation and service characteristics it is unreasonable to apply these Guidelines in full, the possibility of relaxations has been introduced by the concept of “near-coastal voyage”.
- 4 Provisions for offshore supply vessels carrying more than 12 industrial personnel are not included in these Guidelines.
- 5 When an offshore supply vessel is used for special purposes, such as diving assistance or oceanographic surveys, the persons on board in connexion with these special purposes should be treated as special personnel.
- 6 The content of these Guidelines was reviewed in 2006 in order to update the references contained therein, to enhance subdivision and damage stability requirements, to remove duplication of the content between the Guidelines and the IS Code and to introduce an appropriate documentation of compliance with the Guidelines.

1 GENERAL

1.1 Application

- 1.1.1 Every new decked offshore supply vessel of 24 m and over but not more than 100 m in length should comply with the provisions of Parts 2 and 3 of these Guidelines. The intact and damage stability of a vessel of more than 100 m in length should be to the satisfaction of the Administration.
- 1.1.2 Parts 4, 5, 6 and 7 of these Guidelines apply to every new decked offshore supply vessel of 500 gross tonnage and above.
- 1.1.3 Where these Guidelines set forth alternative safety standards to those contained in the Convention and where the Convention is applicable, these Guidelines may be applied under the equivalency provisions of regulation 5 of chapter I of the Convention.
- 1.1.4 Vessels fitted with dynamic positioning equipment should comply with the guidelines developed by the Organization*.

* Refer to the Guidelines for vessels with dynamic positioning systems (MSC/Circ.645) and Guidelines for dynamic positioning system (DP) operator training (MSC/Circ.738).

1.1.5 For a vessel engaged in near-coastal voyages, the principles in 1.3 of these Guidelines should guide the Administration in the development of its national standards. Relaxations from the requirements of these Guidelines may be permitted by an Administration for vessels engaged in near-coastal voyages off its own coasts provided the operating conditions are, in the opinion of that Administration, such as to render compliance with the Guidelines unreasonable or unnecessary.

1.1.6 Unless expressly provided otherwise, an existing offshore supply vessel should be required to comply with these Guidelines as far as is practicable in the opinion of the Administration.

1.1.7 Where a vessel other than an offshore supply vessel, as defined in 1.2.1, is employed on a similar service, the Administration should determine the extent to which compliance with these Guidelines is required.

1.2 Definitions

For the purpose of these Guidelines, unless expressly provided otherwise:

1.2.1 *Offshore supply vessel* means a vessel:

- .1 which is primarily engaged in the transport of stores, materials and equipment to offshore installations; and
- .2 which is designed with accommodation and bridge erections in the forward part of the vessel and an exposed cargo deck in the after part for the handling of cargo at sea.

1.2.2 *New vessel* means a vessel the keel of which is laid or which is at a similar stage of construction six months after the date on which these Guidelines were adopted.

1.2.3 *Existing vessel* means a vessel which is not a new vessel.

1.2.4 The terms “length (L) of a vessel”, “perpendiculars”, “weathertight” and “summer load line” have the meanings as defined in the Protocol of 1988 relating to the International Convention on Load Lines, 1966, as amended.

1.2.5 *Administration* means the Government of the State whose flag the vessel is entitled to fly.

1.2.6 *Offshore installation* means a marine structure located at an offshore site.

1.2.7 *IS Code* means the Code on Intact Stability for all Types of Ships Covered by IMO Instruments, as amended.

1.2.8 *Near-coastal voyage* means a voyage in the vicinity of the coast of a State as defined by the Administration of that State.

1.2.9 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended.

1.3 Principles governing near-coastal voyages

1.3.1 The Administration defining near-coastal voyages for the purpose of these Guidelines should not impose design and construction standards for a vessel entitled to fly the flag of another State and engaged in such voyages in a manner resulting in a more stringent standard for such a vessel than for a vessel entitled to fly its own flag. In no case should the Administration impose, in respect of a vessel entitled to fly the flag of another State, standards in excess of these Guidelines for a vessel not engaged in near-coastal voyages.

1.3.2 With respect to a vessel regularly engaged in near-coastal voyages off the coast of another State, the Administration should prescribe design and construction standards for such a vessel at least equal to those prescribed by the Government of the State off whose coast the vessel is engaged, provided such standards do not exceed these Guidelines in respect of a vessel not engaged in near-coastal voyages.

1.3.3 A vessel which extends its voyage beyond a near-coastal voyage should comply with these Guidelines.

2 INTACT STABILITY

The vessel should comply with the relevant provisions for offshore supply vessels contained in the IS Code. Reference should be made to appendix 1 for operational matters related to stability criteria.

SUBDIVISION AND DAMAGE STABILITY

3.1 General

Taking into account, as initial conditions before flooding, the standard loading conditions required by the relevant provisions of Part B of the IS Code and the damage assumptions in 3.2, the vessel should comply with the damage stability criteria as specified in 3.3.

3.2 Damage assumptions

3.2.1 Damage should be assumed to occur anywhere in the vessel's length between transverse watertight bulkheads.

3.2.2 The assumed extent of damage should be as follows:

- .1 longitudinal extent: vessels with the length (L) greater than 43 m, 3 m plus 3% of the vessel's length. For those with length (L) not greater than 43 m, 10% of the vessel's length,
- .2 transverse extent: transverse extent of damage should be assumed as 760 mm, measured inboard from the side of the vessel perpendicularly to the centreline at the level of the summer load waterline,
- .3 vertical extent: from the underside of the cargo deck, or the continuation thereof, for the full depth of the vessel.

3.2.3 A transverse watertight bulkhead extending from the vessel's side to a distance inboard of 760 mm or more at the level of the summer load line joining longitudinal watertight bulkheads may be considered as a transverse watertight bulkhead for the purpose of the damage calculations.

3.2.4 If pipes, ducts or tunnels are situated within the assumed extent of damage, arrangements should be made to ensure that progressive flooding cannot thereby extend to compartments other than those assumed to be floodable for each case of damage.

3.2.5 If damage of a lesser extent than that specified in 3.2.2 results in a more severe condition, such lesser extent should be assumed.

3.2.6 Where a transverse watertight bulkhead is located within the transverse extent of assumed damage and is stepped in way of a double bottom or side tank by more than 3.05 m, the double bottom or side tanks adjacent to the stepped portion of the transverse watertight bulkhead should be considered as flooded simultaneously.

3.2.7 If the distance between adjacent transverse watertight bulkheads or the distance between the transverse planes passing through the nearest stepped portions of the bulkheads is less than the longitudinal extent of damage given in 3.2.2.1, only one of these bulkheads should be regarded as effective for the purpose of 3.2.1.

3.3 Damage stability criteria

3.3.1 The final waterline, taking into account sinkage, heel and trim, should be below the lower edge of any opening through which progressive flooding may take place. Such openings should include air pipes and those which are capable of being closed by means of weathertight doors or hatch covers and may exclude those openings closed by means of watertight manhole covers and flush scuttles, small watertight cargo tank hatch covers which maintain the high integrity of the deck, remotely operated watertight sliding doors and sidescuttles of the non-opening type.

3.3.2 In the final stage of flooding, the angle of heel due to unsymmetrical flooding should not exceed 15°. This angle may be increased up to 17° if no deck immersion occurs.

3.3.3 The stability in the final stage of flooding should be investigated and may be regarded as sufficient if the righting lever curve has, at least, a range of 20° beyond the position of equilibrium in association with a maximum residual righting lever of at least 100 mm within this range. Unprotected openings should not become immersed at an angle of heel within the prescribed minimum range of residual stability unless the space in question has been included as a floodable space in calculations for damage stability. Within this range, immersion of any of the openings referred to in 3.3.1 and any other openings capable of being closed weathertight may be authorized.

3.3.4 The Administration should be satisfied that the stability is sufficient during intermediate stages of flooding.

3.4 Assumptions for calculating damage stability

3.4.1 Compliance with 3.3 should be confirmed by calculations which take into consideration the design characteristics of the vessel, the arrangements, configuration and permeability of the damaged compartments and the distribution, specific gravities and the free surface effect of liquids.

3.4.2 The permeability of compartments assumed to be damaged should be as follows:

<i>Spaces</i>	<i>Permeability</i>
Appropriated to stores	60
Occupied by accommodation	95
Occupied by machinery	85
Void spaces	95
Intended for dry cargo	95

The permeability of tanks should be consistent with the amount of liquid carried, as shown in the loading conditions specified in 3.1. The permeability of empty tanks should be assumed to be not less than 95.

3.4.3 The free surface effect should be calculated at an angle of heel of 5° for each individual compartment, or the effect of free liquid in a tank should be calculated over the range of positive residual righting arm, by assessing the shift of liquids by moment of transference calculations.

3.4.4 Free surface for each type of consumable liquid should be assumed for at least one transverse pair of tanks or a single centreline tank. The tank or tanks to be taken into account should be those where the effect of free surface is the greatest.

3.4.5 Alternatively, the actual free surface effect may be used provided the methods of calculation are acceptable to the Administration.

3.5 Subdivision

3.5.1 The machinery spaces and other working and living spaces in the hull should be separated by watertight bulkheads.

3.5.2 Arrangements made to maintain the watertight integrity of openings in watertight subdivisions should comply with the relevant provisions for cargo ships contained in chapter II-1 of the Convention.

3.5.3 A collision bulkhead should be fitted that complies with relevant provisions for cargo ships of chapter II-1 of the Convention.

3.5.4 An afterpeak bulkhead should be fitted and made watertight up to the freeboard deck. The afterpeak bulkhead may, however, be stepped below the freeboard deck, provided the degree of safety of the vessel as regards subdivision is not thereby diminished.

4 MACHINERY AND ELECTRICAL INSTALLATIONS

The vessel should comply with the relevant provisions for cargo ships contained in parts C, D and E of chapter II-1 of the Convention.

5 FIRE PROTECTION

The vessel should comply with the relevant provisions for cargo ships contained in chapter II-2 of the Convention.

6 LIFE-SAVING APPLIANCES

The vessel should comply with the relevant provisions for cargo ships contained in chapter III of the Convention.

7 RADIOCOMMUNICATIONS

The vessel should comply with the relevant provisions for cargo ships of chapter IV of the Convention.

8 DOCUMENTATION

The Administration, its nominated surveyor or duly authorized organization recognized by the Administration should issue a Document of Compliance, the model form of which is set out in appendix 2, after it is satisfied that the vessel complies with the provisions of these Guidelines.

9 TRANSPORT OF HAZARDOUS AND LIQUID NOXIOUS SUBSTANCES IN BULK

A vessel involved in the transport of limited quantities of hazardous and liquid noxious substances in bulk should comply with the Guidelines for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels, as amended*.

* Refer to the Guidelines for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels, as amended (resolution A.673(16), as amended).

APPENDIX 1

OPERATIONAL MATTERS PERTAINING TO STABILITY CRITERIA FOR OFFSHORE SUPPLY VESSELS

The following operational matters should be considered in relation to stability criteria under section 2 of the Guidelines.

- 1 The stability criteria mentioned in the IS Code are minimum values; no maximum values are recommended. It is advisable to avoid excessive values, since these might lead to acceleration forces which could be prejudicial to the vessel, its complement, its equipment and the safe carriage of the cargo.
- 2 Where anti-rolling devices are installed in a vessel, the Administration should be satisfied that the stability criteria in the IS Code can be maintained when the devices are in operation.
- 3 A number of factors such as beam wind on a vessel with large windage area, icing, rolling characteristics, following seas, etc., adversely affect stability and the Administration is advised to take these into account in so far as is deemed necessary.

APPENDIX 2

FORM OF THE OFFSHORE SUPPLY VESSEL DOCUMENT OF COMPLIANCE

DOCUMENT OF COMPLIANCE

(Official seal)

Issued under the provisions of the

GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF OFFSHORE SUPPLY VESSELS, 2006
(resolution MSC.235(82))

under the authority of the Government of

.....
(full official designation of country)

by
(full official designation of the competent person or organization recognized by the Administration)

Particulars of the vessel*

Name of vessel
Distinctive number or letters
Port of registry
Gross tonnage
Deadweight
IMO Number**
Date on which keel was laid or
on which the vessel was at
a similar stage of construction

The vessel is exempted from compliance with the following provisions of the Guidelines:

.....

THIS IS TO CERTIFY that the design and construction of the vessel complies with relevant provisions of the Guidelines.

Issued at
(place of issue of Certificate)

.....
(Date of issue)

.....
*(signature of authorized official
issuing the certificate)*

(Seal or stamp of the authority, as appropriate)

* Alternatively, the particulars of the vessel may be placed horizontally in boxes.

** In accordance with the IMO ship identification number scheme, adopted by the Organization by resolution A.600(15).

ANNEX 30

RESOLUTION MSC.236(82)

(adopted on 1 December 2006)

ADOPTION OF AMENDMENTS TO THE GUIDELINES FOR THE TRANSPORT AND HANDLING OF LIMITED AMOUNTS OF HAZARDOUS AND NOXIOUS LIQUID SUBSTANCES IN BULK ON OFFSHORE SUPPORT VESSELS

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.673(16) by which the Assembly adopted the Guidelines for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels (LHNS Guidelines),

NOTING that the Assembly, by the aforementioned resolution, authorized the Maritime Safety Committee and the Marine Environment Protection Committee to amend the Guidelines as may be necessary,

NOTING ALSO that the Maritime Safety Committee, at its eighty-second session, adopted the Guidelines for the design and construction of offshore supply vessels, 2006 (OSV Guidelines),

NOTING FURTHER that the LHNS Guidelines were referred to in and applied in addition to the OSV Guidelines, stipulating that, where the Guidelines set forth alternative safety standards to those contained in the OSV Guidelines, the provisions of the LHNS Guidelines should be followed,

BEING DESIROUS of keeping the LHNS Guidelines up to date,

NOTING that the Marine Environment Protection Committee, at its fifty-fifth session, adopted by resolution MEPC.158(55) relevant amendments to the LHNS Guidelines,

CONSIDERING that it is highly desirable for the provisions of the LHNS Guidelines to remain identical when adopted by the Maritime Safety Committee and the Marine Environment Protection Committee,

HAVING CONSIDERED, at its eighty-second session, the amendments to the LHNS Guidelines proposed by the Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety, at its forty-eighth session, which were contributed by the Sub-Committees on Bulk Liquids and Gases and on Dangerous Goods, Solid Cargoes and Containers,

1. ADOPTS the amendments to the Guidelines for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels (resolution A.673(16)), the text of which is set out in the Annex to the present resolution;
2. INVITES Governments to take appropriate steps to give effect to the annexed amendments to the LHNS Guidelines.

ANNEX

**AMENDMENTS TO THE GUIDELINES FOR THE TRANSPORT AND HANDLING OF
LIMITED AMOUNTS OF HAZARDOUS AND NOXIOUS LIQUID SUBSTANCES
IN BULK ON OFFSHORE SUPPORT VESSELS
(RESOLUTION A.673(16))**

PREAMBLE

1 In paragraph 2, the words “regulation 13(4) of Annex II” are replaced by the words “regulation 11(2) of Annex II”.

2 In paragraph 5, the year “2006” is inserted after “Guidelines for the Design and Construction of Offshore Supply Vessels” and the words “(resolution A.469(XII))” are replaced by “resolution MSC.235(82)”.

CHAPTER 1 – GENERAL

1.1 Application

3 Paragraph 1.1.7 is deleted.

4 The following new paragraph 1.1.7 is inserted:

“1.1.7 For provisions regulating the transport of dangerous goods and marine pollutants in packaged form, including transport of dangerous goods in portable tanks, refer to the International Maritime Dangerous Goods (IMDG) Code.”

5 In paragraph 1.1.8, the reference to “(resolution A.469(XII))” is deleted in the first sentence and the words “to those contained in resolution A.469(XII)” are deleted in the second sentence.

1.2 Scope

6 In paragraph 1.2.2.1.2, the words “category A, B and C” are deleted.

1.3 Definitions

7 Paragraph 1.3.6 is deleted.

8 Paragraphs 1.3.7, 1.3.8 and 1.3.9 are renumbered as paragraphs 1.3.6, 1.3.7 and 1.3.8, respectively.

9 Paragraph 1.3.10 is renumbered as paragraph 1.3.9 and the words “, as amended” are added after “MEPC.19(22)”.

10 Paragraph 1.3.11 is renumbered as paragraph 1.3.10 and the words “, as amended” are added after “MSC.5(48)”.

11 Paragraphs 1.3.12 and 1.3.13 are deleted.

1.5 Survey and certification

- 12 In paragraph 1.5.1, the following new sentence is added after the existing first sentence:
- “If the language used is not English, French or Spanish, the text should include the translation into one of these languages.”
- 13 In paragraph 1.5.2, the words “regulation 11 of Annex II” are replaced by the words “regulations 7 and 9 of Annex II”.

CHAPTER 2 – STABILITY AND CARGO TANK LOCATION

- 14 In paragraph 2.1.1, the year “2006” is inserted after the words “Guidelines for the design and construction of offshore supply vessels” and the words “(resolution A.469(XII))” are replaced by “resolution MSC.235(82)”.

CHAPTER 3 – SHIP DESIGN

3.4 Cargo tank construction

- 15 Paragraph 3.4.2 is deleted.
- 16 The following new paragraph 3.4.2 is inserted:
- “3.4.2 Instead of the use of permanently attached deck-tanks, portable tanks meeting the requirements of the International Maritime Dangerous Goods (IMDG) Code or other portable tanks specifically approved by the Administration may be used for cargoes indicated in paragraph 1.2.2, provided that the tanks are properly located and secured to the vessel.”
- 17 In paragraph 3.4.4.1, the reference to “0.7 bar” is replaced by the reference to “0.07 MPa”.

3.6 Cargo tank vent systems

- 18 In paragraph 3.6.2, the reference to “8.2.2” is replaced by the reference to “8.3.4”.

3.9 Fire-fighting requirements

- 19 In paragraph 3.9.1.1, the references to “60, 61, 62 and 63” are replaced by the references to “4.5.5, 10.8 and 10.9”.
- 20 In paragraph 3.9.1.2, the references to “56.1, 56.2, 56.4, 56.8 and 56.7” are replaced by the references to “4.5.1.1, 4.5.1.2, 4.5.1.4, 4.5.2.1 to 4.5.2.3 and 9.2.4.2.5”, respectively and the word “metres” is replaced by the symbol “m”.
- 21 In paragraph 3.9.1.3, the reference to “57.1” is replaced by the reference to “9.2.4.1” and the reference to “42.5.1” is replaced by the reference to “9.2.3.1.1.1”.

22 In paragraph 3.9.1.4, the reference to “44” is replaced by the reference to “9.2.3” and the reference to “58” is replaced by the reference to “9.2.4.2”.

23 In paragraph 3.9.1.5, the word “regulation” is replaced by the word “regulations” and the reference to “59” is replaced by the reference to “4.5.3, 4.5.4 and 4.5.6 to 4.5.8”.

24 The existing text of paragraph 3.9.1.6 is replaced by the following:

“regulations 10.2, 10.4 and 10.5, except regulation 10.5.6, should apply as they would apply to tankers of 2,000 gross tonnage and over;”.

25 In paragraph 3.9.1.7, the reference to “61” is replaced by the reference to “10.8”.

26 In paragraph 3.9.1.8, the reference to “63” is replaced by the reference to “10.9”.

27 In paragraph 3.9.2.3, the words “should be provided” are deleted.

28 In paragraph 3.9.2.3.4.3, the words “per square metre” are deleted.

29 The existing text of paragraph 3.9.2.4 is replaced by the following:

“An alternative to the systems required in 3.9.2.3 above may be approved in accordance with the procedures contained in SOLAS regulation II-2/17.”

3.16 Emergency remote shutdown

30 In paragraph 3.16, the reference to “50 bar gauge” is replaced by the reference to “5 MPa”.

CHAPTER 4 – POLLUTION REQUIREMENTS

31 The existing text of paragraph 4.1 is replaced by the following:

“4.1 Each ship certified to carry noxious liquid substances should be provided with a Cargo Record Book, a Procedure and Arrangements Manual and a Shipboard Marine Emergency Plan developed for the ship in accordance with Annex II to MARPOL 73/78 and approved by the Administration.”

32 The existing text of paragraph 4.2 is replaced by the following:

“4.2 Discharge into the sea of residues of noxious liquid substances permitted for the carriage in Ship Type 3, or products listed in appendix 1 or ballast water, tank washings, or other residues or mixtures containing such substances, is prohibited. Any discharges of residues and mixtures containing noxious liquid substances should be to reception facilities in port. As a consequence of this prohibition, the Administration may waive the requirements for efficient stripping and underwater discharge arrangements in MARPOL 73/78, Annex II.”

33 Paragraph 4.3 is deleted and paragraph 4.4 is renumbered as paragraph 4.3.

34 The existing text of appendix 1 is replaced by the following:

APPENDIX 1

TABLE OF PERMITTED PRODUCTS

	Flammability
Oil-based mud containing mixtures of products listed in chapters 17 and 18 of the IBC Code and the MEPC.2/Circular and permitted to be carried under paragraph 1.2 of these Guidelines	No
Water-based mud containing mixtures of products listed in chapters 17 and 18 of the IBC Code and the MEPC.2/Circular and permitted to be carried under paragraph 1.2 of these Guidelines	No
Drilling Brines, including:	No
Sodium Chloride Solution	No
Calcium Bromide Solution	No
Calcium Chloride Solution	No
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	No
Calcium Nitrate Solution (50% or less)	No
Drilling brines (containing zinc salts)	No
Potassium Formate Solution	No
Potassium Chloride Solution	No
Ethyl Alcohol	Yes
Ethylene Glycol	No
Ethylene Glycol monoalkyl ether	Yes
Methyl Alcohol	Yes
Acetic acid	Yes
Formic acid	Yes
Hydrochloric Acid	No
Hydrochloric-hydrofluoric mixtures containing 3% or less Hydrofluoric acid	No
Sodium Silicate Solution	No
Sulphuric Acid	No
Triethylene Glycol	Yes
Toluene	Yes
Xylene	Yes
Liquid carbon dioxide	No
Liquid nitrogen	No
Noxious liquid, NF, (7) n.o.s. (trade name ..., contains ...) ST3, Cat. Y	No
Noxious liquid, F, (8) n.o.s. (trade name, contains ...) ST3, Cat. Y	Yes
Noxious liquid, NF, (9) n.o.s. (trade name ..., contains ...) ST3, Cat. Z	No
Noxious liquid, F, (10) n.o.s. (trade name ..., contains ...) ST3, Cat. Z	Yes
Noxious liquid, (11) n.o.s. (trade name ..., contains ...) Cat. Z	No
Non-noxious liquid, (12) n.o.s. (trade name ..., contains ...) Cat. OS	No

APPENDIX 2

MODEL FORM OF CERTIFICATE OF FITNESS

35 The existing text of appendix 2 is replaced by the following:

“CERTIFICATE OF FITNESS

(Official seal)

Issued under the provisions of the

**GUIDELINES FOR THE TRANSPORT AND HANDLING OF LIMITED AMOUNTS OF
HAZARDOUS AND NOXIOUS LIQUID SUBSTANCES IN BULK ON OFFSHORE
SUPPORT VESSELS**

(resolution A.673(16), as amended by resolutions MSC.236(82) and MEPC.158(55))

under the authority of the Government of

.....
(full official designation of country)

by
*(full official designation of the competent person
or organization recognized by the Administration)*

Particulars of ship¹

Name of ship
Distinctive number or letters
IMO Number²
Port of registry
Gross tonnage
Date on which keel was laid or on
which the vessel was at a similar
stage of construction or (in the case of a converted vessel) date
on which conversion for the carriage
of bulk liquids subject to these
Guidelines was commenced:

The ship also complies fully with the following amendments to the Guidelines:

.....
.....

The ship is exempted from compliance with the following provisions of the Guidelines:

.....
.....

¹ Alternatively, the particulars of the ship may be placed horizontally in boxes.
² In accordance with the IMO ship identification number scheme, adopted by the Organization by resolution A.600(15).

THIS IS TO CERTIFY:

- 1 That the ship has been surveyed in accordance with the provisions of 1.5 of the Guidelines.
- 2 That the survey showed that the construction and equipment of the ship:
 - .1 complied with the relevant provisions of the Guidelines applicable to “new” ships³;
 - .2 complied with the provisions of the Guidelines in respect of “existing” ships³.
- 3 That the ship has been provided with a Manual in accordance with Appendix 4 of Annex II of MARPOL 73/78 as called for by regulation 14 of Annex II and that the arrangements and equipment of the vessel prescribed in the manual are in all respects satisfactory.
- 4 That the ship complies with the requirements of the Guidelines and Annex II to MARPOL 73/78 for carriage in bulk of the following products provided that all relevant operational provisions of the Guidelines and Annex II are observed:

Products (refer to Notes 1, 2 on completion of Certificate)	Conditions of carriage (tank numbers, etc.)	Pollution Category
Continued on attachment 1, additional signed and dated sheets ³ . Tank numbers referred to in this list are identified on attachment 2, showing a signed and dated simplified tank plan.		

³ Delete as appropriate.

5 That, in accordance with 1.4³ of the Guidelines and 2.8.2³ of the IBC Code, the provisions of the Guidelines and the Code are modified in respect of the vessel in the following manner:
.....

6 That the ship must be loaded:

.1 in accordance with the loading conditions provided in the approved loading manual, stamped and dated and signed by a responsible officer of the Administration, or of an organization recognized by the Administration³;

.2 in accordance with the loading limitations appended to this Certificate³.

Where it is required to load the ship other than in accordance with the above instructions, then the necessary calculations to justify the proposed loading conditions should be communicated to the certifying Administration who may authorize in writing the adoption of the proposed loading condition.⁴

This Certificate is valid until:⁵
(dd/mm/yyyy)

subject to surveys in accordance with 1.5 of the Guidelines.

Completion date of the survey on which this certificate is based:
(dd/mm/yyyy)

Issued at
(Place of issue of Certificate)

.....
(Date of issue)

.....
(Signature of authorized official
issuing the certificate)

(Seal or stamp of the authority, as appropriate)

³ Delete as appropriate.

⁴ Instead of being incorporated in the Certificate, this text may be appended to the Certificate if duly signed and stamped.

⁵ Insert the day of expiry, as specified by the Administration, which should not exceed 5 years from the date of initial survey or the periodical survey.

Notes on completion of Certificate:

- 1 Products: products listed in appendix 1 to the Guidelines or which have been evaluated by the Administration in accordance with 1.2.4 of the Guidelines should be listed. In respect of the latter “new” products, any special requirements provisionally prescribed should be noted.
- 2 Products: the list of products the vessel is suitable to carry should include the Noxious Liquid Substances of category Z which are not covered by the Guidelines and should be identified as “IBC Code chapter 18 category Z”.

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that at a survey required by 1.5.2 of the Code the ship was found to comply with the relevant provisions of the Guidelines.

Annual survey: Signed:
(Signature of duly authorized official)
Place:
Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

Annual/Intermediate³ survey: Signed:
(Signature of duly authorized official)
Place:
Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

Annual/Intermediate³ survey: Signed:
(Signature of duly authorized official)
Place:
Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

³ Delete as appropriate.

Annual survey:

Signed:
(Signature of duly authorized official)

Place:

Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE WITH PARAGRAPH 1.5.6.8.3

THIS IS TO CERTIFY that, at an annual/intermediate³ survey in accordance with paragraph 1.5.8.6.3 of the Code, the ship was found to comply with the relevant provisions of the Guidelines:

Signed:
(Signature of duly authorized official)

Place:

Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

**ENDORSEMENT TO EXTEND THE CERTIFICATE IF VALID
FOR LESS THAN 5 YEARS WHERE PARAGRAPH 1.5.6.3 APPLIES**

The ship complies with the relevant provisions of the Guidelines, and this Certificate shall, in accordance with paragraph 1.5.6.3 of the Code, be accepted as valid until:

.....
(dd/mm/yyyy)

Signed:
(Signature of duly authorized official)

Place:

Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

³ Delete as appropriate.

**ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN
COMPLETED AND PARAGRAPH 1.5.6.4 APPLIES**

The ship complies with the relevant provisions of the Guidelines, and this Certificate shall, in accordance with paragraph 1.5.6.4 of the Code, be accepted as valid until:

.....
(dd/mm/yyyy)

Annual survey:

Signed:
(Signature of duly authorized official)

Place:

Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

**ENDORSEMENT TO EXTEND THE VALIDITY OF THE CERTIFICATE
UNTIL REACHING THE PORT OF SURVEY OR FOR A PERIOD
OF GRACE WHERE PARAGRAPH 1.5.6.5 OR 1.5.66 APPLIES**

This Certificate shall, in accordance with paragraph 1.5.6.5/1.5.6.6³ of the Code, be accepted as valid until

Signed:
(Signature of duly authorized official)

Place:

Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

**ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE WHERE
PARAGRAPH 1.5.6.8 APPLIES**

In accordance with paragraph 1.5.6.8 of the Code, the new anniversary date is

Signed:
(Signature of duly authorized official)

Place:

Date:
(dd/mm/yyyy)

(Seal or stamp of the Authority, as appropriate)

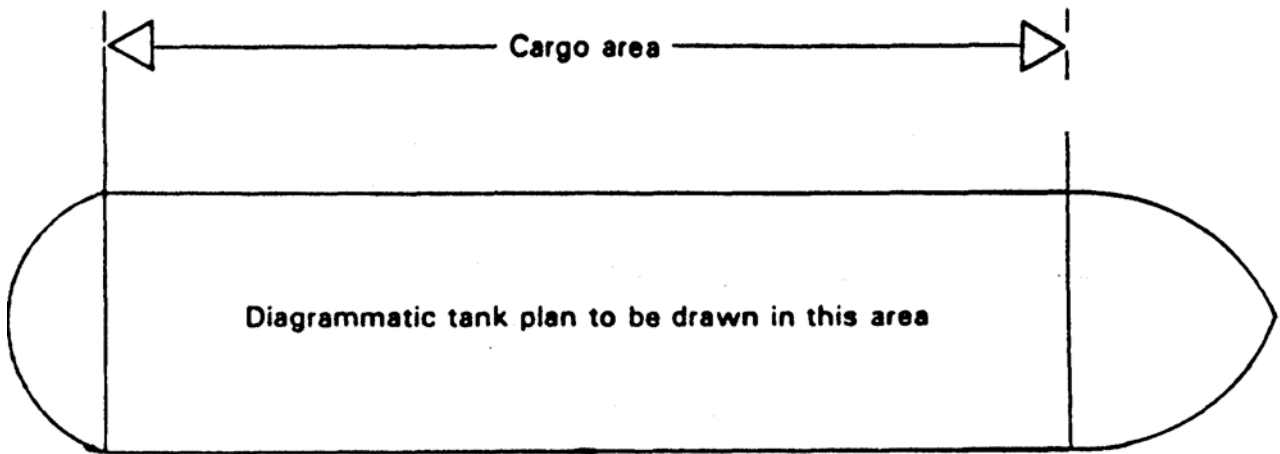
³ Delete as appropriate.

ATTACHMENT 2 TO THE CERTIFICATE OF FITNESS

TANK PLAN (specimen)

Name of ship:

Distinctive number or letters:



Date

(dd/mm/yyyy)
(as for certificate)

.....

*(Signature of official issuing the Certificate
and/or seal of issuing authority)*

ANNEX 31

RESOLUTION MSC.237(82)

(adopted on 1 December 2006)

**ADOPTION OF AMENDMENTS TO THE CODE OF SAFE PRACTICE FOR
THE CARRIAGE OF CARGOES AND PERSONS BY OFFSHORE SUPPLY VESSELS
(OSV CODE)**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(6) of the Convention on the International Maritime Organization concerning the function of the Committee,

RECALLING FURTHER resolution A.863(20) on Code of Safe Practice for the Carriage of Cargoes and Persons by Offshore Supply Vessels (OSV Code), adopted by the Assembly at its twentieth session,

NOTING that the Assembly requested the Maritime Safety Committee to keep OSV Code under review and to amend it as necessary,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers, at its eleventh session,

1. ADOPTS the amendments to the Code of Safe Practice for the Carriage of Cargoes and Persons by Offshore Supply Vessels (OSV Code), the text of which is set out in the Annex to the present resolution;
2. INVITES Governments to bring the annexed amendments to the attention of all parties concerned.

ANNEX

**AMENDMENTS TO THE CODE OF SAFE PRACTICE FOR THE
CARRIAGE OF CARGOES AND PERSONS BY OFFSHORE SUPPLY VESSELS
(OSV CODE)**

**CHAPTER 1
GENERAL**

1.1 Definitions

- 1 At the end of paragraph 1.1.3, the following new sentence is added:

“Vessels fitted with dynamic positioning equipment should comply with the guidelines developed by the Organization*.”

* Refer to the Guidelines for vessels with dynamic positioning systems (MSC/Circ.645) and the Guidelines for dynamic positioning systems (DP) operating training (MSC/Circ.738).

1.4 Cargo handling and stability

- 2 In paragraph 1.4.6, the words “Guidelines for the design and construction of offshore supply vessels (resolution A.469(XII))” are replaced by the words “Guidelines for the design and construction of offshore supply vessels, 2006 (resolution MSC.235(82))”.

ANNEX 32

RESOLUTION MSC.238(82)
(adopted on 1 December 2006)

**ADOPTION OF AMENDMENTS TO THE CODE OF PRACTICE FOR THE SAFE
LOADING AND UNLOADING OF BULK CARRIERS**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning functions of the Committee,

RECALLING ALSO resolution A.862(20), by which the Assembly, at its twentieth session, adopted the Code of Practice for the Safe Loading and Unloading of Bulk Carriers (BLU Code),

NOTING that the Assembly authorized the Committee to keep this Code under review and amend it as may be necessary,

CONSIDERING that the application of the BLU Code should be extended to ships carrying grain,

HAVING CONSIDERED, at its eighty-second session, amendments to the BLU Code prepared by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers, at its eleventh session,

1. ADOPTS the amendments to the Code of Practice for the Safe Loading and Unloading of Bulk Carriers, the text of which is set out in the Annex to the present resolution;
2. DETERMINES that the above-said amendments should become effective on 1 January 2007.

ANNEX

AMENDMENTS TO THE CODE OF PRACTICE FOR THE SAFE LOADING AND UNLOADING OF BULK CARRIERS

INTRODUCTION

- 1 In paragraph 3, the words “, excluding grain,” are deleted.
- 2 The following new paragraph 8 is added after the existing paragraph 7:

“8 In the event of a conflict between this Code and the International Code for the Safe Carriage of Grain in Bulk (International Grain Code), the provisions of the International Grain Code should prevail.”

SECTION 5

CARGO LOADING AND HANDLING OF BALLAST

- 3 At the end of paragraph 5.1.4, the words “, or the International Grain Code, as appropriate” are added.

APPENDIX 4

GUIDELINES FOR COMPLETING THE SHIP/SHORE SAFETY CHECKLIST

- 4 At the end of paragraph 17, the words “, or the International Grain Code, as appropriate” are added.

ANNEX 33

WORK PROGRAMMES OF THE SUB-COMMITTEES

SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG)

		Target completion date/number of sessions needed for completion	Reference
1	Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments	Continuous	BLG 10/19, section 3
2	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; MSC 80/24, paragraph 21.6; BLG 10/19, section 10
3	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; BLG 10/19, section 9
H.1	Environmental and safety aspects of alternative tanker designs under MARPOL 73/78, regulation I/13F		BLG 3/18, paragraph 15.7
	.1 assessment of alternative tanker designs, if any (as necessary)	Continuous	BLG 1/20, section 16; BLG 4/18, paragraph 15.3
H.2	Oil tagging systems	2008	MEPC 45/20, paragraph 17.4; BLG 8/18, section 10 and paragraph 15.4.3
H.3	Development of provisions for gas-fuelled ships (in co-operation with FP and DE)	2007	MSC 78/26, paragraph 24.11; BLG 10/19, section 6

Notes: 1 “H” means a high priority item and “L” means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.

2 Items printed in bold letters have been selected for the provisional agenda for BLG 11.

Sub-Committee on Bulk Liquids and Gases (BLG) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.4	Development of guidelines for uniform implementation of the 2004 BWM Convention	2007	MEPC 52/24, paragraph 2.21.6; BLG 10/19, section 4
H.5	Guidelines on other technological methods verifiable or enforceable to limit SO_x emissions	2007	MEPC 53/24, paragraph 4.40
H.6	Amendments to MARPOL Annex I for the prevention of marine pollution during oil transfer operations between ships at sea	2007	MEPC 53/24, paragraph 20.6; BLG 10/19, section 15
H.7	Review of MARPOL Annex VI and the NO_x Technical Code	2007	MEPC 53/24, paragraph 4.50; BLG 10/19, section 14
H.8	Application of the requirements for the carriage of bio-fuels and bio-fuel blends	2008	MEPC 55/23, paragraphs 19.4 and 19.5

SUB-COMMITTEE ON DANGEROUS GOODS, SOLID CARGOES AND CONTAINERS (DSC)

		Target completion date/number of sessions needed for completion	Reference
1	Harmonization of the IMDG Code with the UN Recommendations on the Transport of Dangerous Goods	Continuous	MSC 63/23, Paragraph 10.6 ; DSC 11/19, section 3
2	Reports on incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Continuous	CDG 45/22, section 11 and paragraph 20.2; DSC 11/19, section 6
3	Amendments to the BC Code, including evaluation of properties of solid bulk cargoes	Continuous	BC 34/17, section 3; DSC 11/19, section 4
4	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; DSC 11/19, section 6
H.1	Amendment (34-08) to the IMDG Code and supplements	2007	DSC 3/15, paragraph 12.6; DSC 11/19, section 14
H.2	Mandatory application of the BC Code	2007	DSC 3/15, paragraph 12.7; MSC 78/25, paragraph 13.7; DSC 11/19, section 5
H.3	Review of the SPS Code (co-ordinated by DE)	2007	MSC 78/26, paragraph 24.9; DSC 11/19, section 9
	Amendments to the CSS Code	2007	MSC 78/26, paragraph 24.15.3; DSC 11/19, section 10

Notes: 1 "H" means a high priority item and "L" means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.

2 Items printed in bold letters have been selected for the provisional agenda for DSC 12.

Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.5	Extension of the BLU Code to include grain	2008	MSC 79/23, paragraph 20.7; DSC 11/19, section 12
H.6	Guidance on providing safe working conditions for securing of containers	2007	MSC 80/24, paragraph 21.8; DSC 11/19, section 13
H.7	Review of the Recommendations on the safe use of pesticides in ships	2007	DSC 10/17, paragraph 4.23; DSC 11/19, section 14
H.8	Application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code (co-ordinated by FP)	2007	MSC 81/25, paragraphs 23.9 and 23.14; DSC 11/19, section 15
H.9	Guidance on protective clothing	2008	MSC 81/25, paragraph 23.8; DSC 11/19, paragraph 16.1.3.1
H.10	Revision of the Code of Safe Practice for Ships Carrying Timber Deck Cargoes	2010	MSC 82/24, paragraph 21.11
H.11	Form and procedure for approval of the Cargo Securing Manual	2008	MSC 82/24, paragraph 21.12

SUB-COMMITTEE ON FIRE PROTECTION (FP)

		Target completion date/number of sessions needed for completion	Reference
1	Analysis of fire casualty records	Continuous	MSC 75/24, paragraph 22.18; FP 50/21, section 12
2	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; FP 50/21, section 11
H.1	Performance testing and approval standards for fire safety systems	2009	MSC 74/24, paragraph 21.12; FP 50/21, section 4
H.2	Comprehensive review on the Fire Test Procedures Code	2008	MSC 80/24, paragraph 21.11; FP 50/21, section 10
H.3	Recommendation on evacuation analysis for new and existing passenger ships	2008	MSC 73/21, paragraph 4.16; FP 50/21, section 5
H.4	Review of the SPS Code (co-ordinated by DE)	2007	MSC 78/26, paragraph 24.9; FP 50/21, section 8
H.5	Development of provisions for gas-fuelled ships (co-ordinated by BLG)	2007	MSC 78/26, paragraph 24.19; FP 50/21, section 6
H.6	Measures to prevent fires in engine-rooms and cargo pump-rooms	2009	MSC 79/23, paragraph 20.11; FP 50/21, section 7

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- Notes:**
- 1 “H” means a high priority item and “L” means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.
 - 2 Items printed in bold letters have been selected for the provisional agenda for FP 51.

Sub-Committee on Fire Protection (FP) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.7	Fire resistance of ventilation ducts	2007	MSC 81/25, paragraph 23.13
H.8	Application of requirements for dangerous goods in package form in SOLAS and the 2000 HSC Code (in co-operation with DSC)	2007	MSC 81/25, paragraph 23.14
H.9	Unified interpretation on the number and arrangement of portable extinguishers in accommodation spaces, service spaces, control stations, etc.	2008	MSC 81/25, paragraphs 23.15 and 23.16
H.10	Review of fire safety of external areas on passenger ships	2007	MSC 81/25, paragraph 23.17.1
H.11	Performance standards for fixed water-spraying, fire detection and fire alarm systems for cabin balconies	2008	MSC 81/25, paragraph 23.17.2
H.12	Fixed hydrocarbon gas detection systems on double-hull oil tankers (in co-operation with BLG, as necessary and when requested by FP)	2 sessions	MSC 82/24, paragraph 21.18
H.13	Clarification of SOLAS chapter II-2 requirements regarding interrelation between central control station and safety centre	2 sessions	MSC 82/24, paragraph 21.20
L.1	Smoke control and ventilation	2 sessions	FP 39/19, section 9; FP 46/16, section 4

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI)

		Target completion date/number of sessions needed for completion	Reference
1	Mandatory reports under MARPOL 73/78	Continuous	MSC 70/23, paragraph 20.12.1; FSI 14/19, section 4
2	Casualty statistics and investigations	Continuous	MSC 68/23, paragraphs 7.16 to 7.24; FSI 14/19, section 5
3	Harmonization of port State control activities	Continuous	MSC 71/23, paragraph 20.16; MSC 80/24, paragraph 21.16; FSI 14/19, section 7
4	Responsibilities of Governments and measures to encourage flag State compliance	Continuous	MSC 68/23, paragraphs 7.2 to 7.8; FSI 14/19, section 3
5	Comprehensive analysis of difficulties encountered in the implementation of IMO instruments	Continuous	MSC 69/22, paragraph 20.28; FSI 8/19, paragraph 4.3; FSI 14/19, section 10
6	Review of the Survey Guidelines under the HSSC (resolution A.948(23))	Continuous	MSC 72/23, paragraph 21.27; FSI 14/19, section 11

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2 Items printed in bold letters have been selected for the provisional agenda for FSI 15.

Sub-Committee on Flag State Implementation (FSI) (continued)

		Target completion date/number of sessions needed for completion	Reference
7	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; FSI 14/19, section 14
H.1	PSC guidelines on seafarers' working hours	2007	MSC 70/23, paragraph 20.12.3; FSI 14/19, section 8
H.2	Illegal, unregulated and unreported (IUU) fishing and implementation of resolution A.925(22)	2008	MSC 72/23, paragraph 21.28; FSI 10/17, section 11; MSC 75/24, paragraphs 13.11 and 22.25.3; FSI 14/19, section 15
H.3	Development of guidelines on port State control under the 2004 BWM Convention	2008	MEPC 52/24, paragraph 2.21.2; FSI 14/19, section 9
H.4	Review of the Code for the Investigation of Marine Casualties and Incidents	2007	MSC 79/23, paragraphs 20.15 to 20.18; FSI 14/19, section 6
H.5	Port reception facilities-related issues	2007	MEPC 53/24, paragraph 9.7; FSI 14/19, section 3
H.6	Amendments to the ISM Code relating to requirements for seafarer safety representation	2 sessions	MSC 82/24, paragraph 21.24.1
H.7	Code of conduct during demonstrations/campaigns against ships on high seas (co-ordinated by NAV)	2 sessions	MSC 82/24, paragraph 21.26

SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR)

		Target completion date/number of sessions needed for completion	Reference
1	Global Maritime Distress and Safety System (GMDSS)		COMSAR 10/16, section 3
	.1 matters relating to the GMDSS Master Plan	Continuous	COMSAR 10/16, paragraphs 3.1 to 3.4
	.2 exemptions from radio requirements	Continuous	COMSAR 4/14, paragraphs 3.38 to 3.41
2	Promulgation of maritime safety information (MSI) (in co-operation with ITU, IHO, WMO and IMSO)		
	.1 operational and technical co-ordination provisions of maritime safety information (MSI) services, including review of the related documents	Continuous	COMSAR 10/16, paragraphs 3.5 to 3.29
3	ITU World Radiocommunication Conference matters	Continuous	COMSAR 10/16, paragraphs 4.3 to 4.6, and 4.13 to 4.20
4	Radiocommunication ITU-R Study Group 8 matters	Continuous	COMSAR 10/16, paragraphs 4.1, 4.2, and 4.9 to 4.12
5	Satellite services (Inmarsat and COSPAS-SARSAT)	Continuous	COMSAR 10/16, section 5

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2 Items printed in bold letters have been selected for the provisional agenda for COMSAR 11.

Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) (continued)

		Target completion date/number of sessions needed for completion	Reference
6	Matters concerning search and rescue, including those related to the 1979 SAR Conference and the implementation of the GMDSS		
.1	harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters	2007	COMSAR 10/16, paragraphs 6.1 to 6.16
.2	plan for the provision of maritime SAR services, including procedures for routing distress information in the GMDSS	Continuous	COMSAR 10/16, paragraphs 6.27 to 6.41
.3	revision of the IAMSAR Manual	Continuous	MSC 71/23, paragraph 20.2; COMSAR 10/16, section 8
.4	medical assistance in SAR services	2007	MSC 75/24, paragraph 22.29; COMSAR 10/16, paragraphs 6.42 to 6.49
7	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; MSC 78/26, paragraph 24.8
H.1	Amendments to SOLAS chapter IV pursuant to the criteria set out in resolution A.888(21)	3 sessions	MSC 72/23, paragraph 21.33.1.2
H.2	Developments in maritime radiocommunication systems and technology	2007	MSC 74/24, paragraph 21.25.1; COMSAR 10/16, section 7

Sub-Committee on Radiocommunications and Search and Rescue (COMSAR) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.3	Revision of the performance standards for SART	2007	MSC 78/26, paragraph 24.26; COMSAR 10/16, section 12
H.4	Amendments to COLREGs Annex IV relating to distress signals (co-ordinated by NAV)	2007	MSC 81/25, paragraphs 23.24 and 23.38
H.5	Guidelines on the control of ships in an emergency (co-ordinated by NAV)	2007	MSC 81/25, paragraphs 23.22, and 23.28 to 23.32
H.6	Guidelines for uniform operating limitations of high-speed craft (co-ordinated by DE)	2008	MSC 81/25, paragraph 23.45
H.7	Development of an e-navigation strategy (co-ordinated by NAV)	2008	MSC 81/25, paragraphs 23.34 to 23.37
L.1	Replacements for use of NBDP (radio telex) for maritime distress and safety communications in maritime MF/HF bands	2008	MSC 81/25, paragraph 23.23

SUB-COMMITTEE ON SAFETY OF NAVIGATION (NAV)

		Target completion date/number of sessions needed for completion	Reference
1	Routeing of ships, ship reporting and related matters	Continuous	MSC 72/23, paragraphs 10.69 to 10.71, 20.41 and 20.42; NAV 52/18, section 3
2	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; NAV 52/18, section 13
3	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12; NAV 52/18, section 14
H.1	Worldwide radionavigation system (WWRNS)	2008	MSC 75/24, paragraph 22.37
	.1 new developments in the field of GNSS, especially Galileo	2008	NAV 52/18, section 12
	.2 review and amendment of IMO policy for GNSS (resolution A.915(22))	2008	NAV 52/18, section 12
	.3 recognition of radionavigation systems as components of the WWRNS (resolution A.953(23))	2008	NAV 52/18, section 12
H.2	ITU matters, including Radiocommunication ITU-R Study Group 8 matters	2009	MSC 69/22, paragraphs 5.69 and 5.70; NAV 52/18, section 9

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 - 2 Items printed in bold letters have been selected for the provisional agenda for NAV 53.

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.3	Revision of the performance standards for INS and IBS	2007	MSC 78/26, paragraph 24.30; NAV 52/18, section 4
H.4	Evaluation of the use of ECDIS and ENC development	2007	MSC 78/26, paragraph 24.33; NAV 52/18, section 6
H.5	Development of guidelines for the installation of shipborne radar equipment	2008	MSC 80/24, paragraph 21.23; NAV 52/18, section 7
H.6	Amendments to COLREGs Annex I related to colour specification of lights	2007	MSC 80/24, paragraph 21.24.1; NAV 52/18, section 8
H.7	Development of performance standards for navigation lights, navigation light controllers and associated equipment	2007	MSC 80/24, paragraph 21.24.2; NAV 52/18, section 11
H.8	Carriage requirements for a bridge navigational watch alarm system	2008	MSC 81/25, paragraph 23.27; NAV 52/18, paragraphs 17.44 and 17.45
H.9	Guidelines on the control of ships in an emergency (in co-operation with COMSAR)	2007	MSC 81/25, paragraphs 23.28 to 23.32; NAV 52/18, paragraphs 17.31 to 17.37
H.10	Development of an e-navigation strategy (in co-operation with COMSAR)	2008	MSC 81/25, paragraphs 23.34 to 23.37; NAV 52/18, paragraphs 17.18 to 17.30

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.11	Development of carriage requirements for ECDIS	2008	MSC 81/25, paragraphs 23.39 and 23.40; NAV 52/18, paragraphs 17.50 to 17.57
H.12	Guidelines for uniform operating limitations of high-speed craft (co-ordinated by DE)	2008	MSC 81/25, paragraph 23.45
H.13	Guidelines on the layout and ergonomic design of safety centres on passenger ships	2008	MSC 81/25, paragraph 23.42
H.14	Amendments to the General Provisions on Ships' Routing	1 session	MSC 82/24, paragraph 21.34
H.15	Review of COLREGs regarding the right of way of vessels over pleasure craft	1 session	MSC 82/24, paragraph 21.35
H.16	Code of conduct during demonstrations/campaigns against ships on high seas (in co-operation with FSI)	2 sessions	MSC 82/24, paragraph 21.36
H.17	Measures to minimize incorrect data transmissions by AIS equipment (in co-operation with FSI and COMSAR, as necessary)	2 sessions	MSC 82/24, paragraph 21.38
H.18	Review of vague expressions in SOLAS regulation V/22	2 sessions	MSC 82/24, paragraph 21.39
H.20	Revision of the Guidance on the application of AIS binary messages	2 sessions	MSC 82/24, paragraph 21.41
H.21	Improved safety of pilot transfer arrangements (in co-operation with DE)	2 sessions	MSC 82/24, paragraph 21.42

SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT (DE)

		Target completion date/number of sessions needed for completion	Reference
1	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4
2	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12
H.1	Amendments to resolution A.744(18)	2007	DE 45/27, paragraphs 7.18 and 7.19; DE 49/20, paragraphs 3.4 to 3.8
H.2	Measures to prevent accidents with lifeboats (in co-operation with FSI, NAV and STW)	2008	MSC 74/24, paragraph 21.34; DE 48/25, section 5; FP 50/21, section 13
H.3	Performance standards for protective coatings	2007	MSC 76/23, paragraphs 20.41.2 and 20.48; DE 49/20, section 6
H.4	Inspection and survey requirements for accommodation ladders	2007	MSC 77/26, paragraph 23.32; DE 49/20, section 8
H.5	Mandatory emergency towing systems in ships other than tankers of not less than 20,000 dwt	2007	MSC 77/26, paragraph 23.33; DE 49/20, section 7
H.6	Compatibility of life-saving appliances	2008	DE 47/15, paragraph 5.3; MSC 78/26, paragraph 24.37.1; DE 48/25, section 8; FP 50/21, section 14

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Sub-Committee on Ship Design and Equipment (DE) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.7	Review of the SPS Code (in co-operation with DSC, FP, NAV, COMSAR and SLF)	2007	MSC 78/26, paragraph 24.9; DE 49/20, section 12
H.8	Development of provisions for gas-fuelled ships (co-ordinated by BLG)	2007	MSC 78/26, paragraph 24.39; DE 49/20, section 10
H.9	Test standards for extended service intervals of inflatable liferafts	2007	MSC 78/26, paragraph 24.41; DE 48/25, section 20; FP 50/20, section 16
H.10	Amendments to the Guidelines for ships operating in Arctic ice-covered waters (in co-operation with SLF, as necessary)	2008	MSC 79/23, paragraph 8.25
H.11	Revision of the Code on Alarms and Indicators (in co-operation with appropriate sub-committees, as necessary)	2007	MSC 79/23, paragraph 20.28; DE 49/20, section 13
H.12	Amendments to the MODU Code	2007	MSC 79/23, paragraph 22.51; DE 49/20, section 14
H.13	Guidelines for uniform operating limitations of high-speed craft (in co-operation with COMSAR, NAV and SLF)	2009	DE 49/20, section 5; MSC 81/25, paragraph 23.45
H.14	Guidelines for maintenance and repair of protective coatings	2008	MSC 81/25, paragraph 23.48.1
H.15	Requirements and standard for corrosion protection of permanent means of access arrangements	2008	MSC 81/25, paragraph 23.48.2

Sub-Committee on Ship Design and Equipment (DE) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.16	Performance standards for recovery systems	2008	MSC 81/25, paragraph 23.49.1
H.17	Guidelines for the approval of novel life-saving appliances	2008	MSC 81/25, paragraph 23.49.2
H.18	Review of MEPC/Circ.511 and relevant MARPOL Annex I and Annex VI requirements	2008	MEPC 55/23, paragraph 6.16
H.19	Guidance to ensure consistent policy for determining the need for watertight doors to remain open during navigation	2 sessions	SLF 49/17, paragraph 3.11; MSC 82/24, paragraph 21.47
H.20	Review of the SOLAS requirements on new installation of materials containing asbestos	2 sessions	MSC 82/24, paragraph 21.48
H.21	Development of a new framework of requirements for life-saving appliances (in co-operation with FP and COMSAR, as necessary and when requested by DE)	4 sessions	MSC 82/24, paragraph 21.49
H.22	Improved safety of pilot transfer arrangements (co-ordinated by NAV)	2 sessions	MSC 82/24, paragraph 21.50
H.23	Cargo oil tank coating and corrosion protection	2009*	MSC 82/24, paragraphs 21.51 and 23.12
H.24	Development of safety objectives and functional requirements of the Guidelines on alternative design and arrangements for SOLAS chapters II-1 and III	3 sessions	MSC 82/24, paragraphs 3.92 and 21.52

* To be included in the provisional agenda for DE 51.

Sub-Committee on Ship Design and Equipment (DE) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.25	Interpretation of SOLAS regulations II-1/1.3 and II-1/3-6	2008*	MSC 82/24, paragraph 21.53
L.1	Revision of resolution A.760(18)	2008	DE 46/32, paragraph 31.23; DE 47/25, paragraph 22.6
L.2	Free-fall lifeboats with float-free capabilities	1 session	MSC 76/23, paragraphs 20.41.3 and 20.48; DE 47/25, paragraph 22.6
L.3	Guidelines on equivalent methods to reduce on-board NO _x emission	2 sessions	MEPC 41/20, paragraph 8.22.1; BLG 10/19, Paragraph 12.3; MEPC 55/23, paragraph 19.9

* To be included in the provisional agenda for DE 51.

SUB-COMMITTEE ON STABILITY AND LOAD LINES AND ON FISHING VESSELS SAFETY (SLF)

		Target completion date/number of sessions needed for completion	Reference
1	Analysis of intact stability casualty records	Continuous	MSC 70/23, paragraph 20.4; SLF 30/18, paragraphs 4.16 and 4.17
2	Analysis of damage cards	Continuous	MSC 70/23, paragraph 20.4
3	Consideration of IACS unified interpretations	Continuous	MSC 78/26, paragraph 22.12
H.1	Development of explanatory notes for harmonized SOLAS chapter II-1	2008	MSC 69/22, paragraph 20.60.1; SLF 49/17, section 3
H.2	Safety of small fishing vessels (in co-operation with DE, COMSAR, FP, NAV and STW, as necessary)	2009	MSC 79/23, paragraphs 11.15 and 20.32; SLF 49/17, section 6
H.3	Revision of the Intact Stability Code	2007	SLF 41/18, paragraph 3.14; SLF 49/17, section 5
H.4	Review of the SPS Code (co-ordinated by DE)	2007	MSC 78/26, paragraph 24.9; SLF 49/17, section 11
H.5	Development of options to improve effect on ship design and safety of the 1969 TM Convention	2008	MSC 81/25, paragraph 23.53

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2 Items printed in bold letters have been selected for inclusion in the provisional agenda for SLF 50.

Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety (SLF)
(continued)

		Target completion date/number of sessions needed for completion	Reference
H.6	Guidelines for uniform operating limitations on high-speed craft (co-ordinated by DE)	2008	MSC 81/25, paragraph 23.45
H.7	Time-dependant survivability of passenger ships in damaged condition	2009	MSC 81/25, paragraph 23.54; SLF 49/17, section 14
H.8	Interpretation of alterations and modifications of a major character under the revised SOLAS chapter II-1	2007	SLF 49/17, section 13; MSC 82/24, paragraph 21.56.1
H.9	Guidance on the impact of open watertight doors on existing and new ship survivability	2008	SLF 49/17, section 3; MSC 82/24, paragraph 21.56.2
H.10	Stability and sea-keeping characteristics of damaged passenger ships in a seaway when returning to port by own power or under tow	2008*	MSC 82/24, paragraphs 3.16 and 21.57
L.1	Revision of resolution A.266(VIII)	2007	SLF 45/14, paragraphs 3.19 and 11.1.4.1; MSC 76/23, paragraph 20.50; SLF 49/17, section 9
L.2	Revision of MSC/Circ.650	2007	SLF 47/17, paragraph 3.8; SLF 49/17, section 13

* To be included in the provisional agenda for SLF 51.

SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING (STW)

		Target completion date/number of sessions needed for completion	Reference
1	Validation of model training courses	Continuous	STW 31/17, Paragraph 14.4; STW 37/18, section 3
2	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; MSC 77/26, paragraphs 18.10 and 23.40.2; STW 37/18, section 11
H.1	Unlawful practices associated with certificates of competency	Continuous	MSC 71/23, paragraph 20.55.2; STW 37/18, section 4
H.2	Passenger ship safety	2007	MSC 74/24, paragraph 21.4; STW 37/18, section 5
H.3	Measures to enhance maritime security	2007	MSC 75/24, paragraph 22.9 and 22.45; STW 37/18, section 7
H.4	Education and training requirements for fatigue prevention, mitigation and management	2007	MSC 75/24, paragraph 22.48; STW 37/18, section 8
H.5	Development of training requirements for the control and management of ship's ballast water and sediments	2007	MSC 71/23, paragraph 20.55.3; STW 37/18, section 9

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2 Items printed in bold letters have been selected for the provisional agenda for STW 38.

Sub-Committee on Standards of Training and Watchkeeping (STW) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.6	Development of competences for Ratings	2007	MSC 77/26, paragraph 23.40.1; STW 37/18, section 10
H.7	Identification of areas in chapter VI of the STCW Code where training cannot be conducted on board	2008	STW 37/18, section 17; MSC 81/25, paragraph 23.57.1
H.8	Comprehensive review of the STCW Convention and the STCW Code	2008	STW 37/18, section 15; MSC 82/25, paragraphs 23.57.2, 23.40.2, 23.62 and 23.63
H.9	Review of the principles for establishing the safe manning levels of ships	2008	MSC 81/25, paragraphs 23.58 to 23.60
H.10	Development of training standards for recovery systems	2 sessions	MSC 81/25, paragraph 23.64
H.11	Training for seafarer safety representatives	2 sessions	MSC 82/24, paragraph 21.60
L.1	Review of the implementation of STCW chapter VII	2 sessions	MSC 72/23, paragraph 21.56; STW 35/19, section 14
L.2	Clarification of the STCW-F Convention provisions and follow-up Action to the associated Conference resolution	2 sessions	STW 34/14, paragraph 11.8

ANNEX 34**PROVISIONAL AGENDAS FOR THE FORTHCOMING SESSIONS
OF THE SUB-COMMITTEES****SUB-COMMITTEE ON BULK LIQUIDS AND GASES (BLG) – 11TH SESSION ***

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Evaluation of safety and pollution hazards of chemicals and preparation of consequential amendments
 - 4 Application of the requirements for the carriage of bio-fuels and bio-fuel blends
 - 5 Development of guidelines for uniform implementation of the 2004 BWM Convention
 - 6 Review of MARPOL Annex VI and the NO_x Technical Code
 - 7 Development of provisions for gas-fuelled ships
 - 8 Amendments to MARPOL Annex I for the prevention of marine pollution during oil transfer operations between ships at sea
 - 9 Oil tagging systems
 - 10 Guidelines on other technological methods verifiable or enforceable to limit SO_x emissions
 - 11 Casualty analysis
 - 12 Consideration of IACS unified interpretations
 - 13 Work programme and agenda for BLG 12
 - 14 Election of Chairman and Vice-Chairman for 2008
 - 15 Any other business
 - 16 Report to the Committees

* Agenda item numbers do not necessarily indicate priority.

**SUB-COMMITTEE ON DANGEROUS GOODS, SOLID CARGOES AND CONTAINERS (DSC) –
12TH SESSION ***

- Opening of the session
- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Amendments to the IMDG Code and supplements, including harmonization of the IMDG Code with the UN Recommendations on the Transport of Dangerous Goods
 - .1 harmonization of the IMDG Code with the UN Recommendations on the Transport of Dangerous Goods
 - .2 amendment (34-08) to the IMDG Code and supplements
- 4 Amendments to the BC Code, including evaluation of properties of solid bulk cargoes
- 5 Mandatory application of the BC Code
 - .1 identification of mandatory and recommendatory parts of the BC Code, including consequential amendments
 - .2 amendments to SOLAS chapters VI and VII on making the BC Code mandatory
- 6 Casualty and incident reports and analysis
- 7 Review of the SPS Code
- 8 Amendments to the CSS Code
- 9 Extension of the BLU Code to include grain
- 10 Guidance on providing safe working conditions for securing of containers
- 11 Review of the Recommendations on the safe use of pesticides in ships
- 12 Application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code
- 13 Guidance on protective clothing
- 14 Revision of the Code of Safe Practice for Ships Carrying Timber Deck Cargoes
- 15 Form and procedure for approval of the Cargo Securing Manual
- 16 Work programme and agenda for DSC 13
- 17 Election of Chairman and Vice-Chairman for 2008
- 18 Any other business
- 19 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON FIRE PROTECTION (FP) – 51ST SESSION *

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Performance testing and approval standards for fire safety systems
 - 4 Comprehensive review of the Fire Test Procedures Code
 - 5 Recommendation on evacuation analysis for new and existing passenger ships
 - 6 Review of the SPS Code
 - 7 Development of provisions for gas-fuelled ships
 - 8 Measures to prevent fires in engine-rooms and cargo pump-rooms
 - 9 Consideration of IACS unified interpretations
 - 10 Analysis of fire casualty records
 - 11 Fire resistance of ventilation ducts
 - 12 Application of requirements for dangerous goods in package form in SOLAS and the 2000 HSC Code
 - 13 Unified interpretation on the number and arrangement of portable extinguishers in accommodation spaces, service spaces, control stations, etc.
 - 14 Review of fire safety of external areas on passenger ships
 - 15 Performance standards for fixed water-spraying, fire detection and fire alarm systems for cabin balconies
 - 16 Work programme and agenda for FP 52
 - 17 Election of Chairman and Vice-Chairman for 2008
 - 18 Any other business
 - 19 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON FLAG STATE IMPLEMENTATION (FSI) – 15th SESSION *

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Responsibilities of Governments and measures to encourage flag State compliance
 - 4 Mandatory reports under MARPOL 73/78
 - 5 Port reception facilities-related issues
 - 6 Casualty statistics and investigations
 - 7 Review of the Code for the Investigation of Marine Casualties and Incidents
 - 8 Harmonization of port State control activities
 - 9 Development of guidelines on port State control under the 2004 BWM Convention
 - 10 PSC guidelines on seafarers' working hours
 - 11 Comprehensive analysis of difficulties encountered in the implementation of IMO instruments
 - 12 Review of the Survey Guidelines under the HSSC (resolution A.948(23))
 - 13 Consideration of IACS unified interpretations
 - 14 Illegal, unregulated and unreported (IUU) fishing and implementation of resolution A.925(22)
 - 15 Work programme and agenda for FSI 16
 - 16 Election of Chairman and Vice-Chairman for 2008
 - 17 Any other business
 - 18 Report to the Committees

* Agenda item numbers do not necessarily indicate priority.

**SUB-COMMITTEE ON RADIOCOMMUNICATIONS AND SEARCH AND RESCUE (COMSAR) –
11th SESSION***

- Opening of the session
- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Global Maritime Distress and Safety System (GMDSS)
 - .1 matters relating to the GMDSS Master Plan
 - .2 operational and technical co-ordination provisions of maritime safety information (MSI) services, including review of the related documents
- 4 ITU maritime radiocommunication matters
 - .1 Radiocommunication ITU-R Study Group 8 matters
 - .2 ITU World Radiocommunication Conference matters
- 5 Satellite services (Inmarsat and COSPAS-SARSAT)
- 6 Matters concerning search and rescue, including those related to the 1979 SAR Conference and the implementation of the GMDSS
 - .1 harmonization of aeronautical and maritime search and rescue procedures, including SAR training matters
 - .2 plan for the provision of maritime SAR services, including procedures for routeing distress information in the GMDSS
 - .3 medical assistance in SAR services
- 7 Developments in maritime radiocommunication systems and technology
- 8 Revision of the IAMSAR Manual
- 9 Revision of the performance standards for SART
- 10 Amendments to COLREGs Annex IV relating to distress signals
- 11 Guidelines on the control of ships in an emergency
- 12 Replacements for use of NBDP (radio telex) for maritime distress and safety communications in maritime MF/HF bands
- 13 Guidelines for uniform operating limitations of high-speed craft
- 14 Development of an e-navigation strategy

* Agenda item numbers do not necessarily indicate priority.

- 15 Work programme and agenda for COMSAR 12
- 16 Election of Chairman and Vice-Chairman for 2008
- 17 Any other business
- 18 Report to the Maritime Safety Committee

SUB-COMMITTEE ON SAFETY OF NAVIGATION (NAV) – 53rd SESSION *

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Routing of ships, ship reporting and related matters
 - 4 Revision of the performance standards for INS and IBS
 - 5 Evaluation of the use of ECDIS and ENC development
 - 6 Carriage requirements for a bridge navigational watch alarm system
 - 7 Development of guidelines for the installation of shipborne radar equipment
 - 8 Amendments to COLREGs Annex I related to colour specification of lights
 - 9 ITU matters, including Radiocommunication ITU-R Study Group 8 matters
 - 10 Guidelines on the control of ships in an emergency
 - 11 Development of performance standards for navigation lights, navigation light controllers and associated equipment
 - 12 Worldwide radionavigation system (WWRNS)
 - 13 Development of an e-navigation strategy
 - 14 Development of carriage requirements for ECDIS
 - 15 Guidelines for uniform operating limitations of high-speed craft
 - 16 Guidelines on the layout and ergonomic design of safety centres on passenger ships
 - 17 Casualty analysis
 - 18 Consideration of IACS unified interpretations
 - 19 Work programme and agenda for NAV 54
 - 20 Election of Chairman and Vice-Chairman for 2008
 - 21 Any other business
 - 22 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT (DE) – 50th SESSION *

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Amendments to resolution A.744(18)
 - 4 Performance standards for protective coatings
 - 5 Inspection and survey requirements for accommodation ladders
 - 6 Mandatory emergency towing systems in ships other than tankers of not less than 20,000 dwt
 - 7 Development of provisions for gas-fuelled ships
 - 8 Consideration of IACS unified interpretations
 - 9 Review of the SPS Code
 - 10 Revision of the Code on Alarms and Indicators
 - 11 Amendments to the MODU Code
 - 12 Measures to prevent accidents with lifeboats
 - 13 Compatibility of life-saving appliances
 - 14 Test standards for extended service intervals of inflatable liferafts
 - 15 Amendments to the Guidelines for ships operating in Arctic ice-covered waters
 - 16 Revision of resolution A.760(18)
 - 17 Casualty analysis
 - 18 Guidelines for uniform operating limitations of high-speed craft
 - 19 Guidelines for maintenance and repair of protective coatings

* Agenda item numbers do not necessarily indicate priority.

- 20 Requirements and standard for corrosion protection of permanent means of access arrangements
- 21 Performance standards for recovery systems
- 22 Guidelines for the approval of novel life-saving appliances
- 23 Review of MEPC.1/Circ.511 and relevant MARPOL Annex I and Annex VI requirements
- 24 Work programme and agenda for DE 51
- 25 Any other business
- 26 Election of Chairman and Vice-Chairman for 2008
- 27 Report to the Maritime Safety Committee

**SUB-COMMITTEE ON STABILITY AND LOAD LINES AND ON FISHING VESSELS SAFETY (SLF) –
50th SESSION ***

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Development of explanatory notes for harmonized SOLAS chapter II-1
 - 4 Revision of the Intact Stability Code
 - 5 Safety of small fishing vessels
 - 6 Development of options to improve effect on ship design and safety of the 1969 TM Convention
 - 7 Guidelines for uniform operating limitations on high-speed craft
 - 8 Time-dependant survivability of passenger ships in damaged condition
 - 9 Consideration of IACS unified interpretations
 - 10 Revision of resolution A.266(VIII)
 - 11 Review of the SPS Code
 - 12 Analysis of damage cards
 - 13 Revision of MSC/Circ.650
 - 14 Interpretation of alterations and modifications of a major character under the revised SOLAS chapter II-1
 - 15 Guidance on the impact of open watertight doors on existing and new ship survivability
 - 16 Work programme and agenda for SLF 51
 - 17 Election of Chairman and Vice-Chairman for 2008
 - 18 Any other business
 - 19 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING (STW) – 38th SESSION *

- Opening of the session
- 1 Adoption of the agenda
 - 2 Decisions of other IMO bodies
 - 3 Validation of model training courses
 - 4 Unlawful practices associated with certificates of competency
 - 5 Passenger ship safety
 - 6 Measures to enhance maritime security
 - 7 Education and training requirements for fatigue prevention, mitigation and management
 - 8 Development of training requirements for the control and management of ship's ballast water and sediments
 - 9 Development of competences for ratings
 - 10 Casualty analysis
 - 11 Identification of areas in chapter VI of the STCW Code where training cannot be conducted on board
 - 12 Comprehensive review of the STCW Convention and the STCW Code
 - 13 Review of the principles for establishing the safe manning levels of ships
 - 14 Work programme and agenda for STW 39
 - 15 Election of Chairman and Vice-Chairman for 2008
 - 16 Any other business
 - 17 Report to the Maritime Safety Committee

* Agenda item numbers do not necessarily indicate priority.

ANNEX 35

**ADDRESS OF THE SECRETARY-GENERAL
AT THE OPENING OF THE EIGHTY-SECOND SESSION OF
THE MARITIME SAFETY COMMITTEE**

TEŞEKKÜRLER SAYIN BAŞKAN
GÜNAYDIN, BAYANLAR VE BAYLAR
VE İSTANBUL'A HOŞGELDİNİZ.

Good morning, distinguished delegates,

It is a pleasure also for me to welcome you to the eighty-second session of the Maritime Safety Committee. Your presence en masse here today can, all things considered, be compared with that of the loyal supporters of a club who follow their beloved team even when it plays away. I particularly welcome those delegates who may be attending a session of this Committee for the first time.

A very special welcome is extended to His Excellency Mr. Binali Yildirim not only because he is, in his capacity as Transport Minister in the Government of the Republic of Turkey, our host this week and the next, but also because he belongs to our family in his own right, being a graduate of the World Maritime University, one of the not many WMU alumni to have been entrusted with a portfolio as important as his.

So, welcome Minister Yildirim and may I take this opportunity to thank you and, through you, thank the Government of Turkey for inviting us to this great city, and also for bearing the substantial cost of moving the IMO staff over here to assist in the preparation and running of this meeting.

Chairman, Minister, distinguished delegates,

The pleasure of us meeting again, this time at an exciting new environment full of promises to taste and enjoy the proverbial Turkish hospitality, is marred by the sudden loss, on 30 October, a month ago tomorrow, of the Committee's Chairman, **Mr. Igor Ponomarev**, the Russian Federation's Permanent Representative to IMO. In the circumstances and in accordance with the Committee's Rules of Procedure, your Vice-Chairman, Mr. Neil Ferrer of the Philippines, will take over the chair for this session and I am, as I am sure you all are, extremely grateful to him for showing the determination and fortitude to accept the challenge and to prepare hard to perform his duties. I have no doubt that, with your support and co-operation, he will succeed in steering the Committee to a fruitful conclusion. He can count on the Secretariat's full support at any time.

Chairman, Minister, distinguished delegates,

Igor was a great friend to all of us and a highly talented young man who had all the necessary technical and managerial background and skills, depth of knowledge, wisdom and courage to take on the challenges and enormous responsibility of chairing the MSC. Since 1993, he had been closely involved with the development of the Russian Federation's participation in IMO activities and chaired various working and drafting groups, including the MSC Working Groups on Tanker and Bulk Carrier Safety from 1999 to 2002. In June 2001, he was appointed

Chairman of the IACS Council, **the youngest ever class man to rise to such an important post** – and was certainly among the youngest Governors of the World Maritime University, the Board of which he served, with much enthusiasm, over the last five years.

In 2003, he was designated Russia's Permanent Representative to IMO and, in the same year, was elected Chairman of the Sub-Committee on Ship Design and Equipment – a post that established his credentials as a skilful manager of international meetings and which he relinquished in 2005 in order to take over his duties as your Chairman. In November of last year, he successfully chaired the Technical Committee at IMO's 24th Assembly proving that, given his young age, the Organization was wisely investing in him for many years. Igor chaired **his first** and, unfortunately, **only** MSC session in May of this year and, in closing that meeting, you will recall me praising him for the way he had performed his duties, paying a special tribute to his determination and patience in achieving consensus in all of the Committee's decisions, in his usual affable and efficient manner. He was due to chair this session, here in Istanbul, and, according to his wife, during the last two months before his demise, he was tormenting himself with how to make the Committee more efficient, what initiatives to introduce, what jokes to make to keep it alive.

We have all been deeply shocked and saddened at his unexpected, untimely, unfair and unjust loss – the loss of a friend and colleague, whose short life was entirely dedicated to his family and to shipping, of which he was a committed, tireless servant. Igor's high standards of leadership, professionalism and technical knowledge, combined with a great sense of humour and integrity, synthesized an amalgam that will ensure a cherished memory for a long, long time. And it was that combination of talent and charisma – seen against his young age – that makes us all feel his loss very deeply.

On behalf of the IMO membership, the Secretariat and on my own behalf, I wrote to the Minister for Transportation, the Ambassador and the Permanent Mission in London of the Russian Federation, and to the Head of the Russian Register of Shipping, expressing our deep sympathy and heartfelt condolences.

With the approval of Igor's family and the authorities of the Russian Federation, we organized a memorial service in London last Friday, which gave Igor's many friends there and from abroad the opportunity to honour his memory. It was a very moving celebration of Igor's life, and I am sincerely grateful to all those that came from far and wide to pay tribute to him, and also to those – in particular the Russian Register of Shipping and the IMO staff – who assisted in many ways in the organization of the ceremony.

I have no doubt that many delegates present here today would also have wished to join us in London to pay their respects to Igor's memory but were unable to do so for reasons of their own. For them and, of course, all participants to this meeting, a book of condolence will be opened in a short while, and will remain open throughout this session, for any one wishing to sign it to do so.

To keep the memory of Igor alive and to provide encouragement to those who will one day follow in his footsteps, a number of colleagues and friends have suggested a more lasting commemoration: the establishment, at IMO, of a special Fund bearing his name. The Fund would be used to finance the attendance of individual students at the World Maritime University and might also be used to purchase equipment or reference materials in Igor's name to help the University's programmes. I hope you will agree with me that the establishment of such a fund

would not only be a fitting tribute but also one which would attract the necessary financial support.

In the meantime and, as a token of respect to the memory of our demised Chairman, the man who had the most unfortunate privilege to be the first IMO official to embark on the voyage without return **while on active service**, I would ask you, Minister, Chairman, Members of the Committee and all the other participants, to rise and join me in a minute of silence.

.....

Thank you.

Our thoughts and prayers continue to be with Alona and Alex.

Igor was 41.

Minister, distinguished delegates,

Holding this session of the Committee abroad while our own Headquarters building in London is undergoing a twelve-month refurbishment is a challenge, but I have every confidence that it will be both successful and enjoyable. Indeed, I hope that, over and above the demands of the hard work you will carry out this week and the next, you will give yourselves the opportunity to see and experience, not only the beauty, history, culture, cuisine and hospitality of this great city that is Istanbul and of its citizens, but, also, the safety and environmental protection measures in place in this Strait of great strategic importance and significance – a Strait in which density of traffic (through and domestic), narrowness, configuration, strong currents and occasionally reduced visibility combine to make the navigation through it extremely hazardous, a task which is exacerbated by the unquestionable need to protect, against any associated risk, this highly populated city of unparalleled beauty and historic and cultural value. This Committee and the Sub-Committee on Safety of Navigation has assisted, through the adoption of traffic separation schemes and other routeing measures and mandatory ship reporting systems, in the establishment of a sound infrastructure that aims at ensuring the uninterrupted flow of traffic through the Strait and the prevention of safety and environmental risks within it and its approaches. The establishment, by the Turkish Government, of a modern vessel traffic service to monitor and assist the navigation of ships from the Aegean to the Black Sea and *vice versa* has substantially contributed to the improvement of the overall situation, which will further improve once the installation of an AIS system to cover the whole area is completed.

As I am sure you know, the Secretariat has, since the beginning of August, moved to temporary premises at 55 Victoria Street in London and, despite a number of restrictions and a new working environment, our determination to continue providing you with the same high quality services and the usual efficient support to all meetings that are scheduled to take place during the refurbishment period, whether in London or elsewhere, continues unabated. I am extremely appreciative of the **understanding, co-operation and efforts of all IMO staff** – and, in particular, those in the Administrative and Conference Divisions – whose endeavours have contributed to a smooth transition of functions from the old to the new regime of both Headquarters and meeting venues; and those in the Maritime Safety, Legal and Marine Environment Divisions, for their contribution to the successful running of meetings of their respective Committees held in the last two months.

The Secretariat will do its best to provide you with all the services needed for a successful meeting. I hope that, for your part, you will take into account that, even though we have been provided with the best possible facilities by our hosts, we are away from home and working in an environment not too familiar to most of us. I know we can rely on your understanding and co-operation.

Turning now to the main topics on your agenda, you will recall my sad acknowledgement, at your last session, that, in the face of the several ferry disasters of the first half of the year with heavy loss of life, this year's figures are not bound to make good reading – and will worsen following last Saturday's sinking, in the Philippines sea area, of the ferry **Leonida II** with loss of life, for which I would ask the Philippines delegation to accept our sympathy and condolences. That said, the Organization's long-standing commitment to enhancing safety at sea and, in particular, the **safety of passenger ships**, continues undiminished – as exemplified by your Committee's expeditious action last May, following the preliminary report on the fire on the cruise ship **Star Princess** in March, to approve draft amendments to SOLAS chapter II-2 for the fire safety of balconies on new and existing passenger ships, which you are invited to adopt this time. The fast-track route then decided upon has shown the speed with which IMO can act when the circumstances so demand.

In addition, you will be invited to consider for adoption a few other amendments prepared as part of the passenger ship safety initiative, the package of which includes new concepts, such as the incorporation of casualty thresholds criteria into SOLAS chapters II-1 and II-2, and provides the necessary regulatory flexibility that will enable ship designers to meet any safety challenges the future may bring about.

In the meantime, your work to develop mandatory requirements for **recovery systems** aimed at enabling all types of ships to assist, efficiently and effectively, search and rescue operations in an emergency is of great importance.

As far as the **goal-based new ship construction standards** concept is concerned, the progress made at your last session, when you approved the Tier I goals and Tier II functional requirements for new bulk carriers and oil tankers, was significant. At that session, you also made substantial progress in deciding which method of approach to apply, so that you might begin work on the safety level approach for all other ship types, while, in parallel, continuing your work on the prescriptive approach for GBS relating to hull construction for bulk carriers and oil tankers. The success of that decision will be measured by the progress you will be able to make on the issue in the coming years.

When I shared with the Council, three weeks ago, my vision for the next year and in the short term, I said that “**safety of life at sea** should continue to remain IMO's principal objective”. I then added that “work to progress the goal-based standard concept should proceed in anticipation of the beneficial impact it will certainly have, among other things, on overseeing the performance of recognized organizations. We should continue to pay due regard to the contribution to enhanced safety of flag, port and coastal States, classification societies and other stakeholders, all having an important role to play in collectively implementing, maintaining and raising the safety standards of shipping, as recognized in IMO's Strategic Plan and repeated in the Council's decisions addressing risk management”.

Meanwhile, work has continued intersessionally with two correspondence groups on GBS and, during this session, you will consider the results of their consultations, including the Tier III criteria for the verification of compliance; the establishment of an MSC Group of Experts to carry out the verification; the incorporation of GBS into IMO instruments; and the planned pilot project on **verification of IACS' Common Structural Rules**. I look forward to significant progress being made this time based on the outcome of the work carried out intersessionally, for which I want to thank all involved.

Distinguished delegates,

One of the main achievements of your last session was the approval of the **draft performance standard for protective coatings for dedicated seawater ballast tanks and double-side skin spaces of bulk carriers**, together with the related draft SOLAS amendments that will make the standard mandatory and, thereby, assist Contracting Governments with the implementation of the revised SOLAS chapter XII, which entered into force in July of this year. Under agenda item 3, you will consider the aforementioned performance standard and the related SOLAS amendments proposed for adoption and, although some further debate may prove necessary (concerning, in particular, the availability and training of coating inspectors), I am confident that you will be able to agree on all of the outstanding matters so that the performance standard in question can be adopted at this session, as planned.

As to the date of application of the new standard, I would recommend that all parties concerned (shipowners, classification societies and shipbuilders), who (since launching their **tripartite co-operation initiative** a few years ago), have been able to demonstrate their ability to apply common sense when dealing with issues of common interest, work out a cost-effective solution, agreeable also to SOLAS Contracting Governments, which will take into account all the parameters involved. Difficult as this may be, it is not unachievable and I urge the Committee to seek, also on this important issue, a consensus decision.

This, of course, does not mean that IMO's work on protective coatings is completed. As you are aware, the DE Sub-Committee is currently working on performance standards for protective coatings for all void spaces on all types of ships and it is expected that, at its next session in March 2007, it will begin drafting guidelines for the maintenance and repair of protective coatings and corrosion protection for permanent means of access. In the meantime and, under agenda item 23, you will consider a proposal calling for the introduction of mandatory requirements for the coating of cargo oil tanks on oil tankers.

At MSC 81, you considered **proposed amendments to resolution A.888** on Criteria for the provision of mobile satellite communication systems in the GMDSS, particularly with regard to the oversight of future satellite service providers, which you agreed to examine further this time so that you could advise next year's Assembly accordingly. Since then, the IMSO Assembly met in September and adopted amendments to the IMSO Convention authorizing the organization to carry out the oversight of interested satellite service providers.

Bearing in mind the legal aspects of the entire process leading to such oversight, your decision on the respective roles that IMO and IMSO should play in the application, evaluation, approval and oversight of future service providers, and on any consequential amendments to SOLAS chapter IV that may be required, is eagerly anticipated so that a sound regime is established to permit interested GMDSS satellite service providers to add their contribution to enhanced safety of life at sea as soon as practicable.

Minister, distinguished delegates,

Security having been firmly established on IMO's agenda, the Committee will, this time, endeavour to finalize the technical specifications; international oversight mechanism; and wider applications to safety, search and rescue and environmental protection of the **long-range identification and tracking of ships** system, the security-related aspects of which were completed last May. In addition to considering the system's global application, in order to ensure its worldwide establishment in good time, you will have to make decisions on such important issues as the designation of the LRIT Co-ordinator and the establishment of the International Data Centre and Data Exchange. I am confident that you will proceed with due diligence to ensure that all the necessary components of the system are up and running by the required date of 31 December 2008.

Still on the maritime security front and, in recognition of the potential that credible, system-based controls for **closed cargo transport units** have in enhancing maritime safety as well as security and traffic facilitation, you are invited to consider the maritime aspects of **supply chain security**, as mandated by resolution 9 of the 2002 SOLAS Conference, on Enhancement of security in co-operation with the World Customs Organization (WCO).

Your work in this field will be incomplete, if any proposed measures for maritime security are not considered also from the point of view of facilitation of maritime traffic. This is particularly true when discussing supply chain security matters and, therefore, the proposal of the FAL Committee that the implementation of the WCO Framework Standards should be pursued jointly with your Committee, should be well received. To this effect, it would be advisable that, when discussing the issue, the MSWG convenes in an expanded form, as a joint MSC/FAL working group, to ensure that facilitation aspects are taken fully into account. In the current security climate, this work will be of increasing importance and relevance given the corresponding provisions of the 2005 SUA Protocols, which Member Governments should consider ratifying as soon as possible.

In addition, the Committee is invited to consider ways to extend the special measures to enhance maritime security, enshrined in SOLAS chapter XI-2 and the ISPS Code, to **ships outside the two instruments' scope**, in particular **small ships**.

Distinguished delegates,

My extensive reference to security matters gives me the opportunity to underline the urgency for Governments to consider ratifying the **ILO Seafarers Identity Documents (Revised) Convention (No.185)**, which, pursuant to resolution 8 of the 2002 SOLAS Conference, was developed in co-operation with IMO. The wide acceptance and application of this Convention is essential to consolidate the right of seafarers to shore leave, while it is anticipated to have a beneficial impact on the facilitation of international maritime traffic.

Without being seen as impinging into ILO territory, I would also recommend early acceptance of the consolidated **Maritime Labour Convention**, which was adopted by ILO in February of this year. This has created a single, coherent instrument updating and embodying, to a great extent, most of the standards thus far existing in various international maritime labour conventions and recommendations; and is designed to secure the widest possible acceptance among Governments and the social partners (shipowners and seafarers) committed to the principles of decent work. It certainly deserves to be ratified and brought into force at the earliest opportunity. Given the global nature of the shipping industry, as well as the forecast shortage of

seafarers in the not too distant future, it is imperative that the human element at sea is afforded the special consideration it deserves, particularly in the context of maritime security.

While all these issues, in the heart and periphery of security, are being considered, we should not lose sight of the work that needs to be done on the **proper implementation of security measures in port facilities**. This Committee has developed useful tools for the assessment of port facility security, especially the Guidance on voluntary self-assessment by SOLAS Contracting Governments and port facilities, as well as the ILO/IMO Code of practice on security in ports. Moreover, through our ITCP, the Organization has made, and continues to make, strenuous efforts to assist Member Governments to raise their port facility security standards. Of course, this requires funding and technical support and it is for this purpose that I appeal to Governments and the industry alike to contribute to the International Maritime Security Trust Fund and also to provide technical experts to participate in our security-related projects.

All these are important steps for the Organization, as a whole and Member Governments, collectively and individually, to take if we are to achieve uniformity in the implementation of the ISPS Code. There, I have serious concerns stemming from various reports I have seen and, most recently, from a report compiled by the Lyndon B. Johnson School of Public Affairs, which, among other things, states: "From country-specific research and site visits, it became clear just how inconsistent ISPS is from port to port and country to country. While the language of ISPS is uniform in each port and each country, it was as if were seeing several different codes. Not only has ISPS been implemented in different ways and with varying levels of success, but overall opinions of ISPS among shippers, port workers and government officials fluctuate as well" Unquote.

To assist in the uniform implementation of the Code, work will soon commence, within the Secretariat, to draft a suitable Manual, which, once finalized, will be submitted to your Committee for consideration and approval.

Turning to the issue of **piracy and armed robbery against ships**, the Committee will be pleased to note that the number of such acts, reported as having occurred during the first nine months of 2006, dropped to 176 from 266 over the same period in 2005, representing a decrease of 34% from last year's figure. This is largely due to the willingness and determination of States to act, in co-operation with the industry, to beat the scourge of maritime crime. In this regard, I draw, with appreciation, particular attention, **on one hand**, to the activities of the Governments of Indonesia, Malaysia and Singapore, which have mobilized their resources decisively, thus significantly reducing the incidence of such crimes in the Straits of Malacca and Singapore; and, **on the other**, to the commendable efforts made by the Navies of Member Governments to counter piracy and armed robbery off the coast of Somalia, pursuant to last year's resolution A.979 of the IMO Assembly and the related Statement issued by the President of the UN Security Council in March of this year.

Of course, it goes without saying that the satisfactory developments I just mentioned should not allow any **room for complacency**. Global stability remains an elusive goal; maritime crime continues at too high a rate; human suffering through drugs and arms trafficking leaves no one unmoved while illegal migration by sea compounds the problems faced in several places of the world thus making it imperative that Governments and the industry play their respective roles in unison, seeking to implement the maritime security measures developed by this Organization as widely and effectively as possible.

Regarding the **protection of vital shipping lanes**, and in pursuance of last year's Jakarta Meeting, I am pleased to report that, with the blessings of our Council, a follow-up Meeting to enhance safety, security and environmental protection in the Straits of Malacca and Singapore took place in Kuala Lumpur last September. It was organized by IMO and the Government of Malaysia, in co-operation with the Governments of the other two littoral States, Indonesia and Singapore, and was well attended. The littoral States, having completed a comprehensive analysis and assessment of the current and future needs in the fields of safety of navigation and environmental protection in the Straits, presented six project proposals aiming at achieving the objectives of the Meeting, which gave them its support. All in all, the Meeting was successful in providing a forum to promote and advance the establishment of a framework of co-operation among the littoral States, user States and other stakeholders to enhance the safety of navigation, environmental protection and security in the Straits. The outcome of the Meeting was then reflected in a Statement, which was unanimously adopted; and action is to be taken to implement the identified projects.

Distinguished delegates,

I have, so far, touched upon only some of the items on your agenda, which also includes such other important topics as **human element and operational safety issues**; the **review of the ISM Code**; developments concerning the resolution of **carriage of IMDG Code class 7 radioactive material** issues; and **technical co-operation** (this year's World Maritime Day theme), under which you will be informed of the assistance provided by IMO to developing countries, particularly our activities to address the maritime needs of Africa; while the item on the provision of **assistance to persons in distress at sea** will give me the opportunity to commend, once again, the collective efforts of the authorities of Turkey, the Netherlands, UNHCR and the IMO Secretariat to ensure that 22 persons, rescued from the Aegean Sea last June, were landed safely at the port of Kuşadası.

Returning to the **human element** issue, it seems to me that the apparent failure to recruit new entrants to the maritime profession has now reached a critical point. The comment recently made by Nautilus, the United Kingdom and the Netherlands officers' union, that investment in a new generation of maritime professionals has now become an integral part of any sustainable policy approach to the oceans and seas cannot go unnoticed. Maritime policies should aim at securing the maritime skills required and our efforts, in this Organization and in other fora and decision-making centres, have to focus on creating the climate and incentives to make shipping an attractive career prospect before it is too late.

I would now invite your attention, as I did when I addressed you last May, to two issues of a rather general nature.

First of all: **security during meetings**. I may tire you with my repeated returns to the subject, but I believe you will agree with me that, in these turbulent times, we cannot afford to be complacent about security at any of the various venues where IMO meetings are scheduled to be held during the refurbishment period, and no compromise should be allowed on this crucial issue. For twelve months we will be playing away, as we are at this session and, not knowing the ground well, we should be extremely careful. I, therefore, appeal to all of you to promptly abide by the security rules in place and, in particular, with those included in Circular letter No.2692, which was issued, for this particular purpose, in January. Your strict compliance with its

requirements, and any relevant measures requested by the local authorities, will be much appreciated.

The second issue I wish to emphasize on this occasion concerns the implementation of the **Voluntary IMO Member State Audit Scheme**. I consider putting the Scheme on a strong basis as our top priority for the next few years and, once again, I seek the support and co-operation of anyone in a position to contribute to its wide and effective implementation, including you, distinguished delegates.

In the meantime, audits have commenced in earnest, with the first successfully carried out in Denmark last September, followed by audits in Cyprus and the United Kingdom in October and this month, respectively. One more audit is scheduled to be carried out in Spain next month and plans are either finalized or well-advanced for a series of subsequent audits in the new year, in accordance with offers received so far from another 21 Governments that have notified us of their preparedness to be audited. So far, 67 individuals have been nominated by Governments for consideration as auditors and I look forward to receiving many more offers from Members and the particulars of many more auditors from whom to choose audit teams.

Distinguished delegates,

Out of the extensive number of items on your agenda, I have highlighted only a few and, judging from the large number of submissions, I reckon that this is going to be another extremely heavy and important session. The maritime community as a whole will focus on your work again this week and your decisions will provide direction, guidance and assistance to all those concerned with enhancing maritime safety and security and, indirectly, the protection of the marine environment. I have no doubt that, with the usual spirit of co-operation and commitment, and under the direction of Mr. Ferrer (who deserves the maximum support from all sides), this will be another successful and fruitful session.

Before concluding, I wish to pay a special tribute to all the Sub-Committees which are reporting to this session and, in particular, to their Chairmen, Vice-Chairmen and other officers, as well as to the Secretariat that served them, for their excellent work, which I am sure the Committee will be able to confirm when assessing their outcome.

Once again, our warm thanks go to you, Minister, your associates and the Government of Turkey for hosting and financially supporting our meeting here in Istanbul; for providing these excellent facilities; and for assisting us with the organization of, and logistics for, this session.

Thank you.

ANNEX 36**STATEMENT BY THE COMMUNICATIONS AND
TRANSPORT MINISTER OF TURKEY**

Mr. Chairman,

Dear Secretary-General,

Distinguished guests,

I wish to extend you a warm welcome to the 82nd session of the Maritime Safety Committee of the International Maritime Organization and on this occasion, I also want to respectfully express my best regards to all of you.

Before I start my speech, I would like to pay tribute to my deceased colleague Igor Ponomarev, a respectful member of our maritime community, who successfully chaired this Committee. Our young colleague will be missed and remembered not only by his family, the IMO or the Russian Federation but by all mariners. I should therefore like to express my condolences to his family, the Russian Federation and to all mariners.

Dear participants,

One will definitely understand better the importance and the necessity of maritime safety once he or she visits and observes the city of Istanbul. Istanbul was the right choice to hold this meeting. Istanbul is a world cultural heritage that must be protected for humankind, with its critically important Strait open for international navigation, with its population of 12 million people, with its recently declared status as a European City of Culture.

This Committee has also important tasks in the protection of this heritage and asset.

First task of the IMO must be the prevention of accidents at sea. And, in case an accident occurs, it must work for reducing the risks of such an accident to human life, property and the environment. More importantly, it must inform the public opinion that maritime transportation is the cheapest and cleanest mean of transportation. Ninety per cent of the world trade is being realized through the seas. As the Secretary-General has also stated, without mariners, half of the world would be starving while the rest would be trying to survive the cold weather.

The IMO should further increase its efficiency and its unique role in defining maritime rules. This necessitates for the IMO a neutral and technical working environment as part of the UN and to remain far from political debates.

I would like to state with pleasure that our viewpoint is the same with the IMO both in the fields of maritime safety and security as well as maritime environment. We support the decisions of the IMO in every forum and also undertake whatever is required from us.

As you all know, uninterrupted global trade is also one of IMO's objectives. In this vein, we have established one of the most modern and up to date vessel traffic services system in the world in order to prevent an accident that could interrupt navigation at the Turkish Straits and to

enhance safety of navigation. Our experiences in the last three years have proven the reliability of this system. There has been no major accident in the Straits in the same period. However, we continue to work hard to reduce the risks of minor accidents.

Our efforts to include the Sea of Marmara in this system continue. The works in this regard will be completed in 2007. With the completion of this system, more effective search and rescue in the regions under our country's responsibility, urgent intervention to marine accidents, as well as better protection of marine environment would be possible. Turkey has also increased its search and rescue activities as a ground segment provider of the COSPAS-SARSAT system.

We have also initiated the establishment of emergency accident intervention units in order to address a potential maritime accident along all of our coasts.

Dear participants,

Our country, as a flag and port State, has been working hard to honour its commitments it has undertaken with the international conventions. As a result, the detention rate of our vessels in inspections conducted in other countries has been reduced from 18% to 7%. We also fulfil our inspection commitments within the framework of Black Sea and Mediterranean MoU's.

Mr. Chairman,

Istanbul has been chosen as a European city of Culture for 2010 with the cities of Pecs from Hungary and Essen from Germany by the European Parliament. I invited you to visit and discover the city of Istanbul to the extent that your meeting's heavy agenda permits. I assure you that you will enjoy it.

I would like to conclude my words with my sincere wish that this meeting will further contribute to maritime safety and security as well as marine environment. I should also thank H.E. Efthimios Mitropoulos and all others for their efforts in organizing this meeting in Istanbul.

Please accept my best regards to all of you.

ANNEX 37**STATEMENT BY THE DELEGATION OF THE RUSSIAN FEDERATION****Statement given by Mr. A. Yu. Klyavin, Head of the Russian Federation delegation,
Director of the Department for State Policy in Maritime and River Transport**

Mr. Chairman, Minister, Secretary-General, delegates, ladies and gentlemen, colleagues,

It is with heavy heart that I take on this role. Before this eighty-second session of the Maritime Safety Committee commences, I cannot but say a few words about the man who should have been with us today to lead the Committee's work as its chairman. You all know that on 30 October there occurred the sudden death of the Russian Federation Permanent Representative to the International Maritime Organization, Igor Ponomarev.

Igor was buried on 4 November in St. Petersburg. He will remain forever in what for him was the world's most beautiful city.

It is difficult to speak in the past tense of a man with whom I was so recently working in tandem, acting to further the safety of navigation and protection of life at sea and collaborating with the International Maritime Organization – a man who was also my friend.

Igor began working with IMO in 1993, making an immediate impression as a highly qualified expert, having received an excellent grounding at the Leningrad Shipbuilding Institute and then the Russian Maritime Register of Shipping.

During his years in London as Permanent Representative of the Russian Federation to IMO, he achieved a great deal. Working initially as chairman of working and drafting groups, he always led the way by virtue of his efficiency and knowledge, and by his efforts to achieve real improvements in safety at sea. His election as chairman of the Maritime Safety Committee in 2005 was logical recognition by the international maritime community of his expertise, his human qualities and his skill in building consensus.

Igor was a versatile and gifted person. His first-class professional talents and excellent knowledge of IMO procedures, his capacity to find a compromise and follow a matter through to its conclusion, his great capacity for work and his friendliness – these qualities were evident to everyone who knew and worked with him.

On behalf of the Russian Federation delegation, I should like to thank all those who shared with us their feelings of great loss and sorrow at the untimely death of Igor Ponomarev.

The Russian delegation would also like to express its sincere thanks to the Secretary-General of IMO Admiral Mitropoulos, to the IMO Secretariat, and to friends and colleagues, for having organized and taken part in the memorial service held in London on 24 November 2006, and for their warmth and support towards Igor's family.

Igor left this life far too soon, but he will always be with us, in our thoughts and our hearts.

All of us – colleagues, friends and relatives – share an understanding that he has simply gone away across the ocean.

He had prepared very thoroughly for this eighty-second session of the MSC now taking place in what is also one of the world's most lovely cities.

On behalf of the Russian delegation, I should like to express the wish that the Committee will take decisions at this session which help further to enhance the safety of navigation, the cause for which Igor constantly strove.

Thank you.

ANNEX 38**STATEMENT BY THE DELEGATION OF SINGAPORE****Summary report of the investigation into the listing of the Singapore-registered vehicle carrier “Cougar Ace” in the Pacific Ocean, South of the Aleutian Islands, on 24 July 2006 at about 18:45 hrs, local time**

Mr. Chairman, distinguished delegates,

BACKGROUND

1 This delegation would like to take this opportunity to give a short update of the listing incident of the vehicle carrier **Cougar Ace**.

2 As background, **m.v. Cougar Ace** is a Singapore-registered car carrier built in January 1992 with a gross tonnage of 55,328 and a length of 199.53 m. On 24 July 2006 at about 18:45 hrs, the ship experienced severe listing to its port side and transmitted the distress signal, requesting for immediate assistance, while en route from Japan to Canada.

3 At the time of the incident, the ship was carrying out ballast water exchange (BWE) operations, in compliance with the Canada Shipping Act – *Ballast Water Control and Management Regulations* – before it entered Canadian waters.

4 All the 23 crew members on board were rescued safely by the United States Coast Guard (USCG) using helicopters. There was no pollution as a result of the incident. This delegation wishes to thank the USCG for their quick response and excellent assistance in this regard.

FINDINGS

5 We conducted an investigation and wish to share some of the findings.

6 It was found during the investigations that the plan for sequential exchange, as planned by the officer-in-charge, would result in the ship having 4 of its 9 water ballast tanks empty. This, together with additional water ballast being pumped out for the adjustment of list, and the consumption of fuel from the ship’s double bottom tanks, resulted in the ship becoming unstable and developing an angle of loll to the port side of about 80°. The crew had not encountered any problem in the ballast water pump and piping system since leaving the dry-dock and calling at several ports.

CONCLUSION

7 The investigation revealed the following inadequacies in the ship’s ballast water exchange (BWE) operations:

- .1 there were improper planning and execution of BWE operations, leading to insufficient weights present in the water ballast tanks below the ship’s waterline;
- .2 the officer-in-charge of the BWE operations, did not ensure that the ship’s stability was to be maintained throughout the operations; and

- .3 the shipboard procedures concerning BWE operations did not have sufficient safety guidelines or procedures specific to the **m.v. Cougar Ace** on the safe operations of BWE in accordance with the recommendations of the IMO. Considering the potential consequence of vessel capsizing, such instructions should be clear to the Master, Chief Officer and persons involved in the BWE operations.

RECOMMENDATION TO THE IMO

8 Going forward, the IMO could consider promulgating a MSC circular to remind ships to comply with the minimal stability criteria stated in the Intact Stability Code and for guidance. This circular could complement resolution A.868(20) and also could be based on resolution MEPC.124(53) on Guidelines for Ballast Water Exchange (G6), developed by the Ballast Water Working Group as guidelines under the Ballast Water Management (BWM) Convention.

NOTE OF APPRECIATION

9 Finally, this delegation would like to specially thank the United States and the USCG for their assistance in rescuing the 23 crew members of the **m.v. Cougar Ace**. As soon as they received the distress signal, the USCG had provided excellent SAR operations. Their officers had bravely evacuated the crew members using their helicopters. Also, under their Unified Command, the ship was safely towed to a safe location to upright the ship. Once again, Singapore would like to thank the United States and the USCG for their assistance and co-operation.

Thank you, Mr. Chairman.
